Board of Governors, State University System of Florida

Request to Offer a New Degree Program

University of Florida
University Submitting Proposal

Fall 2014
Proposed Implementation Term

Computer and Information Science and Engineering
Name of Department(s)/Division(s)

Engineering
Name of College(s) or School(s)

Computer Science
Academic Specialty or Field

Doctor of Philosophy
Complete Name of Degree

11.0101
Proposed CIP Code

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

_____
Date Approved by the University Board of Trustees

_____   _____
President   Date

_____   _____
Signature of Chair, Board of   Date
Trustees

_____   _____
Vice President for Academic   Date
Affairs

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	78	78	$31,123	$1,820,685	$558,700	0	$2379385
Year 2	93	93					
Year 3	105	105					
Year 4	119	119					
Year 5	122	122	$26,897	$1820685	$600,000	0	$2420,685

Note: This outline and the questions pertaining to each section <u>must be reproduced</u> within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A

and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

INTRODUCTION

I. **Program Description and Relationship to System-Level Goals**

   A. **Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.**

The proposed degree program will be a Ph.D. in Computer Science to be offered by the Department of Computer and Information Science and Engineering (CISE) through the College of Engineering.

Currently, students studying at the PhD level in areas typically viewed as belonging to Computer Science from CISE receive a degree labeled Computer Engineering. Although there is significant overlap between the fields of Computer Science and Computer Engineering, and CISE has active faculty researchers in both, the current situation is confusing to students and other stakeholders.

This degree will require no additional resources; CISE PhD students will be able to choose the most appropriate designation for their degree, Computer Science or Computer Engineering, based on their research topic. Both programs will be viable options for students.

   B. **Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support. (See the SUS Strategic Plan at http://www.flbog.org/about/strategicplan/)**

Computer Science and Information Technology is a targeted area in the latest BOG Strategic Plan. The proposed program will enhance the ability of UF to attract talented graduate students to support both teaching and research activities in Computer Science.

   C. **If the program is to be included in an Area of Programmatic Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion.**

   The Areas of Programmatic Strategic Emphasis:
   1. Critical Needs:
      • Education
      • Health Professions
      • Security and Emergency Services
   2. Economic Development:
      • Globalization
      • Regional Workforce Demand
   3. Science, Technology, Engineering, and Math (STEM)

Computer Science is a major STEM field that interacts with many other fields of Science

and Engineering. Many faculty members have active collaborations with researchers in other areas, for example, medicine, chemistry, material science, biology, and education.

> **D. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.**

This program will be offered at the main campus of the University of Florida

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

 II.   **Need and Demand**

> A. **Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.**

The US Bureau of Labor Statistics projects an 18.7% increase in employment for Computer and Information Research Scientists between 2010 and 2020. These are high quality positions with a median 2010 salary of $100,660.

Insert response here.

> B. **Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.**

CISE frequently receives inquiries from prospective graduate students wondering why we do not have a PhD in Computer Science.   At the MS level, we were recently able to offer students the option to choose either Computer Science or Computer Engineering without financial ramifications1 and the majority have chosen computer science. We expect to see similar outcomes at the PhD level.

The University of Florida preeminence initiative is allowing the CISE department to hire several additional senior faculty members. As senior faculty, they can be expected to bring PhD students with them, and once their labs are completely established here will lead to a steady state increase in the number of PhD students overall.

> C. **If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). In Appendix B, provide data that support the need for an additional program as well as letters of support, or letters of concern, from the provosts of other state universities with substantially similar programs.**

In Florida, PhDs in Computer Science or Computer and Information Science (CIP code 11.0101) are currently offered at four SUS institutions: FAU, FIU, FSU, and UCF. According to data from the National Center for Education Statistics, a total of 30 Ph.D

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1 Previously, certain scholarships were only available for computer engineering students.

such degrees from SUS institutions were awarded in 2011-2012.

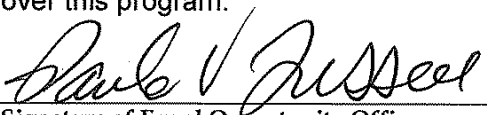| SUS Institution	PhDs awarded 2011-2012	
	11.0101 Computer Science	PhD 14.0901 Computer Engineering
FAU	2	3
FIU	5	-
FSU	7	-
UCF	16	5
UF	-	26
USF	-	8 (called Computer Science & Engineering)
total	30	42

The chairs of each of these programs have been contacted and they have no objection to the proposed program at UF. No impact on these programs is expected.
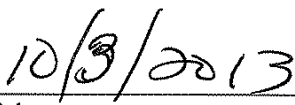
D. **Use Table 1 in Appendix A (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.**

We anticipate that around 2/3 of the students in our Ph.D. program would choose Computer Science if that option were available with a small amount of growth overall.

E. **Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date in the area below to indicate that the analysis required by this subsection has been reviewed and approved.**

This program will serve as an alternative to the PhD in Computer Engineering, and just as for that program, we will encourage all qualified students to apply and we endeavor to create a supportive environment for all students. As the National Science Foundation is concerned about diversity, many individual faculty members who are funded by NSF pursue individual efforts to increase diversity in their own research groups. However, we do not expect the overall population of our department's graduate students to change significantly as the result of introducing a Ph.D. in Computer Science. Nor do we expect this to have any effect on the graduate program at FIU. The FIU Director of the School of Information and Computing Sciences did not express any reservations over this program.

_____   10/3/2013_____
Signature of Equal Opportunity Officer   **Date**

III.   Budget

    A. **Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.) If the university intends to operate the program through continuing education on a cost-recovery basis or market rate, provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate.**

The tables in the Appendix contain estimates of the cost of the program under the assumption that around 2/3 of the PhD population will choose Computer Science once it is available.

    B. **If other programs will be impacted by a reallocation of resources for the proposed program, identify the program and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).**

We do not expect any impact on other programs by the introduction of this new degree. It will mean that the headcount in the PhD in Computer Engineering will go down, but the number of courses, faculty, and other resources available to Computer Engineering students will not change.

    C. **Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).**

None

    D. **Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.**

As a Ph.D. program, external research grants will support most students in the program.

IV.   Projected Benefit of the Program to the University, Local Community, and State

    Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

CISE Ph.D. graduates (currently in Computer Engineering) are successfully employed

in faculty positions, industrial research labs, product development, and national laboratories.   As Computer Science graduates, their success will be similar.

V.   **Access and Articulation – Bachelor's Degrees Only**

A. **If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program's approval. (See criteria in Board of Governors Regulation 6C-8.014)**

N/A

B. **List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see the Common Prerequisite Manual at FACTS.org).   The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation.   The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC).   This requirement includes those programs designated as "limited access."**

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites.   The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional "track" of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

N/A

C. **If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation.   Explain how the university will ensure that community college transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.**

N/A

D. **If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see Statewide Articulation Manual at FACTS.org). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.**

N/A

INSTITUTIONAL READINESS

VI.   **Related Institutional Mission and Strength**

      A. **Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan.**

Computer Science and Information Technology is a targeted area in the latest BOG Strategic Plan. The proposed program will enhance the ability of UF to attract talented graduate students to support both teaching and research activities in Computer Science.

      B. **Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.**

Computing is central to many fields of science and medicine, and CISE faculty members pursue many interdisciplinary research collaborations in which Computer Science PhD students will have the opportunity to participate. In particular, the focus areas recently presented by the UF VP for Research David Norton include several, in particular Big Data, where Computer Science is a core required competency.

      C. **Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology (table) of activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.**

Planning Process

Date	Participants	Planning Activity
Spring 2012	Provost Joe Glover, Dean Cammy Abernathy, CISE Department	CISE Faculty meeting. Need for new degree programs was discussed and received the support of the provost.
Fall 2012	Beverly Sanders, Angel Kwolok-Folland, Marie Zeglen	Informational meeting regarding process
Fall 2012	Beverly Sanders, JihKwon Peir, Cammie Abernathy	Discussion of proposed graduate programs with Dean of Engineering
Fall 2012	CISE Faculty	Meetings discussing proposed program
January 2013	CISE Industrial Advisory Board Meeting	Received feedback on proposed changes to graduate degree programs
Summer 2013	Beverly Sanders, Angel Kwolok-Folland, Cammie Abernathy, Paul Gader	Meeting
Summer 2013	Paul Gader	Contacted chairs of other SUS departments

Events Leading to Implementation

Date	Implementation Activity
Fall 2014	Advertise program to currently enrolled students
Spring 2015	Begin accepting students into new program. (Requires application and web site revisions)

VII.   **Program Quality Indicators - Reviews and Accreditation**

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The BS Computer Engineering program, which is jointly offered by CISE and the Department of Electrical and Computer Engineering is accredited by ABET.   The most recent accreditation review occurred in fall 2012. No deficiencies or weaknesses were indicated.

VIII.   **Curriculum**

A. **Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.**

Student Learning Outcomes

- Knowledge: an ability to identify, formulate, and solve computer science and engineering problems.
- Knowledge: an ability to critically read computer science and engineering literature
- Skills: an ability to use the techniques, skills, and tools necessary for computer science and engineering practice at an advanced level
  Professional experience: an understanding of professional and ethical responsibility
- Professional experience: an ability to communicate effectively

B. **Describe the admission standards and graduation requirements for the program.**

The following are the minimum formal admissions requirements. Admission is competitive and accepted applicants significantly exceed these standards.

University of Florida Graduate School Requirements

- GPA: B for all upper-level courses
- GRE: see CISE Department requirement below
- TOEFL: 550 on paper-based; (213 on computer-based; 80 on Internet-based). Applicants from India are exempt from the TOEFL (see a list of other countries that are exempt).
- TOEFL may be substituted with:
  1. IELTS with a minimum score of 6; or
  2. MELAB with a minimum score of 77.

CISE Department Requirements

The majority of our accepted students have an undergraduate degree in Computer Science, Computer Engineering, or Electrical Engineering, with an undergraduate GPA of at least 3.3/4.0.

- GRE: GRE scores will be used in the context of a holistic credential review process. A strong performance is expected. For reference, the past year's GRE averages were 153 verbal, 164 quantitative, and 317 total (verbal and quantitative.)
- TOEFL: 600 (250 computer-based; 95 internet-based). Applicants from India are exempt from the TOEFL (see a list of other countries that are exempt). The University of Florida's school code for submission of TOEFL scores is 5812.
- You may substitute for TOEFL with:
    1. IELTS with a minimum score of 7; or
    2. MELAB with a minimum score of 90.
- Undergraduate Prerequisite Courses or equivalent:
    o Calculus (MAC 2311 & MAC 2312)
    o Statistics (STA 2023 or STA 3032)
    o Introduction to CIS (COP 3504 or COP 3502 & COP 3503) (Old CIS 3020 or CIS 3022 & CIS 3023)
    o Applied Discrete Structures (COT 3100)
    o Introduction to Computer Organization (CDA 3101)
    o Data Structures and Algorithms (COP 3530)
    o Operating Systems (COP 4600)

    C. **Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.**

Ph.D. Degree General Requirements

All Graduate Council policies governing the Doctor of Philosophy degree program will be satisfied.

A student must satisfy a minimum of 90 graduate-level credits beyond the bachelor's degree. Up to 30 credits from a prior master's degree in Computer Science or Computer Engineering taken either at the University of Florida or from another accredited institution may be transferred and counted towards the Ph.D. degree. Students must apply for the credit transfer during their first term of enrollment. An approval from the graduate school is necessary for the credit transfer. Beyond the first 30 credits counted toward the Ph.D. degree, students must complete 30 credits enrolled at the University of Florida campus. Additionally, students must satisfy the following requirements before earning the degree:

- Satisfy the CISE graduate-level course and GPA requirements.
- Pass the written and oral qualifying examination.
- Pass the admission to candidacy examination (defend a dissertation proposal).

- Satisfy the minimum number of seminar credits.
- Serve as a Teaching TA[2] for at least one semester.
- Write and defend a Ph.D. dissertation.

Ph.D. Supervision

Every entering Ph.D. graduate student must attend the CISE New Graduate Student Orientation, usually given right before or at the beginning of Fall and Spring semesters.

The student must form a supervisory committee no later than the end of the second semester of enrollment. The supervisory committee consists of at least five Graduate Faculty members. The chairperson of this committee must be a Graduate Faculty member in CISE. At least three members of the committee must be from CISE and at least one from outside CISE as an external member.

An annual evaluation of the research progress/potential of each Ph.D. student will be performed by the Graduate Affairs Committee in conjunction with the chair of the student's supervisory committee. This evaluation will be done at the end of Spring semester. Copies of this evaluation and of the student comments are placed in the student's academic file.

In addition, the Graduate School monitors the following for the Doctor of Philosophy certification:

1. Credits/GPA
   a. 90 credits overall with an associated 3.00 truncated GPA
   b. A 3.00 truncated major GPA
2. Milestones
   a. Supervisory Committee
      i. Academic units imposing requirements beyond the Graduate Council's minimum construct are responsible for monitoring these requirements.
   b. Transfer Credits
      i. Academic units with more restrictive limits than current Graduate Council policies are responsible for monitoring these limits.
   c. Qualifying Examination/Admission to Candidacy
   d. Dissertation Submission and Final Defense
      i. data entry in GIMS
      ii. time limitation (two semester shelf life)
   e. Time limitation

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[2] A Teaching TA is a teaching assistant whose duties involve giving lectures or leading a discussion or laboratory section, as opposed to a TA who primarily assists students during office hours or supports the class in other ways.

> i. Completion within 5 calendar years after the qualifying examination
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> f. Final term enrollment in 7980
> g. Degree application

Ph.D. Course and GPA Requirement

To successfully complete a Ph.D. degree, students must satisfy the following course and GPA requirements.

Core course requirement: Students who have completed a master's degree in Computer Science or Computer Engineering from another university may petition to have courses taken during their Master's degree count towards the Ph.D. core course requirement. Such petitions will be accepted only after the Graduate Affairs Committee has determined that the outside course is similar in rigor and in scope to the equivalent course offered by the CISE Department.

- Computer Systems: Select 2 from the following 4 courses
  - CDA 5155 Computer Architecture Principles
  - COP 5555 Programming Language Principles
  - COP 5615 Distributed Operating System Principles
  - CNT 5106C Computer Networks
- Theory: Select 2 from the following 3 courses
  - COT 5405 Analysis of Algorithms
  - COP 5536 Advanced Data Structures
  - COT 6315 Formal Languages and Computation Theory

Other course requirements:

- For students without a prior master's degree in Computer Science or Computer Engineering: (View Example)
  - 24-credits of CISE graduate-level courses, exclude CIS 6905, 6910, 6940, 7979, 7980; CIS 6971 or 6935 may account for 3 credits for thesis-option CISE master's.
  - A minimum of 3-credits of CIS 7980 Research for Doctoral Dissertation.
  - Other graduate-level courses including any research credits are at the discretion of the student and the students' supervisory committee chair.
- For students with a prior master's degree in Computer Science or Computer Engineering: (View Example)
  - 6-credits of CISE graduate-level courses, exclude CIS 6905, 6910, 6940, 7979, 7980; CIS 6971 may account for 3 credits for thesis-option CISE master's. Note that the required CISE graduate-level credits increases accordingly to compensate any waived core course credits.
  - A minimum of 3-credits of CIS 7980 Research for Doctoral Dissertation.
  - Other graduate-level courses including any research credits are at the discretion of the student and the students' supervisory committee chair.

GPA requirement:

- According to the Graduate School rule, students must maintain a 3.0 overall GPA, as well as a cumulative 3.0 GPA for all courses taken from CISE. In addition, the CISE core course requirements are such that each student can have at most one core course with a grade below "B" ("B-", "C+", or "C").
- Ph.D. students are expected to maintain a 3.4 GPA to be considered in "good standing".

Ph.D. Qualifying Examination

The Ph.D. Qualifying Examination consists of a written portion and an individual oral examination. Students must pass two different area examinations to pass the written portion. The oral portion of the exam is normally combined with the admission to candidacy examination, which is given by the student's supervisory committee.

Admission to Candidacy

A student may apply for advancement to Ph.D. candidacy by scheduling an oral examination after the student has passed the Qualifying Examination. The decision to advance a student to Ph.D. candidacy is made by the student's Supervisory Committee. This decision is based on the following:

- Performance in course work
- The opinion of the Supervisory Committee concerning the overall fitness for candidacy
- An approved Ph.D. dissertation topic

The purpose of the Ph.D. Candidacy Examination is to certify the scope and validity of the student's proposed research, and the student's ability to perform the work. A document including a concise introduction to the area of research, relevant work by others, preliminary results by the student, an outline of proposed work, and a bibliography must be submitted to the committee at least two weeks prior to the examination. The student will receive a grade of pass or fail. A failing mark will require another examination when the student is better prepared, at least one semester after the first attempt. A passing mark will often be accompanied by useful comments (to be made in writing by the student's committee chairman) so the student can better refine future efforts and goals.

After passing the Ph.D. Candidacy Examination, the student is admitted to candidacy. The student may register for Research for Doctoral Dissertation (CIS 7980) only after admission to candidacy. Prior to passing the Ph.D. Candidacy Examination, research must be conducted under the Advanced Research course (CIS 7979).

Communication Skills

The Graduate School requires all Ph.D. candidates to be able to use the English language correctly and effectively. All Ph.D. students must be appointed as a Teaching TA for at least one semester. This requirement directly addresses the need for

candidates to demonstrate oral and written communication skills. After passing the Ph.D. written qualifying exam, students who have not served as a Teaching TA must serve as Teaching TA in the following semester. With approval from the Graduate Affairs Committee, students can defer the Teaching TA service for one semester. The Teaching TA requirement emphasizes verbal communication skills. Students deficient in these skills may be required to take appropriate remedial course work, which will not count toward the required credit hours. Off-campus Ph.D. students through distance learning are exempted from the teaching TA requirement.

Ph.D. Final Examination

All Ph.D. students are required to complete and defend a dissertation of publishable quality. This must be an independent investigation, including a basic research component, that constitutes an original contribution Computer Science. Projects that solely demonstrate an application of computer technology to a new problem area will not be acceptable. The format of the dissertation must conform to the requirements of the Graduate School. To facilitate this, the Graduate School Editorial Office provides the Guide for Preparing Theses and Dissertations and various seminars. The dissertation must be submitted to the Graduate School in electronic form.

The defense is the final examination in which the student defends his/her research. It must occur after the dissertation has been submitted to the Graduate School and all other prescribed work is done, but no more than six months before the conferring of the degree. The student must be registered for at least three hours of CIS 7980 during the term in which the final examination is given and the term in which the degree is conferred.

The dissertation title along with an abstract should be posted on electronic and standard bulletin boards at least two weeks in advance so that interested students and faculty may attend. A general-audience abstract must be submitted along with the announcement to the CISE Student Services Center for posting. The dissertation must be submitted to all Supervisory Committee members at least two weeks in advance of the defense.

The defense consists of two parts: an open part and a closed part. During the open part, the student gives a one hour presentation on the dissertation work. During this presentation, members of the audience may ask questions. Then the student's Supervisory Committee chairperson will ask the audience to leave the room to begin the closed section of the defense. The student's Supervisory Committee members and other faculty may ask the student more detailed questions during the closed section. The student will then leave the room while the Supervisory Committee prepares its decision. The defense may be attempted at most two times.

    D. **Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.**

	Fall	Spring	Summer
Year 1	6 credits core 6 credits other	6 credits core 6 credits other	3 credits, research, or internship
Year 2	6 credits research	6 credits research	research or internship
Year 3+	research	research	research

    E. **Provide a one- or two-sentence description of each required or elective course.**

Graduate Course Descriptions

CAP 5100 Human-Computer Interaction (3)
Prereq: COP 3530, and any one programming course (CGS 2414, CGS 3460 or CGS 3464).
Topics related to interaction with technology, including interface design, software tools, 3-D interaction, virtual environments, interaction devices, collaboration, and visualization.   Letter graded.

CAP 5416 Computer Vision (3)
Prereq: MAC 2312, CGN 3421 or C-language.
Introduction to image formation and analysis. Monocular imaging system projections, camera model calibration, and binocular imaging. Low-level vision techniques, segmentation and representation techniques, and high-level vision. Letter graded.

CAP 5510 Bioinformatics (3)
Prereq: COP 3504 or equivalent.
Basic concepts of molecular biology and computer science. Sequence comparison and assembly, physical mapping of DNA, phylogenetic trees, genome rearrangements, gene identification, biomolecular cryptology, and molecular structure prediction. Letter graded.

CAP 5515 Computational Molecular Biology (3)
Algorithms related to molecular biology. Sequence comparisons, pattern matching, pattern extraction, graph techniques in phylogeny construction, secondary structure prediction, multiple sequence alignment, contig search, DNA computing, computational learning theory, and genetic algorithms. Letter graded.

CAP 5635 Artificial Intelligence Concepts (3)
Prereq: COP 3530.
Heuristic search, game theory, knowledge representation, logic, machine learning, AI languages and tools. Applications such as planning, natural language understanding, expert systems, and computer vision. Letter graded.

CAP 5705 Computer Graphics (3)
Prereq: COP 3530.
Display device characteristics; system considerations, display algorithms. Curve and surface generation. Lighting models and image rendering. Letter graded.

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CAP 6516 Medical Image Analysis (3)
Image formation, reconstruction mathematics (Fourier slice theorem, Abel, Hankel and Radon transforms), PDE-based denoising and segmentation, multidimensional clustering algorithms, iso-surface extraction, basic differential geometry of curves and surfaces, multidimensional splines, active 2D/3D models, image matching/registration with application to multimodal co-registration. Letter graded.

CAP 6610 Machine Learning (3)
Prereq: CAP 5635.
Review of attempts, within the artificial intelligence community, to construct computer programs that learn. Statistical pattern recognition with its applications to such areas as optical character recognition. Inductive learning, automated discovery. Letter graded.

CAP 6615 Neural Networks for Computing (3)
Prereq: CAP 5635.
Neural network models and algorithms. Adaptive behavior, associative learning, competitive dynamics and biological mechanisms. Applications include computer vision, cognitive information processing, control, and signal analysis. Letter graded.

CAP 6617 Advanced Machine Learning (3)
Prereq: CAP 6610.
Advanced concepts in developing computer programs that learn and improve with experience. Emphasis on methods based on probability, statistics, and optimization. Letter graded.

CAP 6685 Expert Systems (3)
Prereq: CAP 5635.
Production systems, meta-knowledge, heuristic discovery, indepth examination of several expert systems including TEIRESIAS, AM, DENDRAL, MYCIN, IRIS, CASNET, INTERNIST, BACON, PROSPECTOR. Letter graded.

CAP 6701 Advanced Computer Graphics (3)
Prereq: CAP 4730 or CAP 5705 or consent of instructor.
Curved surface representations, representation and visualization of higher-dimensional fields, advanced rendering, collision detection and collision response, and scene navigation in context of high-level graphics environments. Letter graded.

CDA 5155 Computer Architecture Principles (3)
Prereq: CDA 3101, COP 3530, and COP 4600.
Fundamental design issues of processor and computer architecture, a variety of design approaches for CPU, memory, and system structure. Letter graded.

CDA 5636 Embedded Systems (3)
Prereq: CDA 3101 and knowledge of programming and data structures.
Design and verification of low-cost, high-performance, low-power, and reliable embedded systems. The course covers all aspects related to embedded systems design including modeling, specification, exploration, estimation, optimization, synthesis, and verification of both software and hardware (analog as well as digital components) in embedded systems. Letter graded.

CDA 6156 High Performance Computer Architecture (3)
Prereq: CDA 5155, COP 5615.

Design and evaluation of instruction-level (superscalar, superpipeline) and task-level (fine and coarse-grained) parallel architecture. Language and operating system support for instruction and task scheduling and task synchronization. Letter graded.

CEN 5035 Software Engineering (3)
Prereq: COP 3504 and COT 3100.
Topics in projects organization, specification techniques, reliability measurement, documentation. Letter graded.

CEN 6070 Software Testing and Verification (3)
Prereq: CEN 5035.
Concepts, principles, and methods for software testing and verification. Topics include human and machine-based testing strategies, formal proofs of correctness, and software reliability. Letter graded.

CEN 6075 Software Specification (3)
Prereq: CEN 5035.
Concepts, principles, and methods for practical specification. System modeling, requirements exploration, validation and prototyping, and documentation techniques. Letter graded.

CIS 6905 Individual Study (1-3; max: 6)
Prereq: consent of faculty member supervising the study.
S/U option.

CIS 6910 Supervised Research (1-5; max: 5)
Prereq: graduate status in CIS.
S/U.

CIS 6930 Special Topics in CIS (3; max: 9)
Prereq: vary depending on topics. Letter graded.

Special Topics taught in last two years
      Stochastic Processing
      Geometric Embedding and Complexity
      Optimization Theory & Algorithms
      Mobile Networking
      GPU: architecture & programming
      High Performance Parallel Computing
      Hyperspectral Image Analysis
      Cyber Security
      Spatial & Moving Objects DBs
      Advanced Social Networks Computing
      Context-based Systems
      Distributed Multi-media Systems
      Mobile Platforms & Development Environments
      Large Advanced Data Analysis
      Sparse Matrix Algorithms
      Ethical Hacking
      Powerline Communication
      Natural User Interfaces

CIS 6935 Graduate Seminar (1)
Prereq: graduate status in CIS. M.S. students may take 1 time toward M.S. degree; Ph.D. students must take 3 times toward Ph.D. degree.
Presentations by visiting researchers, faculty members, and graduate students. S/U

CIS 7979 Advanced Research (1-12)
Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not open to students who have been admitted to candidacy. S/U.

CIS 7980 Research for Doctoral Dissertation (1-15)
S/U.

CNT 5106C Computer Networks (3)
Prereq: CEN 4500C and COP 4600.
The course covers the design, implementation and internals of modern computer networks. While all layers will be introduced, the layers below the Application Layer will be the main focus. The main effort will be spent on the design issues for Transport Layer, Network Layer, Data-Link and MAC Layer, and other related topics. Letter graded

CNT 5410 Computer and Network Security (3)
Prereq: COP 3530, COT 5405; coreq: COP 4600.
Issues, analysis, and solutions. Viruses, worms, logic bombs, network attacks, covert channels, steganography, cryptology, authentication, digital signatures, electronic commerce. Letter graded

CNT 5517 Mobile Computing (3)
Prereq: CEN 4500C.
Emerging topics of wireless and mobile computing and networking including mobile computing models, mobile-IP, adhoc networks, Bluetooth, and 802. 11b. Mobile database access and mobile transactions in context of emerging field of M-commerce. Letter graded.

CNT 6107 Advanced Computer Networks (3)
Prereq: COP 5615, COP 5536, and CNT 5106C.
Computer network architecture, including topologies, media, switching, routing, congestion control, protocols, and case studies. Letter graded.

CNT 6885 Distributed Multimedia Systems (3)
Design issues; survey of recent advances, including compression, networking, and operating system issues. Letter graded.

COP 5536 Advanced Data Structures (3)
Prereq: COP 3530.
Development of efficient data structures used to obtain more efficient solutions to classical problems, such as those based on graph theoretical models, as well as problems that arise in application areas of contemporary interest. Letter graded.

COP 5555 Programming Language Principles (3)
Prereq: COP 3530.
History of programming languages, formal models for specifying languages, design goals, run-time structures, and implementation techniques, along with survey of principal programming language paradigms. Letter graded.

COP 5615 Distributed Operating System Principles (3)
Prereq: COP 4600.
The concepts and techniques of efficient management of computer system resources. Letter graded.

COP 5618 Concurrent Programming (3)
Prereq: COP 3100, 3530.
Overview of principles and programming techniques. Reasoning about concurrency, synchronization, program structuring, multi-threaded server applications. Letter graded.

COP 5625 Programming Language Translators (3)
Prereq: COP 5555.
Anatomy of translators for high-level programming languages. Letter graded.

COP 5725 Database Management Systems (3)
Prereq: COP 3530, 4600, or equivalent.
An introduction to systems and procedures for managing large computerized databases. Letter graded.

COP 6726 Database System Implementation (3)
Prereq: COP 4600 and 4720 or 5725.
DBMS architecture, query processing and optimization, transaction processing, index structures, parallel query processing, object-oriented and object-relational databases, and related topics. Letter graded.

COP 6755 Distributed Database Systems (3)
Prereq: COP 5615, 5725, and a course in computer networks.
Distributed database systems including the areas of distributed database design, resource allocation, access plan selection, and transaction management. Letter graded.

COT 5405 Analysis of Algorithms (3)
Prereq: COP 3530.
Introduction and illustration of basic techniques for designing efficient algorithms and analyzing algorithm complexity. Letter graded.

COT 5442 Approximation Algorithms (3)
Prereq: COP 3530 or COT 5405.
Fundamentals of algorithmic paradigms, analysis, techniques, and software. Topics include greedy methods, randomized algorithms, IP-rounding, approximability, covering, packing, clustering, and network problems. Letter graded.

COT 5520 Computational Geometry (3)
Prereq: COP 3530.
Design, analysis, and implementation of algorithms and data structures to solve geometric problems. Applications in graphics, robotics, computational biology, data mining, and scientific computing. Convex hulls, Voronoi diagrams, triangulations, arrangements and range searching. Letter graded.

COT 5615 Mathematics for Intelligent Systems (3)
Prereq: MAC 2313, Multivariate Calculus; MAS 3114 or MAS 4105, Linear Algebra; STA 4321, Mathematical Statistics.
Mathematical methods commonly used to develop algorithms for computer systems that exhibit intelligent behavior. Letter graded.

COT 6315 Formal Languages and Computation Theory (3)
Prereq: COP 3530 and familiarity with discrete mathematics and data structures.
Introduction to theoretical computer science including formal languages, automata theory, Turing machines, and computability. Letter graded.

F. **For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the <u>curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.</u>**

The CISE department has a standing Industrial Advisory Board with two meetings per year to receive feedback on curriculum and performance of our graduates. The IAB is populated by representatives of companies such as Amazon, Barr Systems, Citrix Systems,Dell, Exxon Mobil, Harris, IBM, Info Tech, Intel, Lockheed Martin,Microsoft, Milbank, Tweed, Hadley and McCloy LLP, Raytheon,Solidworks, Tower Hill Insurance Group, Turner Broadcast Systems, Vcom3D, and Walt Disney.

G. **For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.**

ACM, IEEE, and CRA are relevant professional societies. The program, like all programs at the University of Florida, will be reviewed as part of the University's SACS accreditation process.

H. **For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?**

ABET accredits BS level Computer Engineering and Computer Science programs, although Computer Science accreditation is a recent addition to ABET's services. Our BS in Computer Engineering is ABET accredited and we plan to receive accreditation for our undergraduate BS in Computer Science programs on the next review cycle.

I. **Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in**

Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

The delivery system will be traditional delivery at the main campus.

IX.   Faculty Participation

A. Use Table 4 in Appendix A to identify existing and anticipated ranked (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated ranked faculty (as identified in Table 2 in Appendix A). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

C. Provide in the appendices the curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).

D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

The CISE Department's Computer Engineering Graduate Programs have been ranked #31 (up from #43 last year) among 199 Engineering Schools in the US that grant doctoral degrees. Collectively, the list of achievements and awards received by the faculty include two recent Fulbright Scholars; twelve NSF Career Awards; four IEEE Fellows; one each ACM Fellow, AAAS Fellow, SCS Fellow, and SPIE Fellow; two members of the European Academy of Sciences; one IEEE Computer Society Taylor Booth Education Award; one IEEE Computer Society Wallace McDowell Award;one SIAM Fellow; and one ACM Karl Karlstrom Education Award. One faculty member was recently named Editor-in-Chief of the Association of Computing Machinery (ACM) journal Computing Surveys (The ACM is the premier professional association for computer science. Computing Surveys has the highest impact of all the ACM journals.) Research expenditures for the 2012-2013 academic year were over $4 million in direct cost and 1.1 million in indirect cost. Combined it was over $5.2 million.

X.   Non-Faculty Resources

A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and

subsection B have been reviewed and approved.

Please see attachment

     B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3 in Appendix A.

Please see attachment

     C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

CISE Departmental Offices, Classrooms, and Labs
In the main building (CSE Building, Bldg #42), CISE now has 48,096 square feet of space. Of this, 33,128 SF is office space, 5,495 SF is research laboratory space, 4 ,950 SF is instructional space, 1,875 SF is conference and seminar rooms, and 2,648 SF is miscellaneous space for systems rooms, maintenance, and storage. In addition, we now have 416 SF (room CSE-E202). The instructional space is either totally dedicated to CISE (as in labs) or is allotted to other departments on a per semester basis if CISE does not claim it for a particular period (for classrooms only). Six teaching laboratories are provided in the CSE Building, in addition to the general UF computer laboratories. These focus on multimedia, architecture, and graphics, and are of a size suitable for the classes assigned to them. Students often meet with instructors in these areas to acquire skills in a hands on setting requiring specialized resources.
. These are:
- Room CSE E113: 16 PCs running Linux.
- Room CSE E114: 12 PCs running Linux, and 31 PCs running Windows.
- Room CSE E115: 24 PCs running Windows.
- Room CSE E116: 17 PCs running Linux.
- Room CSE E313: 3 PCS running Windows, and 12 PCs running Linuxall with high-end graphics capabilities.
- Room CSE E309: 18 PCS running Windows, used primarily for TAs to hold office hours.

CISE public labs are available 24/7 to anyone who has a CISE account. Labs are locked between 5PM and 7AM, and require a valid Gator 1 card to access them. Also, labs are monitored with security cameras. After-hours access to computer labs is granted using enrollment information. This information comes from the College of Engineering who in turn works directly with the Registrar. Downloads of enrollment information are done as often as the College permits. At the beginning of the semester downloads are done weekly. Afterwards, downloads are only done by special requests. Four additional labs are available for course-specific work, corresponding to four Research Centers:
- Center for Vision, Graphics, and Medical Imaging (CVGMI)
- Database Systems Research and Development Center
- Mobile and Pervasive Computing Laboratory

• Computational Science and Intelligence Laboratory

>D. **Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (J) below.**

None

>E. **Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.**

The Department of Computer and Information Science and Engineering possesses the following departmental computer resources supporting the academic and research missions:

Five CISE CPU servers (a Solaris SPARC, two Linux AMD 64 and two Windows 20008R2 servers) are available via SSH, VNC or remote desktop to all users to run jobs, and to log in to from remote locations. These tend to be some of the fastest machines in the department and have the most memory.

All faculty offices are equipped with a Windows or Linux workstation. Standard software installations include Ubuntu 10.04 or Windows 7, Java, jGRASP, many Microsoft packages due to the Microsoft Development Academic Alliance, Mozilla Firefox, Second Life, and XMing (X Windows on a Windows PC). Database software includes MySQL, PostgreSQL, and Oracle. Wireless access is available throughout the CSE Building and all of campus, including student dorms, cafeterias, and other public areas.

The classrooms in the CSE building have all been provided with multimedia support and computers housed in a locked kiosk. In addition, all have access to the University's wireless network. That, combined with the college's requirement that all students possess an adequately-provisioned laptop computer, makes it easy to access resources in the classrooms.

The bulk of the CISE's disk storage comes from a Sun 7410 with 66TB of raw disk space. An additional 60TB is provided by other servers. There are about 35 servers running a mix of Red Hat Enterprise Linux 6 and Solaris 10 providing such services as:

- web hosting
- email
- database hosting—MySQL, PostgreSQL, Oracle
- Kerberos / LDAP authentication
- DNS
- DHCP
- backups via Tivoli Storage Manager and disk based rsyncs
- Samba
- NFS
- security-related services

Our web servers run on a Sun T5220 server with Solaris 10, 32GB of memory, and 1.2 GHz UltraSPARC-T2 CPUs. They serve Department content, user content, and various web applications that support the Department.

We have, in total, about 100 Linux PCs running Ubuntu Desktop 10.04 and 130 Windows 7 PCs. They serve as lab machines and workstations for students, Teaching Assistants, Research Assistants, and Faculty. Of these, 58 Windows PCs and 65 Linux PCs are in public labs that are intended for general student use as well as use in lab sections of graduate and undergraduate classes.

We provide a compute cluster consisting of a head node with dual Opterons, 16GB of memory and 3.5TB of storage with 20 worker nodes with dual Opterons and 32GB of memory running Linux (Ubuntu Server 10.04).

We also provide a GPU compute cluster comprising five machines, each with up to three different high-end GPUs for those that make use of the unique compute capabilities that GPUs provide. These machines have dual twelve core CPU's, 64Gigabytes of memory and five TB of storage per node.

The networking in the Department consists mainly of 100 Mb and 1 Gb connections, except for the servers which utilize a minimum of 1 Gb connections. Many have higher bandwidth connections utilizing EtherChannel. Our Cisco hardware—one Catalyst 6513, one Catalyst 6509E, and three Catalyst 4506s—provides routing and switch capabilities to the more than 600 devices and 80 networks in the Department. Our external connection is via 1Gb fiber connection to the University of Florida's core network.

F. **Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.**

None

G. **Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.**

None

H. **Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.**

A number of graduate students will be supported by teaching assistantships and research grants. These will be allocated to Computer Science students as needed from the total available for PhD students in CISE.

I. **Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.**

Opportunities for Computer Science PhD students will be similar to our existing PhD program in Computer Engineering. Since Summer 2011, CISE students have done

internships at the following companies, national laboratories, and other organizations:

Accretive
ACI
ADT Security
AHCI
Altus Ind.
Amazon
AMD
Apolllo Group
Apple
ARM
AT&T
Bank of America
Beeline
BlackBerry
Bloomberg
BloomReach
Bokuga Corp
Bosch Research
Broadcom
CB Insights
CBS
Cisco
Citrix
Classroom 24-7
ClearView
Comcast
Commvault
CompTechEnter
Convergys
CovetUS
Crosslinear
CSX
dataSTAR
Dataupia
Deepman
DIgiNet
Digi-Net
Disney
Ebay
Echo Nest
Egen
Egen Solutions
Elacarte
EMC2
Enformatic
Environmental
Reseach Inst
Ericsson

ESRI
Expedia
Eze Castle
Facebook
GE
Golden Line
Google
Grooveshark
Gtech
Hackerhouse
Harris
HCL
HCL Global
HD Supply
HelpTone
Hitachi
Housing
"HPNP,Xhale"
IBM
iBox CyberSecurity
IBox Secur
iconsult
IFAS
IHMC
IHMC
Imbuesys
Infinite Energy
Innovative
Scheduling
Intel
iSpace
Juniper Networks
KonicaMinolta
Kyleen
LinkedIn
Lockheed-Martin
Logos
Los Alamos Lab
Mailshell
MarketShare
MathWorks
MediaGroup
Microsoft
Mindlance
Mitsubishi Electric
Monkey Wish
Monkeywish
Monsanto
Motorola

National Instruments
Nayak
NCR
NetApp
NetBoss
NetCracker
Novedea
Nvidia
Ocoos
OnTop of the World
OptumSoft
OptumSoft
Palantir
Palm GBU
Penfact
Philips
Polaris
Primearrow
Pro Unlimited
Qualcomm
R+L Carriers
Raymond James
RedHat
RichRelevance
RIM
RIPIT Sports
Rockwell Collins
Salesforce
Santa Fe College
SAP
Schlumberger
Scopus It
Seamicro
SearsHoldings
sfngroup
Shands
Siemens
Sporting Odessey
Stickcore Design
STMICROelectronics
StumbleUpon
SumTotal
Sunmerge Systems
TapNTap
TATA Technologies
TechSaga
Techshido
tekIntegra
Teradata

Traffish
TrendyEntertainment
Tripadvisor
Univ of Oregon
UUF-HPC
UW Med
VMWare
Voucheo Inc
V-Soft Consulting
Web.com
Wmware
WonDay
WorkforceLogic
Yahoo
Yudek

J. **If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.**

N/A

Library support for a Ph.D. program in Computer Science

X. Non-Faculty Resources
A.   Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students.

The George A. Smathers Libraries currently purchase or license a core collection that supports a Ph.D. program in Computer Science. Additional items may be requested through the ILLiad Interlibrary Loan system.

Summary:
Books and conference proceedings:
      Print books: 17,194
      E-books: 8,426 titles in Library Catalog. Conference proceedings may consist of several
            years and volumes per title.
Journals: 281 highly relevant current subscriptions
Technical Reports: Member Institution support for arXiv

Table 1. E-books and conference proceedings

e-book/proceedings publishers	title estimates
ACM	proceedings from 117 major conferences/year
IEEE	proceedings from 1200 conferences/year; estimated 240 highly relevant to CS
IEEE standards	full text of approx. 2400 active standards
Springer: Lecture Notes in Computer Science	5500 titles
Elsevier (Science Direct)	96,000 chapters online
E-book titles in catalog	8426 titles

Table 2. Highly relevant journals, by publisher. Titles are listed below.

journal publisher:	highly-relevant journals
ACM	54
IEEE + IET	57
Springer	75
Elsevier (Science Direct)	51
other publishers	44
total	*281*

Books and conference proceedings: E-book examples include:

Association for Computing Machinery (in ACM Digital library): *117 major conferences/year, such as:*

Annual Southeast Regional Conference
Annual Simulation Symposium
Autonomous Agents and Multiagent Systems
Cloud Data Management
Computational Aesthetics in Graphics, Visualization, and Imaging
Computer Graphics and Interactive Techniques Conference (SIGGRAPH)
Conference on Human Factors in Computing Systems
Conference on Information and Knowledge Management
Creativity and Cognition
Design Automation Conference
Distributed Event-Based Systems
Electronic Commerce
Eye Tracking Research and Applications
Foundations of Aspect-Oriented Languages
Field Programmable Gate Arrays
Geographic Information Systems
High Performance Distributed Computing
Human-Robot Interaction
Hypertext and hypermedia
Information Processing in Sensor Networks
Information Retrieval (SIGIR)
Intelligent User Interfaces
Interactive 3D Graphics and Games
International Conference on Computer-Aided Design
International Conference on Functional Programming
International Conference on Multimodal Interfaces
International Conference on Supercomputing
International Conference on Ubiquitous Information Management and Communication
International Symposium on Computer Architecture
International Symposium on Software Testing and Analysis
International Symposium of Symbolic and Algebraic Computation
Knowledge Discovery and Data Mining
Languages, Compilers, and Tools for Embedded Systems
Management of Data (SIGMOD)
Measurement and Modeling of Computer Systems (SIGMETRICS)
Memory Management
Middleware
Mobile Ad Hoc Networking and Computing
Mobile Cloud Computing and Services
Modeling, Analysis and Simulation of Wireless and Mobile Systems
Network and Operating Systems Support for Digital Audio and Video
Network and Systems Support for Games
Non-Photorealistic Animation and Rendering
Operating Systems Design and Implementation
Symposium on Computer Animation
3D Web Technology

Web Intelligence and Intelligent Agent Technology
Winter Simulation Conference
conference proceedings sponsored by SIGs:
      SIGACCESS
      SIGACT
      SIGAda
      SIGAPP
      SIGARCH
      SIGART
      SIGBED
      SIGBio
      SIGCAS
      SIGCHI
      SIGCOMM
      SIGCSE
      SIGDA
      SIGDOC
      SIGecom
      SIGEVO
      SIGGRAPH
      SIGHPC
      SIGIR
      SIGITE
      SIGKDD
      SIGMETRICS
      SIGMICRO
      SIGMIS
      SIGMM
      SIGMOBILE
      SIGMOD
      SIGOPS
      SIGPLAN
      SIGSAC
      SIGSAM
      SIGSIM
      SIGSOFT
      SIGSPATIAL
      SIGUCCS
      SIGWEB

IEEE (in IEEE Xplore Digital Library): *examples of relevant proceedings include:*
      Proceedings -International Conference on Advanced Computer Theory and Engineering
      Proceedings -International Conference on Intelligent Pervasive Computing
      Proceedings - IEEE Computer Society Conference on Computer Vision and Pattern Recognition
      Proceedings - IEEE International Conference on Cluster Computing
      Proceedings - International Workshop on Database and Expert Systems Applications
      Proceedings - International Workshops on Parallel Processing
      Proceedings of the Conference on Parallel Architectures and Compilation Techniques
      Proceedings - Real-Time Systems Symposium
      Proceedings - Winter Simulation Conference

Springer: Lecture Notes in Computer Science: *5492 total: 4422 online, 1070 print*
> *subseries include:*
>> Theoretical computer science and general issues
>> Programming & software engineering
>> Information systems and applications, incl. Internet/Web, and HCI
>> Security & cryptology
>> Computer communication networks & telecommunications
>> Image processing, computer vision, pattern recognition, and graphics
>> Artificial intelligence
>> Bioinformatics
>> Advanced research in computing & software science
>> Lecture Notes in Artificial Intelligence
>
> Lecture Notes in Control & Information Sciences
> Lecture Notes in Mathematics
> Understanding Complex Systems

Journals: Highly-relevant current subscriptions:

ACM Digital Library (complete): 54 current journals, magazines, and newsletters
Magazines
  ACM Inroads
  acmqueue
  Communications of the ACM (CACM)
  Computers in Entertainment (CIE)
  eLearn: Education and Technology in Perspective
  interactions: experiences · people · technology
  Ubiquity
  XRDS (formerly Crossroads, the ACM Magazine for Students)
Journals
  Computing Reviews
  Computing Surveys
  Journal of Data and Information Quality (JDIQ)
  Journal of Experimental Algorithmics (JEA)
  Journal of the ACM (JACM)
  Journal on Computing and Cultural Heritage (JOCCH)
  Journal on Emerging Technologies in Computing Systems (JETC)
  Transactions on Accessible Computing (TACCESS)
  Transactions on Algorithms (TALG)
  Transactions on Applied Perception (TAP)
  Transactions on Architecture and Code Optimization (TACO)
  Transactions on Asian Language Information Processing (TALIP
  Transactions on Autonomous and Adaptive Systems (TAAS)
  Transactions on Computation Theory (TOCT)
  Transactions on Computational Logic (TOCL)
  Transactions on Computer-Human Interaction (TOCHI)
  Transactions on Computer Systems (TOCS)
  Transactions on Computing Education (TOCE)
  Transactions on Database Systems (TODS)

Transactions on Design Automation of Electronic Systems (TODAES)
Transactions on Economics and Computation (TEAC)
Transactions on Embedded Computing Systems (TECS)
Transactions on Graphics (TOG)
Transactions on Information and System Security (TISSEC)
Transactions on Information Systems (TOIS)
Transactions on Intelligent Systems and Technology (TIST)
Transactions on Interactive Intelligent Systems (TiiS)
Transactions on Internet Technology (TOIT)
Transactions on Knowledge Discovery from Data (TKDD)
Transactions on Management Information Systems (TMIS)
Transactions on Mathematical Software (TOMS)
Transactions on Modeling and Computer Simulation (TOMACS)
Transactions on Multimedia Computing, Communications and Applications (TOMCCAP)
Transactions on Parallel Computing (TOPC)
Transactions on Programming Languages and Systems (TOPLAS)
Transactions on Reconfigurable Technology and Systems (TRETS)
Transactions on Sensor Networks (TOSN)
Transactions on Software Engineering and Methodology (TOSEM)
Transactions on Spatial Algorithms and Systems (TSAS)
Transactions on Speech and Language Processing (TSLP)
Transactions on Storage (TOS)
Transactions on the Web (TWEB)
IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)
IEEE/ACM Transactions on Networking (TON)
Newsletters
TechNews
MemberNet
CareerNews
Newsletters sponsored by SIGs, above

IEEE (in IEEE Xplore Digital Library): *50 highly relevant journals:*
Annals of the history of computing
IEEE/ACM transactions on audio, speech and language processing
IEEE/ACM transactions on computational biology and bioinformatics
IEEE/ACM transactions on networking
IEEE/CAA journal of automatica Sinica (new 2014)
IEEE communications surveys and tutorials
IEEE computational intelligence magazine
IEEE computer architecture letters
IEEE computer graphics and applications magazine
IEEE intelligent systems
IEEE internet computing
IEEE internet of things journal (new 2014)
IEEE journal of biomedical and health informatics
IEEE multimedia magazine
IEEE pervasive computing
IEEE robotics and automation magazine
IEEE security & privacy
IEEE transactions on affective computing
IEEE transactions on automatic control

IEEE transactions on automation science and engineering
IEEE transactions on autonomous mental development
IEEE transactions on cloud computing
IEEE transactions on computational intelligence and AI in games
IEEE transactions on computational social systems
IEEE transactions on computers
IEEE transactions on control of network systems (new 2014)
IEEE transactions on cybernetics
IEEE transactions on dependable and secure computing
IEEE transactions on evolutionary computation
IEEE transactions on fuzzy systems
IEEE transactions on haptics
IEEE transactions on human-machine systems
IEEE transactions on image processing
IEEE transactions on industrial informatics
IEEE transactions on information forensics and security
IEEE transactions on information theory
IEEE transactions on knowledge and data engineering
IEEE transactions on learning technologies
IEEE transactions on medical imaging
IEEE transactions on mobile computing
IEEE transactions on multimedia
IEEE transactions on nanobioscience
IEEE transactions on network and service management
IEEE transactions on neural networks and learning systems
IEEE transactions on parallel and distributed systems
IEEE transactions on pattern analysis and machine intelligence
IEEE transactions on robotics
IEEE transactions on systems, man, and cybernetics: systems
IEEE transactions on visualization and computer graphics
IEEE wireless communications

IET: (in IEEE Xplore Digital Library): *7 highly relevant journals:*
IET Computer Vision
IET Computers & Digital Techniques
IET Control Theory & Applications
IET Image Processing
IET Information Security
IET Software
IET Wireless Sensor Systems

Springer: *75 highly relevant journals:*
Acta informatica
Algorithmica
Annals of mathematics and artificial intelligence
Applied intelligence
Autonomous robots
Biological cybernetics
Calcolo
Cluster computing
Combinatorica

Complex analysis and operator theory
Computational complexity
Computational optimization and applications
Computing and visualization in science
Cybernetics and systems analysis
Data mining and knowledge discovery
Designs, codes, and cryptography
Discrete & computational geometry
Distributed and parallel databases
Distributed computing
EURO journal on computational optimization
Formal methods in system design
Foundations of computational mathematics
Fuzzy optimization and decision making
Genetic programming and evolvable machines
Higher-order and symbolic computation
International journal of computer vision
International journal of information security
International journal of parallel programming
Journal in computer virology
Journal of applied mathematics and computing
Journal of automated reasoning
Journal of combinatorial optimization
Journal of computational neuroscience
Journal of computer science and technology
Journal of global optimization
Journal of heuristics
Journal of intelligent information systems
Journal of mathematical imaging and vision
Journal of optimization theory and applications
Journal of real-time image processing
Journal of scheduling
Journal of supercomputing
Journal of systems integration
Journal of systems science and complexity
Journal of theoretical probability
Journal on multimodal user interfaces
Knowledge and information systems
Language resources and evaluation
Machine learning
Mathematical programming
Mathematical programming computation
Mathematics in computer science
Memetic computing
Minds and machines
Neural computing & applications
Neuroinformatics
New generation computing
Numerical algorithms
Numerische Mathematik
Pattern analysis and applications : PAA

Pattern recognition and image analysis
Personal and ubiquitous computing
Probability theory and related fields
Quantum information processing
Queueing systems
Real-time systems
Scientometrics
Social network analysis and mining
Soft computing
Software quality journal
Statistics and computing
Swarm intelligence
Theory of computing systems
User modeling and user-adapted interaction
Virtual reality : the journal of the Virtual Reality Society

Elsevier (ScienceDirect): *51 highly relevant journals:*
Applied soft computing
Artificial intelligence
Computer languages, systems & structures
Computers & mathematics with applications
Computers & security
Decision support systems
Electronic notes in discrete mathematics
Entertainment computing
Expert systems with applications
Formal aspects of computing
Future generation computer systems
Fuzzy sets and systems
Games and economic behavior
Image and vision computing
Information and computation
Information fusion
Information processing & management
Information processing letters
Information sciences
Information systems
International journal of approximate reasoning
International journal of bio-medical computing
International journal of medical informatics
Journal of algorithms
Journal of computer and system sciences
Journal of discrete algorithms
Journal of logic and algebraic programming
Journal of molecular graphics & modelling
Journal of parallel and distributed computing
Journal of symbolic computation
Journal of systems and software
Journal of systems architecture
Journal of visual languages and computing
Knowledge-based systems

Mathematical and computer modelling
Mathematics and computers in simulation
Medical image analysis
Microprocessors and microsystems
Neural networks
Neurocomputing
Parallel computing
Pattern recognition
Pattern recognition letters
Performance evaluation
Robotics and autonomous systems
Science of computer programming
Simulation modelling practice and theory
Swarm and evolutionary computation
Systems & control letters
Theoretical computer science
Trends in cognitive sciences

Other publishers: *44 highly relevant journals:*
Wiley:
Cognitive science
Complexity
Computational intelligence
Computer animation and virtual worlds
Computer graphics forum
Concurrency and computation: practice and experience
Expert systems
International journal of intelligent systems
Journal of the American Society for Information Science and Technology
Journal of software: evolution and process
Random structures & algorithms
Software, practice and experience
Software testing, verification and reliability
Wireless communications and mobile computing
Cambridge:
Combinatorics, probability & computing
Journal of functional programming
Knowledge engineering review
LMS journal of computation and mathematics
Mathematical structures in computer science
Natural language engineering
Network science
Probability in the engineering and informational sciences
RAIRO - theoretical informatics and applications
Review of symbolic logic
Robotica
Theory and practice of logic programming
SIAM :
Multiscale modeling & simulation
SIAM journal on computing
SIAM journal on control & optimization

SIAM journal on discrete mathematics
SIAM journal on optimization
SIAM journal on scientific computing

Sage:

International journal of high performance computing applications
Simulation

MIT Press:

Evolutionary computation
Journal of machine learning research
Neural computation

INFORMS:

INFORMS journal on computing

Taylor & Francis:

Enterprise information systems
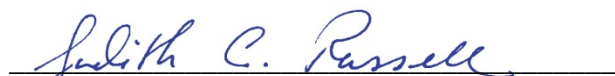International journal of human-computer interaction

Miscellaneous:

MIS Quarterly (SMIS, UMN)
Journal of cheminformatics
Journal of logic and computation
Journal of the American Medical Informatics Association : JAMIA

The information above has been prepared by Denise Bennett, Engineering Librarian, Marston Science Library.

B.   Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3 in Appendix A.

The George A. Smathers Libraries currently maintain a strong collection to support a PhD program in Computer Science. New resources added to the ACM and IEEE digital libraries are automatically included in their licensed packages. No additional funding is required beyond accommodating the annual price increases of existing resources.

I have reviewed and approved Section X, subsections A and B.

Judith C. Russell
Dean of University Libraries
George A. Smathers Libraries
PO Box 117000
Gainesville FL 32611
Phone: 352-273-2505
Email: jcrussell@ufl.edu

Rhonda Holt

4870 Collins Lake DR Mableton, GA 30126
Tel: 512-632-7810 email:rhonda.holt@att.net

November 5, 2013

Dr. Cammy R. Abernathy, Dean
College of Engineering Dean's Office
University of Florida
300 Weil Hall
P.O. Box 116550
Gainesville, FL 32611-6550

Dear Dr. Abernathy,

I'm writing to you on behalf of the Department of Computer and Information Science and Engineering Industry Advisory Board (IAB). The Industrial Advisory Board of the Department of Computer and Information Science and Engineering is a standing body consisting of representatives from companies who regularly recruit CISE graduates. The IAB provides regular feedback to the department to ensure that these students are well-qualified for the workplace.

The IAB strongly supports the establishment of a Ph.D. in Computer Science at the University of Florida. The Ph.D. in Computer Science will reduce confusion for both students and employers and strengthen the CISE graduate programs.

Sincerely,

Rhonda Holt, CISE IAB Chairperson

cc IAB Members:

Avery Zercoe, East Coast, US Field Manager, US & Canada Operations, Exxon-Mobil

Josh Greenberg, Chief Technology Officer, Grooveshark

Nathan Helmick, Harris

James Gadsby, Sr. Manager Information Technology, Home Depot

Nick Shanks, Vice President Technology, Infinite Energy

Michael Parrish, Enterprise Engineering Director, Lockheed Martin

Ramesh Balasubramanian, Senior Development Lead, Microsoft

John DePaul, Head of Delivery, Mindtree LTD

Greg Miller, Director of Engineering Talent, Ultimate Software

Brett Livengood, Chief of Staff, CIO Office, Sears Holdings

Mike Fabiano, Talent Acquisition Specialist, Mobiquity

Sarah Goodwin, Training Coordinator, Mobiquity

APPENDIX A

TABLE 1-B

PROJECTED HEADCOUNT FROM POTENTIAL SOURCES

(Graduate Degree Program)

Source of Students (Non-duplicated headcount in any given year)*	Year 1 HC	Year 1 FTE	Year 2 HC	Year 2 FTE	Year 3 HC	Year 3 FTE	Year 4 HC	Year 4 FTE	Year 5 HC	Year 5 FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	0	0	0	0	0	0	0	0	0	0
Students who transfer from other graduate programs within the university**	50	37.5	40	30	30	22.5	20	15	0	0
Individuals who have recently graduated from preceding degree programs at this university	3	2.25	6	4.5	9	6.75	12	9	15	11.25
Individuals who graduated from preceding degree programs at other Florida public universities	2	1.5	4	3	6	4.5	8	6	0	0
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0	0	0	0	0	0	0	0	0
Additional in-state residents***	1	0.75	2	1.5	0	0	0	0	0	0
Additional out-of-state residents***	2	1.5	3	2.25	4	3	5	3.75	5	3.75
Additional foreign residents***	20	15	40	30	60	45	80	60	100	75
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	78	58.5	95	71.25	109	81.75	125	93.75	120	90

*   List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

**   If numbers appear in this category, they should go DOWN in later years.

***   Do not include individuals counted in any PRIOR category in a given COLUMN.

APPENDIX A

TABLE 2
PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1 — Funding Source							Year 5 — Funding Source					
	Reallocated Base* (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Auxiliary Funds	Subtotal E&G, Auxiliary, and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Auxiliary Funds	Subtotal E&G, Auxiliary, and C&G
Faculty Salaries and Benefits	1,289,379	0	0	0	0	0	$1,289,379	1,289,379	0	0	0	0	$1,289,379
A & P Salaries and Benefits	108,468	0	0	0	0	0	$108,468	108,468	0	0	0	0	$108,468
USPS Salaries and Benefits	92,164	0	0	0	0	0	$92,164	92,164	0	0	0	0	$92,164
Other Personal Services	90,956	0	0	0	0	0	$90,956	90,956	0	0	0	0	$90,956
Assistantships & Fellowships	206,718	0	0	0	558,700	0	$765,418	206,718	0	0	600,000	0	$806,718
Library	0	0	0	0	0	0	$0	0	0	0	0	0	$0
Expenses	33,000	0	0	0	0	0	$33,000	33,000	0	0	0	0	$33,000
Operating Capital Outlay	0	0	0	0	0	0	$0	0	0	0	0	0	$0
Special Categories	0	0	0	0	0	0	$0	0	0	0	0	0	$0
Total Costs	$1,820,685	$0	$0	$0	$558,700	$0	$2,379,385	$1,820,685	$0	$0	$600,000	$0	$2,420,685

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "other new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

Total Positions	Year 1	Year 5
Faculty (person-years)	13.78	13.68
A & P (FTE)	2.75	2.75
USPS (FTE)	3.75	3.75

Calculated Cost per Student FTE

	Year 1	Year 5
Total E&G Funding	$1,820,685	$2,420,685
Annual Student FTE	58.5	90
E&G Cost per FTE	$31,123	$26,897

APPENDIX A

TABLE 3 (DRAFT)
ANTICIPATED REALLOCATION OF EDUCATION & GENERAL FUNDS*

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
19140100-101-CRRNT, Department E&G funds	3,260,275	1,820,685	$1,439,590
C&G Funds	838,058	558,700	$279,358
	0	0	
	0	0	
	0	0	
	0	0	
Totals	$4,098,333	$2,379,385	$1,718,948

* If not reallocating funds, please submit a zeroed Table 3

Worksheet Table 3 Reallocation

APPENDIX A
TABLE 4 (DRAFT)
ANTICIPATED FACULTY PARTICIPATION

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Lisa Anthony, Ph.D.	Asst. Prof.	Tenure-track	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Arunava Banerjee, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Manuel Bermudez, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.10	0.10	9	1.00	0.10	0.10
A	Shigang Chen, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	3.00	3.00	9	1.00	3.00	3.00
A	Douglas Dankel, Ph.D.	Asst. Prof.	Tenure	Fall 2014	9	1.00	0.10	0.10	0	0.00	0.00	0.00
A	Timothy Davis, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Alin Dobra, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Alireza Entezari, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Jose Fortes, Ph.D.	Professor	Tenure	Fall 2014	9	0.45	3.00	1.35	9	0.45	3.00	1.35
A	Paul Gader, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.10	0.10	9	1.00	0.10	0.10
A	Abdelsalam Helal, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Ahmed Helmy, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30

A	Tamer Kahveci, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Jonathon (C.L.) Liu, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Benjamin Lok, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Prabhat Mishra, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Richard Newman, Ph.D.	Asst. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Jih-Kwon Peir, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.50	0.50	9	1.00	0.50	0.50
A	Jorg Peters, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Anand Rangarajan, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Sanjay Ranka, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Sartaj Sahni, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Beverly Sanders, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Mark Schmalz, Ph.D.	Research Assoc. Sci.		Fall 2014	9	1.00	0.10	0.10	9	1.00	0.10	0.10
A	Markus Schneider, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Meera Sitharam, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	My Thai, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Stephen Thebaut, Ph.D.	Asst. Prof.	Tenure	Fall 2014	9	1.00	0.10	0.10	9	1.00	0.10	0.10
A	Alper Ungor, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30

Worksheet Table 4 Faculty

Code	Faculty	Rank	Tenure Status	Start	Year 1				Year 5			
A	Baba Venuri, Ph.D.	Professor	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Daisy Wang, Ph.D.	Asst. Prof.	Tenure-track	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Joseph Wilson, Ph.D.	Asst. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Ye Xia, Ph.D.	Assoc. Prof.	Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
A	Tuba Yavuz-Kahveci, Ph.D.	Research Scientist		Fall 2014	9	0.25	0.10	0.03	9	0.25	0.10	0.03
A	New Hire, Ph.D. Computer Science		Tenure track	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
	New Hire, Ph.D. Computer Science		Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
	New Hire, Ph.D. Compute Science		Tenure	Fall 2014	9	1.00	0.30	0.30	9	1.00	0.30	0.30
	Total Person-Years (PY)						13.78				13.68	

Faculty Code		Source of Funding	PY Workload by Budget Classsification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	12.88	12.78
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	0.00
C	New faculty to be hired on a new line	New Education & General Revenue	0.90	0.90
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00	0.00
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00	0.00
	Overall Totals for	Year 1	13.78	
		Year 5		13.68

Name: **LISA ANTHONY**

Education:
- Ph.D., Human-Computer Interaction, Carnegie Mellon University, 2008
- M.S., Computer Science, Drexel University, 2002
- B.S., Computer Science, Drexel University, 2002

Academic Experience:
- Assistant Professor, Department of Computer & Information Science & Engineering, University of Florida, Gainesville FL, 2013-present
- Research Assistant Professor, Information Systems Department, University of Maryland Baltimore County, Baltimore MD, 2013
- Post-Doctoral Research Associate, Information Systems Department, University of Maryland Baltimore County, Baltimore MD, 2011-2012

Non-Academic Experience:
- Senior Member, Engineering Staff, User-Centered Interfaces Group, Lockheed Martin Advanced Technology Laboratories (LM ATL), Cherry Hill NJ, 2008-2010
- Summer Graduate Intern, Fuji-Xerox Palo Alto Laboratory (FXPAL), Palo Alto CA, Summer 2007
- Summer Undergraduate Intern, OpenCASCADE, Matra DataVision, Palaiseau France, Summer 2001
- NIST Summer Undergraduate Research Fellow (SURF), Design Process Group, National Institute of Standards & Technology (NIST), Gaithersburg MD, Summer 2000

Certifications / Professional Registrations:
- None

Current Membership in Professional Organizations:
- Association for Computing Machinery (ACM)
- ACM Special Interest Group on Human-Computer Interaction (ACM SIGCHI)

Service Activities:
- Conference Committees:
  - AAAI Conference on Artificial Intelligence, 2013
  - ACM International Conference on Multimodal Interfaces, 2011 and 2013
  - ACM SIGCHI Conference on Interaction Design and Children, 2013
  - Graphics Interface, 2013 and 2014
  - ACM Multimedia, 2010
- Reviewing for conferences and journals, 2007+:
  - AIEd, ACM SIGCHI, DIS, ACM SIGCHI EICS, GI, HCI (journal), ICMI, IJDAR (journal), IJHCS (journal), Intelligent Tutoring Systems, IUI, IWC (journal), ACM SIGCHI MobileHCI, ACM MM, Pervasive Computing, ACM ITS, ACM SIGCHI Ubicomp, ACM UIST
- Other Professional Service:
  - National Council on Women in Information Technology Award for Aspiration Reviewer, 2012

Key Publications / Presentations from Last Five Years:
- Journal Articles:
  - Anthony, L., Brown, Q., Tate, B., Nias, J., Brewer, R., and Irwin, G. To appear. Designing Smarter Touch-Based Interfaces for Educational Contexts. Journal of Personal and Ubiquitous Computing: Special Issue on Educational Interfaces, Software, and Technology, to appear.

- o Anthony, L., Yang, J., and Koedinger, K.R. 2012. A Paradigm for a Handwriting-Based Intelligent Tutor. International Journal of Human-Computer Studies, Volume 70, Issue 11, November 2012, p.866-887.
- o Anthony, L., Yang, J., and Koedinger, K.R. 2008. Toward Next-Generation Intelligent Tutors: Adding Natural Handwriting Input. IEEE Multimedia Volume 15, Issue 3, July 2008, p.64-68.
- Refereed Conference Papers :
  - o Anthony, L., Brown, Q., Nias, J., and Tate, B. 2013. Examining the Need for Visual Feedback during Gesture Interaction on Mobile Touchscreen Devices for Kids. Proceedings of the International Conference on Interaction Design and Children (IDC'2013), New York, NY, 26 June 2013, p.157-164.
  - o Anthony, L., Vatavu, R.-D., and Wobbrock, J.O. 2013. Understanding the Consistency of Users' Pen and Finger Stroke Gesture Articulation. Proceedings of Graphics Interface (GI'2013), Regina, Canada, 29 May 2013, p.87-94.
  - o Anthony, L., Kim, Y., and Findlater, L. 2013. Analyzing User-Generated YouTube Videos to Understand Touchscreen Use by People with Motor Impairments. Proceedings of ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'2013), Paris, France, 30 Apr 2013, p.1223-1232. *Best paper award.*
  - o Anthony, L., Brown, Q., Nias, J., Tate, B., and Mohan, S. 2012. Interaction and Recognition Challenges in Interpreting Children's Touch and Gesture Input on Mobile Devices. Proceedings of the ACM International Conference on Interactive Tabletops and Surfaces (ITS'2012), Cambridge, MA, 14 Nov 2012, p.225-234.
  - o Vatavu, R.-D., Anthony, L., and Wobbrock, J.O. 2012. Gestures as Point Clouds: A $P Recognizer for User Interface Prototypes. Proceedings of ACM International Conference on Multimodal Interaction (ICMI'2012), Santa Monica, CA, 24 Oct 2012, p.273-278. *Best paper award.*
  - o Anthony, L. and Wobbrock, J.O. 2012. $N and Protractor: a Fast and Accurate Multistroke Recognizer. Proceedings of Graphics Interface (GI'2012), Toronto, Canada, 29 May 2012, p.117-120.
  - o Anthony, L. and Wobbrock, J.O. 2010. A Lightweight Multistroke Recognizer for User Interface Prototypes. Proceedings of Graphics Interface (GI'2010), Ottawa, Canada, 02 Jun 2010, p.245-252.
- Invited Presentations (not including conference paper presentations):
  - o "Understanding, Designing, and Developing Natural User Interactions for Children", Invited Talk, HCIL Brown Bag Seminar, College of Information Studies, University of Maryland College Park, College Park MD, Feb. 28, 2013.
  - o "Understanding, Designing, and Developing Natural User Interactions for Children", Invited Talk, Computer Science Department, Princeton University, Princeton NJ, Dec. 10, 2012.
  - o "Cultivating Collaborations for Research Success: Colleagues and Publications", Post-Doctoral Peer Seminar, University of Maryland Baltimore County, Baltimore MD, Dec. 5, 2012.
  - o "Understanding, Designing, and Developing Natural User Interactions for Children", Invited Talk, Department of Library and Information Science, School of Communication and Information, Rutgers University, New Brunswick NJ, Nov. 27, 2012.
  - o "Understanding, Designing, and Developing Natural User Interactions for Children", Invited Talk, Donald Bren School of Information and Computer Sciences, University of California, Irvine, Irvine CA, Oct. 22, 2012.
  - o "Understanding, Designing, and Developing Natural User Interactions for Children", Invited Talk, Department of Computer Science and Engineering, Texas A&M University, College Station TX, Oct. 15, 2012.

Professional Development Activities:
- None

Name: ARUNAVA BANERJE

Education: Ph.D, Computer Science, Rutgers, The State University of New Jersey, 2001

Academic experience:
- University of Florida, CISE, Associate Professor (2009- Present)

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, Society for Neuroscience

Honors and awards:
- 2000-2001 Rutgers Graduate School Research Award

Service activities:
- Faculty Advisor for Indian Students Association, University of Florida

Most important publications and presentations from the past five years:
- N D. VanderKraats, and Arunava Banerjee, A. (2011). A finite-sample, distribution-free, probabilistic lower bound on mutual information. *Neural Computation*, *23*, 1862–98.
- Ritwik Kumar, Angelos Barmpoutis, Arunava Banerjee, and Baba C. Vemuri (2010) Non-Lambertian Reflectance Modeling and Shape Recovery of Faces using Tensor Splines, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, (in press).
- Karthik S. Gurumoorthy, Ajit Rajwade, Arunava Banerjee, and Anand Rangarajan (2010) A Method for Compact Image Representation using Sparse Matrix and Tensor Projections onto Exemplar Orthonormal Bases. *IEEE Transactions on Image Processing,* 19(2), pp. 322-334.
- Karthik S. Gurumoorthy, Arunava Banerjee, and Anand Paul (2009) Dynamics of 2-worker bucket brigade assembly line with blocking and instantaneous walk-back. *Operations Research Letters,* 37(3), pp. 159-162.
- Ajit Rajwade, Arunava Banerjee, and Anand Rangarajan (2008) Probability Density Estimation using Isocontours and Isosurfaces: Application to Information Theoretic Image Registration. *IEEE Transactions on Pattern Analysis and Machine Intelligence,* 31(3), pp. 475-491.
- Arunava Banerjee, Peggy Series, and Alexandre Pouget (2007) Dynamical Constraints on using Precise Spike Timing to Compute in Recurrent Cortical Networks. *Neural Computation,* 20(4), pp. 974-993.
- Arunava Banerjee, and Anand Paul, (2007) On Activity Correlation and PERT Bias. *European Journal of Operational Research,* 189(3), pp. 1208-1261.
- Arunava Banerjee, Janice E. Carrillo, and Anand Paul (2007) Projects with Sequential Iteration: Models and Complexity. *IIE Transactions,* 39, pp. 453-463.

Most recent professional development activities: see service activities above

Name: **MANUEL BERMUDEZ**

Education: Ph.D., Computer and Information Science, Univ. of California, Santa Cruz, 1984

Academic experience:
- University of California Santa Cruz, Visiting Assistant Professor, 1984-85
- University of Florida, Assistant Professor, 1985-1990
- University of Florida, Associate Professor, 1990-present

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: none

Honors and awards:
- UF Teaching Improvement Award, 1995.
- Fulbright Scholar, visiting University of Costa Rica, 1996-97.
- Fulbright Scholar, visiting Universidad de los Andes, Venezuela, 2003-04.
- Honorary Doctorate, Universidad Particular de Chiclayo, Chiclayo, Perú, April 21, 2008
- Invited Speaker, "El Futuro de la Acreditación: La Perspectiva de ABET" at Jornada Informáticos de Calidad; Generando Competitividad Internacional, a seminar organized by SINAES (Sistema Nacional de Acreditación de la Educación Superior), Nov. 28, 2008, San José, Costa Rica.
- Keynote Speaker, V COREIS (Congreso Regional de Estudiantes de Ingeniería de Sistemas), Universidad de Chiclayo, Chiclayo, Perú, April 21, 2008.
- Keynote Speaker, VII Congreso Internacional de Ingeniería Electrónica y Tecnologías Avanzadas - CIETA, III Congreso Internacional en Sistemas, Informática e Ingeniería del Conocimiento, Pamplona, Colombia, November 17-21, 2009.
- Keynote Speaker, Congreso Regional de Estudiantes de Ingenieria de Sistemas, Chiclayo, Peru, April 28-30, 2010.
- Recipient of the Distinguished Visitor Medal, Universidad Santo Toribio de Mogrovejo, Chiclayo, Peru, April 30, 2010.

Service activities:
- Member, Admissions Committee, CISE Dept.
- Member, ABET Committee, CISE Dept.
- Systems Area Coordinator, Ph.D. Qualifying Exam Committee, CISE Dept.
- Guest Editor, CLEI Electronic Journal, for special edition following co-Chairman position for CLEI (Centro Latinoamericano de Educación en Informática) conference in 2007.
- Program Committee co-Chair, CLEI (Centro Latinoamericano de Educacion en Informatica), Costa Rica, 2007.
- Program Committee Chair, LACCEI (Latin American and Caribbean Consortium of Engineering Institutions), 2007, 2009, 2010, 2011.

- Member, DOD SMART (Science, Mathematics and Research for Transformation Defense) Scholarship for Service Evaluation Panel, Washington, DC, January 25, 2008, 2009, 2010.
- Member, International Accreditation visit team, to evaluate the Systems Engineering program at the Universidad Interamericana de Costa Rica, sponsored by SINAES (Sistema Nacional de Acreditación de la Educación Superior de Costa Rica), Nov. 24-28, 2008. Chair, International Accreditation visit team, 2009.
- Panel member, National Science Foundation Graduate Research Fellowship Program, Washington DC, February 5-7, 2009. Panel member, 2010. Panel Chair, 2011.
- Panel member, National Science Foundation CSR Small Panel (Operating Systems and Compilers), Washington DC, March 11-12, 2010.

Most important publications and presentations from the past five years:
- Carl Crane and Manuel E. Bermudez, "The Autonomous Vehicle Program at the University of Florida", proceedings of the Fifth Latin American and Caribbean Conference for Engineering and Technology, May 29, June 1, 2007, Tampico, Mexico
- Manuel E. Bermudez, "Computer-Assisted Process Planning in Manufacturing: A Case-study in University-Industry Cooperation", Proceedings of the 7th Annual LACCEI Conference, Tegucigalpa, Honduras, June 4-6, 2008, pp. 1-9.
- Manuel E. Bermudez, "Adding Part Features to a Computer-Assisted Manufacturing Process Planning System: A Continuing Case-study in University-Industry Cooperation", Proceedings of the 8th Annual LACCEI Conference, San Cristobal, Venezuela, June 2-5, 2009, pp. 1-9.

Most recent professional development activities:
- Taught many short courses on Software Engineering, Compiler Construction in Latin America,
- Have given over 40 invited talks in Latin America.
- Have served as faculty coach on eight IPPD projects.
- see also service activities above

Name: SHIGANG CHEN

Education: University of Illinois at Urbana-Champaign, Ph.D. in CS, May 1999

Academic experience:
- Associate Professor, CISE, U. of Florida, 2008 - present
- Assistant Professor, CISE, U. of Florida, 2002 – 2008

Non-academic experience:
- Technical Advisor, Protego Networks, Advisory Board, Network Security, 2002 – 2003
- Senior Software Engineer, Cisco Systems, Network Security, 1999 - 2002

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM

Honors and awards:
- NSF CAREER Award, 2007
- IEEE Communications Society Best Tutorial Paper Award, 1999

Service activities:
- Member of the Steering Committee for IEEE IWQoS
- Area co-chair for Network and Data Communications Track of the 10th International Symposium on Pervasive Systems, Algorithms and Networks (I-SPAN), 2009
- TPC co-chair for Computer and Network Security Symposium, ACM International Wireless Communications and Mobile Computing Conference (IWCMC), 2009
- TPC co-chair for the 17th IEEE International Workshop on Quality of Service (IWQoS), 2009
- Guest editor for Journal of Advances in Multimedia, Special Issue on Towards the Next Generation Peer-to-Peer Services, 2007
- Guest editor for IEEE Transactions on Vehicle Technologies, Special Section on Cross-layer Design in Mobile Ad Hoc Networks and Wireless Sensor Networks, 2005
- Guest editor for ACM/Baltzer Journal of Wireless Networks (WINET), Special Issue on Wireless Quality-of-Service Support, 2005
- Track co-chair for Wireless and Mobile Network Architecture of 16th International Conference on Computer Communications and Networks, 2007
- TPC co-chair for Computer and Network Security Symposium of IEEE International Wireless Communication and Mobile Computing Conference (IWCCC), 2006
- Vice general chair for Second International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks, 2005
- TPC vice chair for the Second IEEE International Conference on Mobile Adhoc and Sensor Systems (MASS'05), 2005
- TPC co-chair for First International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks, 2004
- TPC member for INFOCOM'11, ICDCS'11, QShine'11, INFOCOM'10, ICCCN'10,

MASS'10, ICC'10, GLOBECOM'10, RTSS'09, ICCCN'09, INFOCOM'09, ChinaCom'08, SecureCom'09, INFOCOM'08, ACST'08, GLOBECOM'07, SAWN'07, WCNC'07, ICNP'06, MTUC'06, MultiSec'05, INFOCOM'05, WiQoS'05, SANS'05, ISCC'05, ACST'04, COQODS'04, GLECOM'04, ISCC'04, CNIS'03, CST'03, ICNP'01

- Keynote speaker for the 3rd China Wireless Sensor Networks, SuZhou, China, 2009
- NSF review panelist for five times
- Session chair in INFOCOM'09, ICDCS'08, INFOCOM'05 and INFOCOM'04

Most important publications and presentations from the past five years:
- Tao Li, Shigang Chen, Yibei Ling, Fast and Compact Per-Flow Traffic Measurement through Randomized Counter Sharing, in Proc. of IEEE INFOCOM'10, Shanghai, China, April, 2011.
- Tao Li, Shigang Chen, Wen Luo, Ming Zhang, Scan Detection in High-Speed Networks Based on Optimal Dynamic Bit Sharing, in Proc. of IEEE INFOCOM'10, Shanghai, China, April, 2011.
- Zhuo Huang, Jih-Kwon, Shigang Chen, Approximately-Perfect Hashing: Improving Network Throughput through Efficient Off-chip Routing Table Lookup, in Proc. of IEEE INFOCOM'10, mini-conference, Shanghai, China, April, 2011.
- Zhuo Huang, David Lin, Jih-Kwon Peir, Shigang Chen, S. M. Iftekharul Alam, Fast Routing Table Lookup Based on Deterministic Multi-hashing, in Proc. of IEEE International Conference on Network Protocols (ICNP'10), Kyoto, Japan, October 2010.
- Myungkeun Yoon, Tao Li, Shigang Chen, Jih-kwon Peir, Fit A Spread Estimator in A Small Memory, in Proc. of IEEE INFOCOM'09, Rio de Janeiro, Brazil, April 2009. (The journal version is directly accepted by IEEE/ACM Transactions on Networking after the first round of reviews.)
- MyungKeun Yoon, Shigang Chen, Zhan Zhang, Minimizing the Maximum Firewall Rule Set in a Network with Multiple Firewalls, IEEE Transactions on Computers, vol. 59, no. 2, pp. 218-230, February 2010.
- Tao Li, Shigang Chen, Yibei Ling, Identifying the Missing Tags in a Large RFID System, in Proc. of ACM Mobihoc, Chicago, IL, USA, September, 2010.
- Shigang Chen, Meongchul Song, Sartaj Sahni, Two Techniques for Fast Computation of Constrained Shortest Paths, IEEE/ACM Transactions on Networking, vol. 16, no. 1, pp. 105-115, February 2008
- Ying Jian, Shigang Chen, Can CSMA/CA Networks be Made Fair? in Proc. of ACM MobiCom, San Francisco, California, USA, September 2008.
- Shigang Chen, Zhan Zhang, Localized Algorithm for Aggregate Fairness in Wireless Sensor Networks, in Proc. of ACM MobiCom, Los Angeles, California, USA, September 2006.

Most recent professional development activities: see service activities above

Name: **RANDY Y. C. CHOW**

Education: PhD, Computer Science, Univ. of Massachusetts, 1977.

Academic experience:
- University of Florida, CISE, Professor, 1988 – present, full time
- University of Florida, CISE, Associate Professor, 1981 – 1988, full time
- Wright State University, Assistant Professor, 1977 -1981, full time

Non-academic experience:
- NSF, Program Director, 2001 – 2003, full time
- IBM, Faculty Associate, Summer 1983, full time

Certifications or professional registrations: none

Current membership in professional organizations:, IEEE Computer Society, ACM

Honors and awards:

Service activities:
- Program Committee   2011   Int. Conf. On Network and Parallel Computing
- Program Committee   2010   Int. Conf. On Network and Parallel Computing
- Editor   2002-9   Journal of Information Science and Engineering
- Program Committee   2008   International Conference on GDC
- Program Committee   2007-8   IASTED/Advanced Computer Science and Technology
- Committee of Visitors   2006   CNS/CISE/NSF
- Keynote Speaker   2006   39th Annual Simulation Symposium
- Program Committee   2006   ASTED/Advanced Computer Science and Technology
- Program Committee   2004   International Symposium on ADS
- Program Chairman   2003   International Workshop on FTDCS
- Program Director   2001-3   NSF

Most important publications and presentations from the past five years:
- Hassan Rasheed* and Randy Chow, "Dynamic Risk Thresholds for Access Control Restriction Using Real Time Data on Vulnerability Exploitation," *International Journal on Network Security*, accepted with minor revision, to appear in 2011.
- Lu Chen* and Randy Chow, "Building a valid Web Service Composition Using Integrated Service Substitution and Adaptation," *International Journal of Information and Decision Sciences*, Special Issue on IRI, Vol. 2, No.2, pp. 113-131, February 2010.
- Y. Ling*, S. G. Chen, and R. Chow, "AID: A Global Anti-DoS Service," *Computer Networks Journal*, Vol. 51, pp.4252-4269, October 2007.
- S. Chen, C. Choo*, and R. Chow, "Internet Security: A Novel Role/Object-Based Access Control for Digital Libraries," *Journal of Organizational Computing and Electronic Commerce*, Vol. 16(2), pp. 87-103, April 2006.

- Z. Zhang*, S. Chen, Y. Ling, and R. Chow, "Capacity-Aware Multicast Algorithms on Heterogeneous Overlay Networks," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 17(2), pp. 135-147, February 2006.

- Hungju Chu* and Randy Chow, "An Information Model for Managing Knowledge via Faceted Taxonomies," *IEEE International Conference on Information Reuse and Integration*, pp. 378-370, August 2010.
- Lu Chen*, Yan Li*, and Randy Chow, "Enhancing Web Service Registries with Semantics and Context Information," *IEEE International Conference on Service Computing*, pp. 641-644, July 2010.
- Xiao Li* and Randy Chow, "An Ontology-based mapping Repository for Meta-Querier Customization*," Proceedings of the 22nd International Conference on Software Engineering and Knowledge Engineering* (SEKE 2010), pp. 325-330, July 2010.
- Lu Chen* and Randy Chow, "A Web Service Similarity Framework Using Automata Comparison," *International Conference on Information Systems, Technology and Management (ICISTM-10)*, pp. 44-55, March 2010.
- Piyush Harsh*, Randy Chow, and Richard Newman, "Gray Networking: A Step toward Next Generation Computer Networks," *ACM SAC'10*, pp. 1321-1328, March 2010.
- Xiao Li,* Randy Chow, and Lu Chen*, "Dynamic Personalization of Meta-Queriers," *IEEE International Conference on Information Reuse and Integration*, pp. 361-365, August 2009.
- H. Rasheed* and R. Chow, "Adaptive Risk-Aware Application-Level Access Control," *SAM'09, International Conference on Security and Management*, July 2009.
- H. Rasheed* and R. Chow, "Automated Risk Assessment for Sources and Targets of Vulnerability Exploitation," *IEEE World Congress on Computer Science and Information Engineering*, pp. 150-154, March 2009.
- L. Chen* and R. Chow, "Web Service Composition Based on Integrated Service Substitution and Adaptation," *IEEE International Conference on Information Reuse and Integration*, pp. 34-39, July 2008.
- H. Rasheed* and R. Chow, "An Information Model for Security Integration," *IEEE Workshop on Future Trends of Distributed Computing Systems,* pp. 41-47, March 2007.
- H. Chu* and R. Chow, "Reaching Semantic Interoperability through Semantic Association of Domain Standards," *IEEE Workshop on Future Trends of Distributed Computing Systems,* pp. 15-19, March 2007.

Most recent professional development activities:
- Faculty Enhancement Opportunity, Summer 2009; Sabbatical, Spring 2005
- See also service activities above

Name: **DOUGLAS DANKEL II**

Education: Ph.D., Computer Science, University of Illinois Urbana-Champaign, 1980

Academic experience:
- Assistant Professor, University of Florida, 1979, present, full time
- Lektor, University of Akureyri, Iceland, 2003-2005, full time

Non-academic experience:
- Graduate Engineer, 5/73-8/73, IBM, Raleigh, NC, full time
- Programmer, 5/74-7/74, Northern European University Computing Center, Lyngby, Denmark, full time
- Visiting Researcher, 5/90-12/90, 5/91-8/91, 5/92-8/92, BNR, Research Triangle Park, NC, full time
- Assistant for Internal Courses, 12/80, 1/81, IBM, part time
- Instructor for Internal Courses, 10/81, 11/81, 5/82, 10/82, 11/82, 7/83, 8/83, 10/83, 4/84, 5/85, 6/85, 11/85, 7/86, 8/86, 6/87, 7/87, 6/88, 10/88, 3/89, 3/90, 10/90, 2/91, IBM, part time

Certifications or professional registrations: none

Current membership in professional organizations: AAAI, ACM: IEEE, FLAIRS (Florida Artificial Intelligence Research Society)

Honors and awards:
- Finalist in "The Campus Award for Excellence in Undergraduate Teaching", Univ. of Illinois, Urbana, Illinois, 1976
- Co-Winner of "Teacher of the Year in the College of Engineering", Univ. of Florida, Gainesville, FL, 1985
- Outstanding Instructor Award, National Technical University: 1989, 1990, 1991, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001
- T.I.P. (Teaching Incentive Program) Award, 1994, 1998

Service activities:
- Departmental committees: Curriculum Committee
- Reviewer: CIGCSE Conference, Canadian AI Conference, ITiCSE Conference, FLAIRS Conference, Transactions on Systems, Man, and Cybernetics, Part A, WMSCI-2006, Review for RANNIS (funding agency in Iceland)
- Program Chairman: The 10th International Florida Artificial Intelligence Research Symposium, May 12-14, 1997, Daytona Beach, FL
- General Co-Chairman: The 9th Florida Artificial Intelligence Research Symposium, May 20-22, 1996, Key West, FL
- General Chairman: The 14th International Artificial Intelligence Research Symposium, 2001, Key West, FL
- Vice President, Florida Artificial Intelligence Research Society, 1996 - 1997
- President, Florida Artificial Intelligence Research Society, 1997 - 2012

Most important publications and presentations from the past five years:

- Y. Namkoong*, Y. Joo, and D. D. Dankel, "Feature Subset-wise Mixture Model-based Clustering via Local Search Algorithm", Canadian AI 2010, The 23rd Canadian Conference on Artificial Intelligence, Ottawa, Ontario, Canada, May 31 – June 2, 2010, pp. 135 – 146
- Y. Namkoong*, D. D. Dankel, and Y. Joo, "Partitioning Features for Model-based Clustering Using Reversible Jump MCMC Technique", FLAIRS-23, The International FLAIRS Conference, Daytona Beach, FL, May 19-23, 2010, pp. 152-153.
- Y. Namkoong*, Y. Joo, and D. D. Dankel, "Feature-Subset-Specific Clustering Using Stochastic Search", ENAR (Eastern North American Region) International Biometric Society Spring Meeting, New Orleans, LA, March 21-24, 2010
- J. D. Schipper*, J. L. Schauben, D. D. Dankel II, A. A. Arroyo, and D. R. Sollee, "A Knowledge-Based Consultant for Human Toxic Exposures" in <u>Clinical Toxicology</u> (The Official Journal of the American Academy of Clinical Toxicology, European Association of Poisons Centres and Clinical Toxicologists, and American Association of Poison Control Centers), vol. 47, Number 5. London, UK, June 2009, pp. 465-466
- J. D. Schipper*, J. L. Schauben, D. D. Dankel II, A. A. Arroyo and D. R. Sollee, "Differential Toxicological Diagnoses by Using A Knowledge-Based Computerized Models", Clinical Toxicology (The Official Journal of the American Academy of Clinical Toxicology, European Association of Poisons Centres and Clinical Toxicologists, and American Association of Poison Control Centers), Volume 46, Number 7, M.A. McGuigan, Ed., London, UK, August 2008, p. 612.
- Crane, D. Armstrong, A. Arroyo, A. Baker*, D. D. Dankel, G. Garcia*, N. Johnson*, J. Lee*, S. Ridgeway, J. Schueller, E. Schwartz, E. Thorn*, S. Velat*, and J. H. Yoon*, "Experiences from the 2007 DARPA Urban Challenge and Implications for Heavy Vehicle Autonomy", CIGR - International Conference of Agricultural Engineering, XXXVII Congresso Brasileiro de Engenharia Agrícola – CONBEA 2008, Brazil, August 31 to September 4, 2008, 6 pages
- Crane, D. Armstrong, A. Arroyo, A. Baker*, D. Dankel, G. Garcia*, N. Johnson*, J. Lee*, S. Ridgeway, E. Schwartz, E. Thorn*, S. Velat*, and J. H. Yoon*, "Lessons Learned at the DARPA Urban Challenge", 2008 Florida Conference on Recent Advances in Robotics, FIT, Melbourne, Florida, May 8-9, 2008
- J. Magnusson*, and D. Dankel, "Proactive Database Index Tuning Through Data Threshold Prediction", 47th ACM Southeast Conference, Clemson, SC, March 19-21, 2008
- D. Dankel II and J. Ohlrich*, "Students Teaching Students: Incorporating Presentations into a Course", SIGCSE-07, Covington, KY, March 2007

Most recent professional development activities:

- Workshop on Incorporating Machine Learning in an Introductory AI Course, FLAIRS-2009
- See also service activities above

Name:　　**TIMOTHY DAVIS**

Education:　　PhD, Electrical Engineering, University of Illinois at Urbana-Champaign, 1989

Academic experience:
- University of Florida, CISE, Professor, Aug. 2007 to date, full time
- Stanford University, Visiting Associate Professor, Aug. 2002 to May 2003, full time
- University of Florida, CISE, Associate Professor, Aug. 1996 to Aug. 2007, full time
- University of Florida, CISE Assistant Professor, Dec. 1990 to Aug. 1996, full time
- CERFACS, Toulouse, France, post-doctoral researcher, Oct. 1989 to Dec. 1990, full time

Non-academic experience:
- Lawrence Berkeley National Lab, Visiting Staff Member, Aug. 2002 to May 2003
- General Electric Corporate Res. & Dev., Summer Intern, 1984 and 1985
- RCA, Cooperative Education Student Intern, 1980-1983 (2 calendar years total)
  (all the above are full-time)

Certifications or professional registrations: Engineering in Training, 1983

Current membership in professional organizations: SIAM, ACM

Honors and awards:
- Google Open Source Software Award ($5000), May 1, 2012
- American Electronics Associate Fellowship, 1984 to 1989
- CISE Department Teacher of the Year Award, 1994
- NVIDIA Academic Partner, 2011 ($25,000 gift, plus $4,000 GPU card)
- Google Open Source Software Award (Google Summer of Code), 2011

Service activities:
- Associate Editor, ACM Trans. on Mathematical Software, Sept. 2008 to date
- Associate Editor, Computational Optimization and Applic., Sept. 2005 to date
- Chair, University of Florida College of Engineering Faculty Council, 2007 – 2008
- University of Florida Faculty Senate, 2002-2008
- Elected Member of SIAM Council, 2007 to date
- SIAM Council representative to the SIAM Board of Trustees, 2010 to date
- College of Engineering Awards Committee
- NSF Panelist (multiple occasions)

Most important publications and presentations from the past five years:
- Direct Methods for Sparse Linear Systems, T. A. Davis, SIAM, Philadelphia, Sept. 2006. Part of the SIAM Book Series on the Fundamentals of Algorithms.
- MATLAB Primer, 8th edition T. A. Davis. CRC Press, 2011.
- The University of Florida Sparse Matrix Collection T. A. Davis and Y. F. Hu, in ACM Transactions on Mathematical Software, Vol 38, Issue 1, 2011.

- Algorithm 915: SuiteSparseQR Multifrontal multithreaded rank-revealing sparse QR factorization, T. A. Davis, ACM Trans. on Mathematical Software, Vol 38, Issue 1, 2011.
- Hypergraph-based unsymmetric nested dissection ordering for sparse LU factorization L. Grigori, E. Boman, S. Donfack, and T. A. Davis, SIAM Journal on Scientific Computing, vol 32, no 6, pp 3426-3446, 2010.
- Algorithm 907: KLU, a direct sparse solver for circuit simulation problems T. A. Davis and E. Palamadai Natarajan, ACM Transactions on Mathematical Software, vol 37, no. 3, 2010.
- Dynamic supernodes in sparse Cholesky update/downdate and triangular solves, T. A. Davis and W. W. Hager, ACM Trans. Math. Software, Vol 35, No. 4, 2009.
- Algorithm 887: CHOLMOD, supernodal sparse Cholesky factorization and update/downdate, Y. Chen, T. A. Davis, W. W. Hager, and S. Rajamanickam, ACM Trans. Math. Software, Vol 35, No. 3, 2009.
- Dual multilevel optimization, T. A. Davis and W. W. Hager, Mathematical Programming, Vol 112, No. 2, April 2008, pp. 403-425.
- A sparse proximal implementation of the LP Dual Active Set Algorithm, T. A. Davis and W. W. Hager, Mathematical Programming, Vol 112, No. 2, April 2008, pp. 275-301.

Most recent professional development activities:
- SCEE 2010 (Supercomputing in Electrical Engineering), Toulouse, France
- Invited talk at University of Michigan, Aug. 2010
- SIAM Annual Meetings
- Invited talk at Florida State University, May 2010
- Master Consultant to The MathWorks (I am the author of x=A\b in MATLAB when A is sparse), including a 500-hour assignment in the Summer of 2007.
- Consultant to Accelogic, Inc.
- Consultant to Mentor Graphics, Inc.
- Faculty Advisor for Cornerstone Robotics Team (high-school), 2010. The team won 1st placed in an international competition (Technology Student Association), 2010, in Baltimore, Maryland
- Results of research (mathematical software) incorporated into dozens of commercial software packages and distributed commercially, including MATLAB, Mathematica, MSC Nastran, Cadence, ANSYS, IBM, Berkeley Design Automation (circuit simulation), Geomodeling Solutions, Orcina, ATopTech, Tandent Vision Science, SIMetrix, Mentor Graphics, and countless open-soruce packages such as the Xyce circuit simulation package (Sandia National Labs).
- See also service activities above

Name: **ALIN DOBRA**

Education: PhD, Cornell University, 2003

Academic experience:
- Department of CISE, University of Florida, Associate Professor, 2009 – present
- Department of CISE, University of Florida, Assistant Professor, 2003-2009

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: ACM

Honors and awards:
- Best paper award, SIGMOD 2007 conference
- NSF CAREER Award: New Technologies for Approximate Query Processing, 2005-2010

Service activities:
- Organizer of First Bertinoro Workshop on Data-mining (October 2005)
- Internal: chair of facilities committee (2008-now)
- Program committee member for ACM CIKM 2003, ACM SIGKDD 2004, ACM CIKM 2004, IEEE ICDE 2004, IEEE ICDM 2005, VLDB 2005, ICDE 2005, SIGMOD 2006, KDD 2006, KDD 2007, SDM 2007, VLDB 2007, SIGMOD 2008, SIGMOD 2010, EDBT 2011, ICDE 2011 (area chair), ICDM 2011

Most important publications and presentations from the past five years:
- Subramanian Arumugam, Alin Dobra, Chris Jermaine, Luis Perez, Niketan Pansare, "The DataPath System: A Data-Centric Analytic Processing Engine for Large Data Warehouses." SIGMOD 2010
- Alin Dobra, Chris Jermaine, Florin Rusu, Fei Xu, "Turbo-Charging Estimate Convergence in DBO". VLDB 2009
- Christopher M. Jermaine, Subramanian Arumugam, Abhijit Pol, Alin Dobra: "Scalable approximate query processing with the DBO engine". SIGMOD 2007
- Florin Rusu, Alin Dobra: "Statistical analysis of sketch estimators." SIGMOD 2007
- Florin Rusu and Alin Dobra, "Fast range-summable random variables for efficient aggregate estimation", SIGMOD 2006

Most recent professional development activities:
- Developed DBO, a database system with statistical guarantees (2006-2009)
- Developed DataPath, a high-performance database system (2009-now)

Name: ALIREZA ENTEZARI

Education: PhD, Computing Science, Simon Fraser University, 2007

Academic experience:
- University of Florida, CISE, Assistant Professor, 2007 – present

Non-academic experience:
- Simon Fraser University, Research Assistant, 2001-2007
- McKesson (ALI Technologies) Medical Imaging, Research and Development, 1999-2001
- Eyeball networks, Research and Development, 1998-1999

Certifications or professional registrations: none

Current membership in professional organizations: IEEE

Honors and awards:
- Natural Sciences and Engineering Research Council (NSERC) of Canada Fellowship, ranked 6th nation-wide

Service activities:
- Facility, Graduate admission committees in the CISE department.
- Served on National Science Foundation and Department of Energy review panels
- Organized workshop on sampling and reconstruction in Banff Intl. Research Station.

Most important publications and presentations from the past five years:
- Mahsa Mirzargar, Alireza Entezari, "Voronoi Splines", IEEE Transactions on Signal Processing (TSP), vol. 58, no. 9, pp. 4572-4582, 2010.
- Bernhard Finkbeiner, Alireza Entezari, Dimitri Van De Ville, Torsten Moeller, "Efficient Volume Rendering on the Body Centered Cubic Lattice Using Box Spline", Journal of Computers And Graphics (CAG), vol. 34, no. 4, pp. 409-423, 2010.
- Alireza Entezari, Mahsa Mirzargar, Leila Kalantari, "Quasi-interpolation on the Body Centered Cubic Lattice", Journal of Eurographics Association, Computer Graphics Forum, vol. 28, no. 3, pp. 1015-1022, 2009. (Presented at EuroVIS Conference.)
- Usman Alim, Alireza Entezari, Torsten M̈oller, "The Lattice-Boltzmann Method on Optimal Sampling Lattices", IEEE Transactions on Visualization and Computer Graphics, vol. 15, no. 4, pp. 630-641, 2009.
- Minho Kim, Alireza Entezari, J̈org Peters, "Box Spline Reconstruction On The Face Centered Cubic Lattice", IEEE Transactions on Visualization and Computer Graphics, vol. 14, no. 6, pp. 1523-1530, Nov/Dec 2008
- Alireza Entezari, Dimitri Van De Ville and Torsten M̈oller, "Practical Box Splines for Reconstruction on the Body Centered Cubic Lattice", IEEE Transactions on Visualization and Computer Graphics, vol. 14, no. 2, pp. 313-328, March/April 2008.

Most recent professional development activities: see service activities above

Name: **PAUL FISHWICK**

Education: University of Pennsylvania, Computer and Information Science, PhD 1986

Academic experience:
- University of Florida, CISE, Professor, 1998 to date
- University of Florida, CISE, Associate Professor, 1991 – 1998 (tenured)
- University of Florida, CISE, Assistant Professor, 1986 – 1991 (tenure accruing)
- University of Pennsylvania, Research Assistant, 1984 – 1986 (non-tenure accruing)
- University of Pennsylvania, Teaching Assistant, 1983 – 1984 (non-tenure accruing)

Non-academic experience:
- NASA Langley Research Center, Systems Analyst, 1981 – 1983
- Newport News Shipbuilding & Dry Dock Co, Programmer Analyst, 1978 - 1981

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE, SCS

Honors and awards:
- Best Paper Award, Annual meeting of the Broadcast Education Association. Las Vegas, Nevada.
- Florida Blue Key Society Distinguished Professor (one of four in the University), October 2008.
- SCS Distinguished Lectureship Program (one of seven), April 2006
- KidSim (in conjunction with WSC 2000) Sponsorship Certificate of Appreciation, March 2001.
- Association for Computing Machinery Recognition of Service Award In Appreciation for
- Contributions to ACM, General Chair WSC '00, December 10-13, 2000.
- WSC Distinguished Service Award, December 2000, ``For service as General Chair, Winter Simulation Conference 2000, Orlando, Florida''
- SCS Outstanding Service Award, December 2000, ``For outstanding leadership effort in several conference organizations including the 2000 Winter Simulation Conference and the WEBSIM conference series''
- Elected to Fellow of the Society for Computer Simulation (SCS) February 1998.
- ACM SIGSIM Distinguished Lecturer (one of four), Dec 1998, Multimedia Presentation
- Received a IEEE Certificate of Recognition for an invited three-hour tutorial presented at the 1997 IEEE International Conference on Systems, Man and Cybernetics: Computational Cybernetics and Simulation, Orlando 12-15, 1997.
- Received a Office of Naval Research Certificate of Recognition for Research Contributions made through the 1994 NAVY-ASEE Summer Faculty Research Program, June-August 1994.
- CIS Department Teacher of the Year Award, 1991.
- Awarded Senior Membership in the Institute for Electrical and Electronics Engineers (IEEE) and in the Society for Computer Simulation (SCS), 1991.

- IEEE Computer Society Certificate of Appreciation for Leadership of the Simulation Committee (TCSIM). Two Year Term: June 1988-June 1990.
- Received a National Science Foundation Engineering Research Initiation Award, 1989.
- Received a NASA Certificate of Recognition for data base machine research, 1983

Service activities:
- Member Numerous international Conference Program Committees
- Chair of 10 workshops or conferences related to computer simulation
- Served on 12 editorial boards of archival journals

Most important publications and presentations from the past five years:
- Park, H. and P. Fishwick, An Analysis of Queuing Network Simulation Using GPU-Based Hardware Acceleration. ACM Transactions on Modeling and Computer Simulation (TOMACS). Accepted (9/14/10).
- Park, H. and P. A. Fishwick. 2010. `` A GPU-Based Methodology and Library Supporting Fast Discrete-Event Simulation'', SCS Transactions on Modeling and Simulation, 86(10): 613-628.
- Fishwick, P. 2010. A Decade of Digital Arts and Sciences at the University of Florida, Leonardo, MIT Press, accepted (Nov. 2010).
- Quarles, J., P. A. Fishwick, S. Lampotang, I. Fischler, and B. Lok. 2009. ``A Mixed Reality Approach for Interactively Blending Dynamic Model with Corresponding Physical Phenomena'', ACM Transactions on Modeling and Computer Simulation, 20(4): 25 pages.
- Fishwick, P. A. and H. Park. 2008. ``Queuing Modeling'', Queue Modeling and Simulation, Principles of Modeling and Simulation: A Multidisciplinary Approach, Sokolowski, J. A. and C. M. Banks, eds, John Wiley and Sons 2008, 71-90.
- Fishwick, P. A. 2007, Editor. ``Handbook of Dynamic System Modeling'' CRC Press, 800pp.
- Fishwick, P. A. 2006, Editor. ``Aesthetic Computing'' MIT Press, 457pp.

Most recent professional development activities: see service activities above

Name: **PAUL GADER**

Education: Ph.D., Applied Mathematics, University of Florida, 1986

Academic experience:
- Professor of CISE, University of Florida, 2003-present
- Associate Professor of CISE, University of Florida, 2001-2003
- Professor of Computer Eng and Computer Sci., Univ of Missouri-Columbia, 2001
- Assoc. Prof of Computer Eng & Computer Sci., Univ of Missouri-Columbia, 1997-2001
- Asst. Prof. of Computer Eng and Computer Sci., Univ of Missouri-Columbia, 1991-1997
- Summer Research Fellow, Image Processing Laboratory, Eglin AFB FL, 1994
- Summer Research Fellow, Institute for Mathematics and Its Applications, Summer Program on Signal Processing, University of Minnesota, 1988
- Assistant Professor of Mathematics, University of Wisconsin-Oshkosh, 1987-1988
- Honorary Fellow, Dept of Mathematics, Univ. of Wisconsin-Madisonm 1986-1988
- Visiting Assistant Professor of Mathematics, University of Wisconsin-Oshkosh, 1986

Non-academic experience:
- Consultant, Environmental Research Institute of Michigan (ERIM), 1991-1992
- Section Head and Research Eng., Image and Pattern Analysis Section, ERIM, 1989-1991
- Senior Research Scientist, Machine Vision Technology Section, Honeywell Systems and Research Center, MN, 1986-1988

Certifications or professional registrations: none

Current membership in professional organizations: Fellow IEEE, member SPIE

Honors and awards:
- 2012 UF Research Foundation (UFRF) Professorship.
- Outstanding Junior Faculty Research Award, Presented Annually by University of Missouri-Columbia College of Engineering, March 1996.
- Best Paper Award, IEEE Transactions Fuzzy Systems, 2000.

Service activities:
- Pattern Recognition for Humanitarian Demining, ICPR Panel, (2002).
- Invited to serve on White House Science Advisor panel on Evaluation of New Technologies for Humanitarian Demining, (2002).
- Assoc Editor, IEEE Geoscience and Remote Sensing Letters (2009 – Present)
- Assoc Editor, IEEE Transactions Fuzzy Systems (2004-2007)
- Assoc Editor, Journal of Mathematical Imaging and Vision

Most important publications and presentations from the past five years:
- Abdallah, H. Frigui, P. D. Gader, "Adaptive Local Fusion with Fuzzy Integrals", IEEE Trans. Fuzzy Systems, (accepted), Jan. 2012.

- Zare, P. D. Gader, and K. S. Gurumoorthy, "Directly Measuring Material Proportions Using Hyperspectral Compressive Sensing", Geoscience & Remote Sensing Let., 2011.
- J. Bolton and P. D. Gader, "Application of Multiple Instance Learning for Hyperspectral Image Analysis", Geoscience & Remote Sensing Letters, (8)5, 2011, pp. 889-893.
- H. Frigui, L. Zhang, P. D. Gader, Joseph N. Wilson, K C Ho, and A. Mendez-Vazquez "An Evaluation of Several Fusion Algorithms for Anti-tank Landmine Detection and Discrimination", Information Fusion (accepted).
- J. Bolton, P. D. Gader, Hichem Frigui, Pete Torrione, "Random Set Framework for Multiple Instance Learning", J. of Information Sci., (181)11, 1, 2011, pp 2061-2070.
- O. Missaoui, H. Frigui, and P. D. Gader, "Landmine Detection with Ground Penetrating Radar using Multi-Stream Discrete Hidden Markov Models", IEEE Trans. Geoscience and Remote Sensing, Volume 49, Issue 6, June 2011, pp. 2080-2099
- Heo, P. D. Gader, "Robust Kernel Discriminant Analysis using Fuzzy Memberships", Pattern Recognition, Volume 44, Issue 3, March 2011, Pages 716-723.
- Zare and P. D. Gader, "PCE: Piece-wise Convex Endmember Detection" IEEE Trans. Geoscience and Remote Sensing, Vol. 48, No. 6, June 2010, pp. 2620-2632.
- Frigui, L. Zhang, P. D. Gader, "Context Dependent Multi-Sensor Fusion and its Application to Land Mine Detection", IEEE Trans. Geoscience and Remote Sensing, Vol. 48, No. 6, June 2010, pp. 2528 – 2543.
- Ramachandran, P. D. Gader, J. N. Wilson, "GRANMA: Gradient Angle Model Algorithm on Wideband EMI data for Landmine Detection", Geoscience and Remote Sensing Letters, Vol. 7, No. 3, July 2010, pp. 535-539.
- Bolton, P. D. Gader, "Random Set Framework for Context-Based Classification with Hyperspectral Imagery", IEEE Trans. Geoscience and Remote Sensing, Vol. 47, No. 11, Nov. 2009, Page(s): 3810-3821.
- McElroy and P. D. Gader, "Generalized Encoding and Decoding Operators for Lattice Based Associative Memories" IEEE Transactions on Neural Networks, Vol. 20, No. 10, October 2009, Page(s): 1674-1679.
- R. Mazhar, P. D. Gader, J. N. Wilson, "Matching Pursuits Dissimilarity Measure for Shape-Based Comparison and Classification of High-dimensional Data", IEEE Trans. Fuzzy Systems, Vol. 17, No. 5, Oct. 2009, Page(s): 1175-1189.
- Heo, P. D. Gader, and H. Frigui, "RKF-PCA: Robust kernel fuzzy PCA", Neural Networks, Vol. 22, No. 5-6, July 2009, Page(s): 642-650.
- Frigui and P. D. Gader, "Detection and discrimination of land mines in ground-penetrating radar based on edge histogram descriptors and a Possibilistic K-Nearest Neighbor Classifier", IEEE Trans. Fuzzy Systems, 17:9, 2009, pp. 185-199.
- Bolton, P. D. Gader, J. N. Wilson, "Discrete Choquet Integral as a Distance Metric", IEEE Trans. Fuzzy Systems (16)4, Aug. 2008 Page(s):1107 - 1110.
- Zare and P. D. Gader, "Hyperspectral Band Selection and Endmember Detection Using Sparsity Promoting Priors", IEEE Geosci. & Remote Sensing Letters, (5)2, 2008, pp. 256-261.
- Ho, L. Carin, P. D. Gader, J. N. Wilson, "An Investigation of Using the Spectral Characteristics from Ground Penetrating Radar for Landmine/Clutter Discrimination", IEEE Trans. Geoscience and Remote Sensing, Vol. 46, No. 4, April 2008, pp. 1177-1192.

Most recent professional development activities: see service activities above

Name: ADELSALAM 'SUMI' HELAL

Education: Ph.D. in Computer Sciences, Purdue University, 1991

Academic experience:
- January 2005 - present: Director of the Gator Tech Smart House, Gainesville, Florida.
- June 2004 – present: Professor, CISE, University of Florida
- Oct 2001 - 2007: Director of Technology Development, NIDRR RERC Center on Successful Aging
- April 2000 – present: Director of the Mobile & Pervasive Computing Laboratory, University of Florida
- June 2001 – June 2004: Tenured Associate Professor, Computer & Information Science & Engineering, University of Florida.
- Aug 1998 – June 2004: Associate Professor, Computer & Information Science & Engineering, University of Florida.
- Teaching: Assistant Professor at the University of Texas at Arlington, 1991 – 1994.
- Teaching: Visiting Assistant Professor at Purdue University, 1994-1995.

Non-academic experience:
- Industrial: Senior member of the technical staff at Micro Electronics and Computer Corporation of America (MCC), 1995-1998.
- Consultant to several companies including Motorola, IBM Watson Research Center, Sarnoff Corporation, DoCoMo USA, among others.

Certifications or professional registrations: none

Current membership in professional organizations: IEEE (senior member), ACM, USENIX, IEEE Computer Society

Honors and awards:
- IEEE Certificate of Appreciation for recognition of achievements in the organization of several conferences and workshops.
- Sole author of the most downloaded single article from the IEEE Pervasive Computing Digital library for the month of April 2005.

Service activities:
- Organized or organizing 22 conferences and workshops mainly sponsored by IEEE or the National Science Foundation.
- On Editorial Board of 10 major journal and magazines all in the area of mobile and pervasive computing

Most important publications and presentations from the past five years:
- A. Helal and Y. Xu, "The Cloud, the Edge and Beneath," to appear in the proceedings of the 8th IEEE Wireless Communication and Mobile Computing Conference, Cyprus, August 2012.

- E. Kim and A. Helal, "Knowlwdge-Assisted Activity Modeling and Recognition," Accepted for papulication (February 2012) in the International Journal of E-Health and Medical Communications (IJEHMC), to appear 2013.
- D. Nguyen, N. Nguyen, M. Thai, and A. Helal, "Coverage Hole Healing in Hybrid Sensor Networks," Accepted for publication in the International Journal of Sensor Networks (IJSNet). To appear 2012.
- S. Cadavid, M. Abdel-Mottaleb and A. Helal, "Exploiting Visual Quasi-Periodicity for Real-time Chewing Event Detection using Active Appearance Models and Support Vector Machines," Accepted for publication June 2011. To appear 2012 in Personal and Ubiquitous Computing Journal, Springer Publishing.
- D. Jo, A. Helal, E. Kim W. Lee and C. Lee, "Adaptive Push/Pull Protocols for P2P Based Video Streaming," Accepted for publication July 2011. To appear 2012 in the IEICE Transactions on Communications.
- E. Cho and A. Helal, "Expressive Exceptions for Safe Pervasive Spaces," Accepted for publication (February 2012). To appear in the Journal of Information Processing Systems (JIPS) 2013.
- A. Helal, C. Chen, E. Kim and C. Lee "Towards an Ecosystem for Developing and Programming Assistive Environments," In revision, the Proceedings of the IEEE (submitted 2011, revised 2012).
- M. Thai, R. Bose, R. Tiwari, A. Helal, "Detection and Tracking of Phenomena Clouds," In revision, the ACM transactions on Sensor Networks.
- A. Helal, "IT Footprinting – Groundwork for Future Smart Cities," Guest Editor Introduction to the Smart City Special Issue of IEEE Computer, June 2011.
- D. Lee and A. Helal, S. Anton, S. De Deugd, and A. Smith, "Participatory and Persuasive Tele-Health," The International Journal of Experimental, Clinical, Behavioral, Regenerative and Technological Gerontology. DOI: 10.1159/000329892. Karger AG, Bassel, Swistzerland.
- A. Helal, R. Bose, C. Chen, A. Smith, S. de Deugd and D. Cook, "STEPSTONE: A SODA Case Study in Personal Tele-Health Management," the Journal of Computing Science and Engineering (JCSE), KIISE. Accepted August 2011, to appear 2011.
- C. Chen, A. Helal, "System-wide Support for Safety in Pervasive Spaces," Journal of Ambient Intelligence and Humanized Computing (AIHC), ISSN 1868-5137, Springer Berlin / Heidelberg, pp1-11, December 2011.
- A. Helal, JW Lee, S. Hossain, EJ Kim, H. Hagras, D. Cook "Persim- Simulator for Human Activities in Pervasive Spaces," In Proceedings of the 7th International Conference on Intelligent Environments, Nottingham, UK, July 2011
- Y. Xu, A. Helal, M. Thai and M. Schmalz, "Optimizing Push/Pull Envelopes for Energy-Efficient Cloud-Sensor Systems," In Proceedings of the 14th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Miami, Florida, December 2011.

Most recent professional development activities: see service activities above

Name: AHMED HELMY

Education: Ph.D., University of Southern California, 1999

Academic experience:
- Associate Professor, CISE Department, University of Florida, 2006-present
- Assistant Professor, CISE Department, University of Florida, 1999-2006
- co-Founder and co-Director, Wireless and Sensor Networks Lab, USC , 2005-2006
- Founder/Director, Computer Networks Protocol Design & Testing Lab, USC 2000-2006
- Director, Mobile Networking Laboratory, Univ of Florida

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM

Honors and awards:
- National Science Foundation (NSF) CAREER Award, June 2002 – May 2008
- National Science Foundation (NSF) NETS ANET Grant/Award, Oct 2008 – Sept 2012
- National Science Foundation (NSF) NETS NOSS Grant/Award, Sept 2004 – Sept 2008.
- NSF/NASA STRESS Grant/Award, October 2002 – October 2007
- Nominated: Sloan Fellowship and USC Eng. Jr. Faculty Research Award 2003 – 2004.
- Best Paper Award, IEEE Int'l Conf on Mgmt of Multimedia Networks & Services, 2002
- Zumberge Award for Individual Research, USC, June 2000
- Award winner in ACM MobiCom WiNTECH demo competition (2nd place prize), 2010.
- Award winner in the ACM MobiCom SRC (3rd place) Sept 2007, and (4th place) 2008

Service activities:
- Communications and Networks
- Area Editor of Networking for the IEEE Computer, starting Jan 2010.
- Area Editor for the Ad Hoc Networks Journal – Elsevier, March 2007 - March 2011. □
- Member of the International Advisory Board for the IEEE/ACM IWCMC (International Wireless Communications and Mobile Computing Conference), since 2010. □
- Editor for the ACM Sigmobile Mobile Comm. and Computer Review (MC2R), 2009. □
- Member of the Editorial Board for the Ad Hoc Networks Journal - Elsevier, 2004-2007.
- Chair of the industrial advisory board (IAB) committee, CISE Dept, since Fall 2011.
- NSF panels and workshops (12 since 2001)
- Conference Chair or co-Chair:
  - ACM SIGMOBILE general workshop chair, ACM MobiCom, MobiHoc, MobiSys, and SenSys Conferences 2007, 2008, 2009, 2010, 2011.
  - ACM MobiSys Hop Planet Workshop: Co-Chair, June 2012.
  - ACM MSWiM (Int'l Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems): General Chair, Miami, FL, October 2011.
  - ACM MobiCom CHANTS (Workshop on Challenged Networks): Technical program

co-Chair, Las Vegas, NV, September 2011. □
  o ICST/ACM AdhocNets (Int'l Conference on Ad Hoc Networks): Technical program co-Chair, Paris, France, September 2011. □
  o IEEE GlobeCom (Global Communications Conference): Chair and coordinator of keynote plenary panel on Sensor Networks, Miami, FL, December 2010.
  o IEEE/ACM IWCMC (International Wireless Communications and Mobile Computing Conference): 2010.
  o IEEE SECON (Comm. Society Conf. on Sensor, Mesh and Ad Hoc Networks

Most important publications and presentations from the past five years:
- W. Hsu, D. Dutta, A. Helmy, "Mining Behavioral Groups based on Usage Data in Large Wireless LANs", IEEE Transactions on Mobile Computing (TMC). 2011, to appear.
- W. Hsu, D. Dutta, A. Helmy, "CSI: A Paradigm for Behavior-oriented Profile-cast Services in Mobile Networks", Ad Hoc Networks Journal - Elsevier. 2010, to appear.
- S. Wang, A. Helmy, "BEWARE: Background Traffic-Aware Rate Adaptation for IEEE 802.11", IEEE/ACM Transactions on Networking (ToN),   pp. 1164-1177,   .
- S. Begum, A. Helmy, S. Gupta, "Modeling the Interactions Between MAC and Higher Layers: A Systematic Approach to Generate High Level Scenarios from MAC Level Scenarios", ACM TOMACS, Issue 1, Vol. 21, No. 7 (27 pages), pp. 7:1-7:27, 2010.
- W. Hsu, A. Helmy, "On Nodal Encounter Patterns in Wireless LAN Traces", IEEE Trans on Mobile Computing (TMC), Vol. 9, No. 11, pp. 1563-1577, November 2010.
- Y. Kim, A. Helmy, "CATCH: A Protocol Framework for Cross-layer Attacker Traceback in Mobile Multi-Hop Networks", Ad Hoc Networks J, Vol. 8, Issue 2, pp. 193-213, 2010.
- W. Hsu, T. Spyropoulos, K. Psounis, A. Helmy, TVC: "Modeling Spatial and Temporal Dependencies of User Mobility in Wireless Mobile Networks", IEEE/ACM Transactions on Networking (ToN), Vol. 17, No. 5, pp. 1564-1577, October 2009.
- S. Tanachaiwiwat, A. Helmy, "Encounter-based Worms: Analysis and Defense", Ad Hoc Networks Journal – Elsevier, Volume 7, Issue 7, pp. 1414-1430, September 2009.
- M. Zuniga, K. Seada, B. Krishnamachari, A. Helmy, "Efficient Geographic Routing over Lossy Links in Wireless Sensor Networks", ACM Transactions on Sensor Networks (TOSN), Vol. 4, No. 3, Article 12 (33 pages), pp. 12:1-12:33, May 2008.
- K. Nahm, A. Helmy, C.-C. Kuo, "Cross-layer Interaction of TCP and Ad Hoc Routing Protocols in Multihop 802.11 Networks", IEEE Transactions on Mobile Computing (TMC), Vol. 7, Issue 4, pp. 458 - 469, April 2008.
- W. Hsu, F. Bai, A. Helmy, "Mobility Modeling for Vehicular Networks", Book chapter Chapman & Hall/CRC, (Ed. A. Boukerche). 2011.
- Y. Kim, A. Helmy, "Attacker Trace-back in Wireless and Mobile Networks", Book Chapter (Chapter 5), Handbook on Security and Networks, Eds. Y. Xiao, F. Li, H. Chen, by World Scientific Publishing Co., ISBN: 978-981-4273-03-9, March 2011.
- S. Tanachaiwiwat, A. Helmy, "Worm Propagation and Interaction in Mobile Networks", Book Chapter (Chapter 6), Handbook on Security and Networks, Eds. Y. Xiao, F. Li, H. Chen, by World Scientific Publishing Co., ISBN: 978-981-4273-03-9, March 2011.
- W. Hsu, A. Helmy, "Trace-based Analysis of Mobile User Behaviors for Opportunistic Networks", Book Chapter in the book "Mobile Opportunistic Networks: Architectures, Protocols and Applications", CRC Press, ISBN: 978-1-4200-6012-6, February 2011.

Most recent professional development activities: see service activities above

Name: **JEFFREY HO**

Education: Ph.D., 1999 Mathematics, University of Illinois at Urbana-Champaign

Academic experience:
- Assistant Professor CISE, University of Florida, 2004-Present.

Non-academic experience:
- Research Associate Honda Research Institute, 2002-2003.

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM.

Honors and awards:
- National Science Foundation Post-Doctoral Research Associate, 2000-2002.
- U.S. Department of Education Graduate Fellowship 1993-1997.

Service activities:
- Reviewers for major international academic and research journals and conferences.

Most important publications and presentations from the past five years:
- Ranganathan, J. Ho and M.-H. Yang. "Online Sparse Gaussian Process Regression and Its Applications", To Appear in IEEE Transactions on Image Processing (TIP), 2010.
- M. Ali, J. Ho and M.-H. Yang. "On A_ne Registration of Point Sets in R2 and R3", To Appear in Image and Vision Computing (IVC), 2010. Fourteen pages.
- N. Shahed, J. Ho and M.-H. Yang. "Online Visual Tracking with Histograms and Articulating Blocks", Computer Vision and Image Understanding (CVIU), 114 (8), pp. 901-914, 2010.
- J. Ho and M.-H. Yang. "A_ne and Rigid Registrations of 2D Point Sets using Complex Numbers", Computer Vision and Image Understanding (CVIU), 114 (7), pp. 801-814, 2010.
- N. Lord, J. Ho, B. Vemuri and S. Eisenschenk. "Simultaneous registration and parcellation of bilateral hippocampal surface pairs for local asymmetry quanti_cation", Transaction in Medical Imaging (TMI), 26 (4), pp. 471-478, 2007.
- S. Romdhani, J. Ho, D. Kriegman and T. Vetter. "Face Recognition Using 3-D Models: Pose and Illumination", Proceedings of IEEE, (94)11: 1977-1999, 2006.
- K.-C. Lee, J. Ho, and D. Kriegman. "Acquiring Linear Subspaces for Face Recognition under Variable Lighting", Pattern Analysis and Machine Intelligence (PAMI), 27(5): 684-698, May, 2005.
- K.-C. Lee, J. Ho, M.-H. Yang and D. Kriegman. "Visual Tracking and Recognition Using Probabilistic Appearance Manifolds", Computer Vision and Image Understanding

Most recent professional development activities: see service activities above

Name: **TAMER KAHVECI**

Education: Ph.D., University of California, Santa Barbara, 2004

Academic experience:
- Associate Professor, CISE Department, University of Florida, 2010-present
- Assistant Professor, CISE Department, University of Florida, 2004-2010

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE, ICSB

Honors and awards:
- NSF CAREER Award, 2009-2014
- Honorary best paper award, ACM Intl Conf On Bioinformatics & Comput. Biology, 2011
- Best student paper award, ACM Intl Conf On Bioinformatics & Comput. Biology, 2010
- University of Florida, Research Initiative Award, 2008
- Best paper award at the Intl Conf on Computational Systems Biology, 2008
- ORAU Powe Junior Faculty Enhancement Award, 2006
- Silver medal at International Mathematics Olympiads, 1993

Service activities:
- Editorial review board, Intl J. of Knowledge Discovery in Bioinformatics.
- Editorial Board, ISRN Bioinformatics.
- Editorial Board, Frontiers in Cancer Genetics.
- Editorial Board, Frontiers in Genomic Assay Technology
- Editorial Board, Network Modeling & Analysis in Health Informatics and Bioinformatics
- Program Comm. Chair, Intl Conf On Bioinformatics & Comput. Biology, 2012

Most important publications and presentations from the past five years:
- Michael Dang, Ferhat Ay, Tamer Kahveci, A Novel Framework for Large Scale Metabolic Network Alignments by Compression, International Conference On Bioinformatics and Computational Biology (ACM-BCB), 2011. (**Honorary best paper**)
- B Song, S Ranka, T Kahveci, Enzymatic target identification with dynamic states, Int Conf On Bioinformatics and Comput Biology, 2010. (**Best student paper award**)
- Ferhat Ay, Tamer Kahveci, Valerie de Crecy-Lagard, Consistent alignment of metabolic pathways without any abstraction in modeling, International Conference on Computational Systems Biology (CSB), 2008. (**Best paper award**)
- Gunhan Gulsoy, Bhavik Gandhi, Tamer Kahveci, TOPAC: Alignment of gene regulatory networks using topology aware coloring, Journal of Bioinformatics and Computational Biology (JBCB) to appear
- Daniel Marbach, Sushmita Roy, Ferhat Ay, Patrick E. Meyer, Rogerio Candeias, Tamer Kahveci, Christopher A. Bristow, and Manolis Kellis, Predictive regulatory models in

Drosophila melanogaster by integrative inference of transcriptional networks, Genome Research, to appear.

- Nirmalya Bandyopadhyay, Manas Somaiya, Sanjay Ranka, Tamer Kahveci, CMRF : Analyzing Differential Gene Regulation in Two Group Perturbation Experiments, BMC Genomics, accepted for publication.

- Michael Dang, Ferhat Ay, Tamer Kahveci, Metabolic network alignment in large scale by network compression, BMC Bioinformatics vol 13, 2012.

- Gunhan Gulsoy, Tamer Kahveci, RINQ: Reference-based Indexing for Network Queries, Bioinformatics, 27 (13): i149-i158. (International Conference on Intelligent Systems for Molecular Biology (ISMB), 2011)

- Basma El Yacoubi, Isabelle Hatin, Christopher Deutsch, Tamer Kahveci, Jean-Pierre Rousset, Dirk Iwata-Reuyl, Alexey G Murzin and Valerie de Crecy-Lagard, A role for the universal Kae1/Qri7/YgjD (COG0533) family in tRNA modification, The EMBO Journal advance online publication 1 February 2011; doi:10.1038/emboj.2010.363.

- Ferhat Ay, Manolis Kellis, Tamer Kahveci, SubMAP: Aligning metabolic pathways with subnetwork mappings, Journal of Computational Biology, 18(3):1-17, 2011.

- Bin Song, I. Esra Buyuktahtakin, Sanjay Ranka, Tamer Kahveci, Manipulating the steady state of metabolic pathways, IEEE/ACM Transactions on Computational Biology and Bioinformatics (IEEE TCBB), 8(3), pages 732-747, 2011.

- Jayendra Venkateswaran, Bin Song, Tamer Kahveci, Christopher Jermaine, TRIAL: A Tool for Finding Distant Structural Similaritie, IEEE/ACM Transactions on Computational Biology and Bioinformatics (IEEE TCBB), 8(3), pages 819-831, 2011.

- Nirmalya Bandyopadhyay, Sanjay Ranka, Y. Sun, Steve Goodison, Tamer Kahveci, Pathway based Feature Selection for Cancer Microarray Data, Journal of Advances in Bioinformatics, accepted for publication.

- Nirmalya Bandyopadhyay, Tamer Kahveci, GBA Manager : An online tool for querying low complexity regions in proteins, Journal of Computational Biology,17(1):73-7, 2010.

- Ferhat Ay, Fei Xu, Tamer Kahveci, Scalable Steady State Analysis of Boolean Biological Regulatory Networks, PLoS ONE 4(12), pages e7992, 2009.

- Jun Liu, N Bandyopadhyay, Sanjay Ranka, Michael Baudis, Tamer Kahveci, Inferring Progression Models for CGH data, Bioinformatics, 25:15, pages 2208-2215, 2009.

- Ferhat Ay, Tamer Kahveci, Valerie de Crecy-Lagard, A Fast And Accurate Algorithm For Comparative Analysis Of Metabolic Pathways, Journal of Bioinformatics and Computational Biology (JBCB), 7:3, pages 389-428, 2009.

- Bin Song, Padmavati Sridhar, Tamer Kahveci and Sanjay Ranka, Double Iterative Optimization for Metabolic Network-Based Drug Target Identification, International Journal of Data Mining and Bioinformatics, 3:2, pages 145-159, 2009.

- Jun Liu, Sanjay Ranka, Tamer Kahveci, Classification and Feature Selection Algorithms for Multi-class CGH data, Bioinformatics, 24 (13): i86-i95. (International Conference on Intelligent Systems for Molecular Biology (ISMB), 86-95, 2008)

- Xuehui Li, Tamer Kahveci, and A. Mark Settles, A Novel Genome-Scale Repeat Finder Geared towards Transposons, Bioinformatics, 24(4): 468-476, 2008.

- Jayendra Venkateswaran, Deepak Lachwani, Tamer Kahveci, Christopher Jermaine, Reference-Based Indexing for Metric Spaces with Costly Distance Measures, the VLDB Journal, 17:5, pages 1231 - 1251, 2008.

Most recent professional development activities: see service activities above

Name: JONATHAN C. L. LIU

Education: Ph.D., Computer Science and Engineering, University of Minnesota, 1996

Academic experience:
- Assoc. Professor, CISE Department, Univ of Florida, 2002 to date
- Asst. Professor, CISE Department, Univ of Florida, 1999 to 2002
- Asst. Professor, Computer Science, School of EECS, Washington State Univ, 1996-1999

Non-academic experience:
- Consultant for Hyperbole, Seattle, Washington, 1998-1999.
- Consultant for Packet Engines, Spokane, Washington, 1997-1999.
- Consultant for Honeywell Technology Center, Minnesota, 1993-1996.
- Consultant for IVI Publishing, Minnesota, 1993-1996.

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM

Honors and awards:
- National Science Foundation CAREER Award, 1999-2005.
- Who's Who in Sciences Higher Education (WWSHE), AcademicKeys, 2004.
- Keynote address at The NDSU Workshop on ATM Networking, North Dakota, 1996.
- Research Contribution Awards, University of Minnesota, 1995, 1996.
- MMRRI Research Fellowship, University of Alabama, 1990-1991.

Service activities:
- Area Editor, Networks and Multimedia, IEEE COMPUTER, 2001-2007ZZ

Most important publications and presentations from the past five years:
- Weng, S. Wang, J. Liu and D. Goyal, "Prediction-based Reversible Data Hiding Using Empirical Histograms in Images", to appear in KSII Trans. Internet and Information Systems.
- S. Chung, E. Jung, E. Kim and J. Liu, "An MST-based Network Architecture for Sharing Broadcast TV Programs" Consumer Communications and Networking Series, IEEE Communications Magazine, Vol. 48, No. 06, pp. 82--91, June 2010.
- M. Yang, J. Liu and Y. Tseng, "Security, Privacy, and Identification Technologies in Wireless
- Sensor Networks", International Journal of Security and Networks, Vol. 5, No. 1, pp. 1-2, 2010.
- J. Wang, J. Liu, and M. Masilela, ``A Real-Time Video Watermarking System with Buffer Sharing for Video-on-demand Service", International Journal of Computers and Electrical Engineering, on-line version Volume 35 , Issue 2, Pages: 395-414, 2009.
- S. Chung, E. Kim and J. Liu, ``A Storage Saving Schemes to Share HD-Quality Content in Community Networks" IEEE Transactions on Consumer Electronics Vol. 54, No. 4,

pp. 1730-1738, Nov. 2008.

- S. Chung, E. Kim and J. Liu, "A Scalable PVR-based Content Sharing Architecture for Community Networks", IEEE Trans on Consumer Electronics Vol. 54, No. 3, pp. 1192-1199, Aug. 2008.
- J. Wang, M. Masilela, J. Liu, "Transmission Buffer Management and Node Failure Recovery in
- Wireless Sensor Networks", Mediterranean Journal of Computers and Networks, Vol 4, No. 2, April 2008, pp.44-53.
- Lee, J. Liu, K. Chen, Y. Tseng, and S.P. Kuo, ``System Study of the Wireless Multimedia Ad hoc Network based on IEEE 802.11g", International Journal of Security and Its Applications, Vol. 2, No. 2, pp. 23-40, April 2008.
- J. Wang and J. Liu,, "Uplink Relaying in Hybrid Wireless Networks with Interference Reduction", ACM Journal of Wireless Networks, 29 February, 2008.
- J. Wang and J. Liu, ``Network Clustering and Interference Reduction in CDMA networks Using Mobile Relaying" International Journal of Computer and Information Science (IJCIS), Vol. 7, No. 1-4, 2007
- J. Wang and J. Liu, ``Optimizing Uplink Scheduling in An Integrated 3G/WLAN Network", Intl J of Wireless and Mobile Computing, Vol. 2, No. 4, pp. 288--302, 2007.
- J. Wang and J. Liu, ``Uplink Scheduling in Clustered 3G Network with Mobile Relaying", Intl Journal of Parallel, Emergent, and Distributed Systems, Vol. 21, No. 06, 2006.
- Kim and J. Liu, ``Time-Aware Prefetching for On-Demand Video Service in a Residential Gateway", International Journal of Multimedia Tools and Applications, Special Issue on Advances in Consumer Communications and Networking 29: 233--255, Jul., 2006.
- Kim and J. Liu, ``Design of HD-Quality Streaming Networks for Real-time Content Distribution", IEEE Transactions on Consumer Electronics 52(2): 392--401, May 2006.

Most recent professional development activities: See also service activities above

- ``A Trustworthy Computing of ADAPT Principle Guaranteeing Genuine Medical Image", IEEE Intl Conf on Parallel & Distributed Systems, Dec 2011, Tainan, Taiwan.
- ``A Secret Embedding Scheme by Means of Re-indexing VQ Codebook upon Image Processing", International Conference on Data Engineering and Internet Technology, Mar. 15-17, 2011, Bali, Indonesia.
- V. Kulkarni and J. Liu,``Software-Only M-JPEG Performance for Multimedia Applications", Intl Conf on Distributed Multimedia Systems,. 2010, Oak Brook, IL
- ``An Efficient MST-Based Content-Sharing Architecture for P2P/PVR Networks", IEEE Intl Symp. on Multimedia, Dec 2009, San Diego, California, USA.
- ``An Efficient Storage Utilization for High-Quality Content Distribution in a PVR-based Community", IEEE Globecom 2009, Symp. on Selected Areas in Communications. Nov 2004, Honolulu, Hawaii, USA.
- ``A Scalable HD-Quality Content-Sharing Network Supporting WiMax Broadband Wireless Access", IEEE Consumer Commm. & Networking Conf 2009, Las Vegas, NV
- ``Video Authentication Against Correlation Analysis Attack in Wireless Networks", IEEE Intl Symp on Multimedia (ISM2008) Dec 2008, Berkeley, California, USA

- ``A FC/AL-Based P2P Network for Personal Archive and Sharing'', IS&T International Conference on Archiving, Bern, Switzerland, June 24-27, 2008.

Name: BENJAMIN LOK

Education: Ph.D., Computer Science, University of North Carolina at Chapel Hill, 2002

Academic experience:
- University of Florida, Associate Professor, 2009-2011, full-time
- University of Florida, Assistant Professor, 2003-2009, full-time

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM

Honors and awards:
- Speaker at the National Academy of Science Kavli France-US Frontiers of Science Symposium in Roscoff, France (2008)
- IEEE Virtual Reality 2008 Best Paper
- NSF Career Award (2007)
- University of Florida Student ACM Chapter's CISE Teacher of the Year (2005)
- ACM SIGGRAPH Symposium on Interactive 3D Graphics 2003 Top 3 Paper (2003)

Service activities:
- Department of Computer and Information Sciences and Engineering Graduate Affairs Committee
- Department of Computer and Information Sciences and Engineering Curriculum Committee
- College of Engineering Technology Innovation Advisory Committee
- College of Engineering Faculty Innovation Council
- College of Engineering IT Steering Committee
- Steering Committee: IEEE Virtual Reality Conference (2009-present)
- General Chair: IEEE Virtual Reality 2013
- Program Chair: IEEE Virtual Reality 2011, IEEE Virtual Reality 2010, ACM VRST 2009, IEEE/ACM ISMAR 2009 (Area Co-Chair)

Most important publications and presentations from the past five years:
- Wendling, A., Halan, S., Tighe, P., Le, L., Euliano, T., and Lok, B. "Virtual humans versus standardized patients in presenting abnormal physical findings", Academic Medicine. In press
- Kotranza, A.*, Cendan, J., Johnsen, K., and B. Lok. "Simulation of a Virtual Patient with Cranial Nerve Injury Augments Physician-Learner Concern for Patient Safety," Journal on Bio-Algorithms and Med-Systems, Vol. 6, No. 11, 2010, 25-34.
- Quarles, J.*, Lampotang, S., Fischler, I., Fishwick, P., and B. Lok, "A Mixed Reality Approach for Interactively Blending Dynamic Models with Corresponding Physical

Phenomena" " (in press) ACM Transactions on Modeling and Computer Simulation, Volume 20, Issue 4, October 2010.

- Quarles, J.*, Lampotang, S., Fischler, I., Fishwick, P., and B. Lok, "Scaffolded Learning with Mixed Reality" (accepted) Computers and Graphics: Special Issue on Virtual Reality, , Volume 33, Issue 1, Feburary 2009, 34-46.
- Kotranza, A.*, Lok, B., Deladisma, A., Pugh, C.M., and D. S. Lind, "Mixed Reality Humans: Evaluating Behavior, Usability, and Acceptability," (accepted) IEEE Transactions on Visualization and Computer Graphics. July/August 2009.
- DiPietro, J., Maddox, W., Rivera-Gutierrez, D., and Lok, B. "Investigating perceptions of avatars in an interactive digital simulation, " Annual Meeting of the American Educational Research Association. New Orleans, LA. (AR: 38%).
- S Halan, B Rossen, J Cendan, B Lok, "High Score! - Motivation Strategies for User Participation in Virtual Human Development", 10th International Conference on Intelligent Virtual Agents (IVA 2010), Philadelphia, Pennsylvania, Sept. 20-22, 2010 - LNCS Proceedings, 482-488.
- B Rossen, J Cendan, B Lok, "Using Virtual Humans to Bootstrap the Creation of Other Virtual Humans", 10th International Conference on Intelligent Virtual Agents (IVA 2010), Philadelphia, Pennsylvania, Sept. 20-22, 2010 - LNCS Proceedings, 392-398.
- Johnsen, K., Beck, D., and Lok, B. "The Impact of a Mixed Reality Display Configuration on User Behavior with a Virtual Human.", 10th International Conference on Intelligent Virtual Agents (IVA 2010), Philadelphia, Pennsylvania, Sept. 20-22, 2010 - LNCS Proceedings, 42-48.

Most recent professional development activities: see service activities above

Name: **PRABHAT MISHRA**

Education: Ph.D. Information and Computer Sc. University of California, Irvine , 2004

Academic experience:
- Since Aug 16, 2010: Associate Professor, CISE Department, University of Florida
- Jul 2004 – Aug 2010 Assistant Professor, CISE Department, University of Florida
- May – Dec 2006: Assistant Professor, Indian Institute of Science, Bangalore
- Apr – Jul 2004: Asst. Project Scientist, CECS, University of California, Irvine
- Jul 2000 – Mar 2004: Research Assistant, University of California, Irvine

Non-academic experience:
- Summer 2001, 2002: Research Intern, PowerPC Design Center, Motorola, Austin
- Summer 2000: Research Intern, IA-64 Perf. Group, Intel, Santa Clara

Certifications or professional registrations: none

Current membership in professional organizations: ACM**,** IEEE

Honors and awards:
- NSF CAREER Award, National Science Foundation, 2008-2013
- VLSI Design Best Paper Award, International Conference on VLSI Design, 2011
- International Educator of the Year, College of Engineering, Univ. of Florida, 2007
- Outstanding Dissertation Award, European Design Automation Association, 2004
- CODES+ISSS Best Paper Awardm ACM/IEEE CODES+ISSS Conference, 2003

Service activities:
- Member, Shared Infrastructure Advisory Committee, UF Info. Technology, 2011– 12.
- Steering Committee Member, Interdisciplinary Strategic Planning (Energy), 2009 – 2010
- Member, Graduate Admissions Committee, 2005-2011.
- Member, Scholarships and Awards Committee, 2005-2011.
- Member, Colloquium Committee, 2005-2011.
- Commencement Representative, 2004-2006.

Most important publications and presentations from the past five years:
- P. Mishra and N. Dutt, Editors, *"Processor Description Languages: Applications and Methodologies"*, ISBN 978-0-12-3742872, **Morgan Kaufmann**, June 2008.
- W. Wang, S. Ranka and P. Mishra, *Energy-Aware Dynamic Reconfiguration Algorithms for Real-Time Multitasking Systems*, Elsevier Sustainable Computing: Informatics and Systems(SUSCOM), 2010.
- M. Chen, P. Mishra and D. Kalita, *Efficient Test Case Generation for Validation of UML Activity Diagrams*, Accepted to appear in Springer Design Automation for Embedded Systems (DAES), 2010.

- M. Chen and P. Mishra, *Efficient Techniques for Directed Test Generation using Incremental Satisfiability*, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 2009.
- X. Qin, C. Murthy and P. Mishra, Decoding-aware Compression of FPGA Bitstreams, IEEE Transactions on Very Large Scale Integration (VLSI) Systems (TVLSI), 2009.
- K. Basu and P. Mishra, "*Test-Data Compression using Application-Aware Bitmask and Dictionary Selection Methods*", IEEE Transactions on Very Large Scale Integration Systems (TVLSI), volume 18, issue 9, pages 1277-1286, 2010. DOI: 10.1109/TVLSI.2009.2024116.
- X. Qin and P. Mishra, *A Universal Placement Technique of Compressed Instructions for Efficient Parallel Decompression*, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), volume 28, no 8, pages 1224-1236, August 2009.
- H. Koo and P. Mishra, Functional Test Generation using Design and Property Decomposition Techniques, ACM Transactions on Embedded Computing Systems (TECS), vol 8, no 4, article 32, July 2009.
- S. Seong and P. Mishra, *Bitmask-Based Code Compression for Embedded Systems*, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), 27(4), pages 673-685, 2008.

Most recent professional development activities: see service activities above

Name: **RICHARD NEWMAN**

Education: Ph. D. Computer Science, 1987. University of Rochester, Rochester, NY

Academic experience:
- University of Florida, CISE, Assistant Professor, 1986-present, full time

Non-academic experience:
- Intellon Corp./Atheros/QualComm, contractor, consult in powerline network protocols and security, 1999-present, part time
- Epic Tide/Fair Warning, board of directors, oversee and advise security company, 2004-present, part time
- Unistry Associates, senior scientist, consult in intrusion and anomaly detection, 1995-1999, part time

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE

Honors and awards:
- University Superior Accomplishment Award for Faculty Service, University of Florida, 1995-1996
- ACM Teacher of the Year, CISE Department, 1994-1995
- Distinguished Service Key, Alpha Phi Omega National Service Fraternity, 1991

Service activities:
- Reviewer, several conferences and journals
- Various departmental committees (comprehensive exams, facilities, petitions, etc.)
- Editorial board, International Journal of Network Management
- Co-chair, IEEE ISPLC 2006

Most important publications and presentations from the past five years:
- Piyush Harsh and Richard E. Newman, "Using Geo-Spatial Session Tagging for SmartMulticast Session Discovery," ACM SIGAPP SAC 2009, Honalulu, Mar. 2009.
- Richard Newman and Ira S. Moskowitz, "Practical Covert Channel Implementation through a Timed Mix-Firewall," IEEE NSP'08, Austin, Dec. 2008.
- Piyush Harsh and Richard E. Newman, "Usability and Acceptance of an Image-based Authentication System," IEEE International Carnahan Conference on Security Technology, October 8-11, 2007, Ottawa, ON.
- Richard E. Newman, Larry Yonge, Sherman Gavette, and Ross Anderson, "HomePlug AV Security Mechanisms," IEEE ISPLC 2007, Pisa, Italy, March 26-28, 2007.
- Srinivas Katar, Brent Mashburn, Richard Newman, and Haniph Latchman, "Allocation Requirements for Supporting Latency-Bound Traffic in HomePlug AV Networks," IEEE GlobeCom, San Francisco, 27 Nov. - 1 Dec. 2006.

- Srinivas Katar, Brent Mashburn, Kaywan Afkhamie, Haniph Latchman, and Richard Newman, "Channel Adaptation Based on Cyclo-stationary Noise Characteristics in PLC Systems," IEEE International Symposium on Power Line Communications (ISPLC 2006), Orlando, FL, March 26-29, 2006, pp. 16-21
- Srinivas Katar, Manjunath Krishnam, Brent Mashburn, Kaywan Afkhamie, Richard Newman, and Haniph Latchman, "Beacon Schedule Persistence to Mitigate Beacon Loss in HomePlug AV Networks," ," IEEE International Symposium on Power Line Communications (ISPLC 2006), Orlando, FL, March 26-29, 2006, pp. 184-188

Most recent professional development activities: see service activities above

Name: **JIH-KWON PEIR**

Education: Ph.D. (Computer Science), University of Illinois at Urbana-Champaign, 1986.

Academic experience:
- Associate Professor, Computer & Information Sciences Department, University of Florida, Gainesville, Florida, Jan. 1994 – Present
- Visiting Professor, Tsing-Hua University, Taiwan, 1992 – 1993.

Non-academic experience:
- Visiting Researcher, Intel Microprocessor Research Lab, Summer 1999/2001/2002/2003 and year 2000.
- Visiting Researcher, IBM Almaden Research Center, summer 1995.
- Division Director, Computer and Communication Lab, Industry Technology Research Institute, Taiwan, 1992 – 1993.
- Research Staff Member, Computer Science Department, IBM Thomas J. Watson Research Center, Yorktown Heights, New York, 1986 – 1992.

Certifications or professional registrations: none

Current membership in professional organizations:

Honors and awards:
- Outstanding Alumni Award, College of Engineering, University of Wisconsin – Milwaukee, 2010.
- Two BEST Paper Awards, ICCD Conference, 2001, 1990.
- NSF CAREER Award, 1996.
- IBM Research Partinership Award, 1995.
- IBM Invention Achievement Award, 1992.
- IBM First Patent Award, 1991.

Service activities:
- Program Area Co-Chair: Architecture and Systems, 2009 International Symposium on Pervasive Systems, Algorithms, and Networks (I-SPAN), 2009.
- Graduate Program Coordinator, Department of Computer Information Science and Engineering, University of Florida, 2001 – present.
- Subject Area Editor, Journal of Parallel and Distributed Computing, 1991 – present.
- Associate Editor, IEEE Transactions on Parallel and Distributed Systems, 1998 – 2004.
- Keynote Speaker, 8th Workshop on Compiler Techniques for High–Performance Computing (CTHPC2002), 2002.
- NSF Core Program Panelist, 2002 – 2008.
- NSF CAREER Panelist, 2000.
- Various Conference Program Committee Members, 1990 – 2009.
- Various Conference Section Chairs, 1993 – 2009.

Most important publications and presentations from the past five years:

- Z. Huang, J-K. Peir, S. Chen, "Approximately-Perfect Hashing: Improving Network Throughput through Efficient Off-chip Routing Table Lookup", 30th IEEE Int'l Conf. on Computer Communications, (INFOCOM'11), May 2011.
- Z. Huang, D. Lin, S. Chen, J-K. Peir, S. IftekharulAlam, "Fast Routing Table Lookup Based on Deterministic Multi-hashing," 18th IEEE Int'l Conf. on Network Protocols (ICNP'10), Oct. 2010.
- Liu, Z. Huang, J-K. Peir, X. Shi, and L. Peng, "Accurate and Timely Streaming Prefetcher," in Journal of Instruction-Level Parallelism, Oct. 2010.
- J. Chen, Z. Zuang, J.-K Peir, J. Chen, Z, Huang, F. Su, J-K. Peir, J. Ho, "Weak Execution Ordering - Exploiting Iterative Methods on Many-Core GPUs," IEEE Int'l Symp. on Performance Analysis of Systems and Software (ISPASS'10), March 2010.
- X. Shi, F. Su, J-K. Peir, Y. Xia, Z. Yang," Modeling and Stack Simulation of CMP Caches Capacity and Accessibility," IEEE Trans. on Parallel and Distributed Systems, Dec. 2009.
- M.K. Yoon, T. Li, S. Chen, J-K. Peir, "Fitting a Spread Estimator in a Small Memory," The 28th Conference on Computer Communications, (INFOCOM'09), April 2009.
- L. Peng, J-K. Peir, T. K. Prakash, C. Staelin, Y-K. Chen, D. Koppelman, "Memory Hierarchy Performance Measurement of Commercial Dual-Core Desktop Processors," Journal of Systems Architecture, Elsevier, Vol.54 (8), Aug. 2008.
- Z. Huang, X. Shi, Y. Xia, J-K. Peir, "Alternative Home: Balancing Distributed CMP Coherence Directory," 2nd Workshop on Chip Multiprocessor Memory System and Interconnects, (CMP-MSI'08), June, 2008.
- X. Shi,, F. Su, J-K. Peir, Y. Xia, Z. Yang, "Accessibility vs. Capacity: Modeling and Single-Pass Stack Simulation on CMP Caches", 2007 IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS'07), April 2007.
- L. Peng, J-K. Peir, T.K. Prakash, Y-K. Chen and D. Koppelman, "Memory Performance and Scalability of Intel's and AMD's Dual-Core Processors: A Case Study", the 26th IEEE International Performance Computing and Communications Conference (IPCCC'07), April 2007.
- Z. Yang, X. Shi, F. Su and J-K. Peir, "Overlapping Dependent Loads with Addressless Preload," 15th Int'l Conf. on Parallel Architectures and Compilation Technology (PACT'06), Sep. 2006.

Most recent professional development activities: see service activities above

Name: **JORG PETERS**

Education: 1990 PhD, advisor Carl de Boor, Univ. of Wisconsin, Madison, Computer Sciences

Academic experience:
- 2004: Professor, CISE, University of Florida, Gainesville, FL
- 1998–2004: Assoc. Professor, CISE, tenured University of Florida, Gainesville, FL
- 1997–98: Assoc. Professor, CS, tenured, Purdue University, West Lafayette, IN
- 1992–97: Asst. Professor, CS, Purdue University, West Lafayette, IN
- 1991–92: Asst. Professor, Math. Sciences Rensselaer Polytechnic Inst, Troy, NY

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: SIAM, ACM, IEEE

Honors and awards:
- NSF National Young Investigator 1994

Service activities:
- Associate Editor of Computer Aided Geometric Design
- Associate Editor of ACM Transactions on Graphics
- Associate Editor of APNUM (Applied Numerical Mathematics)
- Organizer Dagstuhl Seminar 2008, 2011
- Chair SIAM activity group on Geometric Design
- co-Chair SIAM GD/ACM SPM conference 2011
- Program Committee (2008/9): Mathematics of Surfaces, SIAM Geometric Design, Shape Modeling Itl, Solid and Physical Modeling.

Most important publications and presentations from the past five years:
- J. Peters and U. Reif. Subdivision Surfaces. Geometry and Computing, Springer Verlag, 2008. Monograph on subdivision theory.
- J. Peters. Geometric continuity. Chapter 8 in Handbook of Computer Aided Geometric Design. Elsevier, 2002.
- Alex Vlachos, Jorg Peters, Chas Boyd, and Jason L. Mitchell. Curved PN triangles. In 2001, Symposium on Interactive 3D Graphics, Bi-Annual Conference Series, pages 159–166. ACM Press, 2001. M. Kim and J. Peters. Symmetric Box-splines on the A_* lattice. J. Approx. Theory in print.
- Myles and J. Peters. Bi-3 C 2 Polar Subdivision ACM Transactions on Graphics, Siggraph 2009, 28(3):, 2009. Generalizes subdivision of bi-3 splines to irregular configurations

Most recent professional development activities: see service activities above

Name: **ANAND RANGARAJAN**

Education: Ph.D., Electrical Engineering, University of Southern California, 1991

Academic experience:
- 1984 to 1986, Teaching Assistant and Discussion Leader, University of Southern California, Los Angeles, CA.
- 1984 to 1990, Graduate Research Assistant, University of Southern California, Los Angeles, CA.
- 1990 to 1992, Postdoctoral Associate, Departments of Computer Science and Diagnostic Radiology, Yale University, New Haven, CT.
- 1992 to 1996, Associate Research Scientist, Departments of Computer Science and Diagnostic Radiology, Yale University, New Haven, CT.
- 1996 to 2000, Assistant Professor, Departments of Diagnostic Radiology and Electrical Engineering, Yale University, New Haven, CT.
- 2000 to present, Associate Professor, Department of Computer and Information Science and Engineering, University of Florida, Gainesville, FL (tenured, 2002).

Non-academic experience:
- ConCADnation, LLC, 1995-1998

Certifications or professional registrations: none

Current membership in professional organizations: IEEE

Honors and awards:
- Best Scientific paper, 2008, International Conference on Pattern Recognition (ICPR).

Service activities:
- Program committees IPMI, EMMCVPR
- Area chair ICCV 2007
- Associate Editor, IEEE T-PAMI 2004-2008
- Associate Editor CVIU 2007-2010.

Most important publications and presentations from the past five years:
- K.S. Gurumoorthy, A. Rangarajan and A. Banerjee, The Complex Wave Representation of Distance Transforms, Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR), Springer LNCS 6819, 413-427, 2011.
- K.S. Gurumoorthy, A. Rajwade, A. Banerjee and A. Rangarajan, A Method for Compact Image Representation using Sparse Matrix and Tensor Projections onto Exemplar Orthonormal Bases, IEEE Transactions on Image Processing, 19(2): 322-334, 2010.
- T. Chen, B.C. Vemuri, A. Rangarajan, and S.J. Eisenschenck, Group-wise point-set registration using a novel CDF-based Havrda-Charvát Divergence, International Journal of Computer Vision (IJCV), 86(1):111-124, 2010.
- Rangarajan and K.S. Gurumoorthy, A Schrödinger wave equation approach to the eikonal

equation: Application to image analysis, Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR), Springer LNCS 5681, 140-153, 2009.

- Rajwade, A. Banerjee and A. Rangarajan, Probability Density Estimation using Isocontours and Isosurfaces: Application to Information Theoretic Image Registration, IEEE Transactions on Pattern Analysis and Machine Intelligence, 31(3):475-491, 2009.
- Peter and A. Rangarajan, Information Geometry for Landmark Shape Analysis: Unifying Shape Representation and Deformation, IEEE Transactions on Pattern Analysis and Machine Intelligence, 31(2):337-350, 2009.
- Peter and A. Rangarajan, Maximum Likelihood Wavelet Density Estimation with Applications to Image and Shape Matching, IEEE Transactions on Image Processing, 17(4):458–468, 2008.
- Wang, B.C. Vemuri, A. Rangarajan, and S.J. Eisenschenck, Simultaneous Nonrigid Registration of Multiple Point-Sets and Atlas Construction, IEEE Transactions on Pattern Analysis and Machine Intelligence, 30(11):2011-2022, 2008.

Most recent professional development activities:
- NSF proposal, Complex data visualization using interactive multiscale machine learning (funded).
- NSF proposal, Complex wave formulations for shape analysis (funded).
- DARPA proposal, Quantum information geometry for integrated sensor representation and analytics (not funded).
- See also service activities above

Name: **SANJAY RANKA**

Education: 1988m Ph.D, Computer and Information Science, University of Minnesota, MN

Academic experience:
- 2002-- Professor, CISE, University of Florida, Gainesville, FL
- 1995-99 Associate Professor, CISE, University of Florida, Gainesville, FL
- 1993-95 Associate Professor, Computer Science, Syracuse University, Syracuse, NY
- 1988-93 Assistant Professor, Computer Science, Syracuse University, Syracuse, NY

Non-academic experience:
- 1999-2002   Chief Scientist and CTO, Paramark Inc., Sunnyvale, CA

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE, AAAS

Honors and awards:
- AAAS Fellow for "distinguished contributions to theory and practice of parallel and distributed computing", 2006.
- IEEE Fellow for "contributions to theory and practice of high performance computing", 2002.

Service activities:
- Advisory board member, IEEE Technical Committee on Parallel Processing, 1998-2003.
- Member, IFIP Committee on System Modeling and Optimization, 1999-present.
- Associate Editor-in-Chief for Algorithms, Journal of Parallel and Distributed Computing (Algorithms and Scientific Computing).
- Subject Area Editor, Journal of Parallel and Distributed Computing (Algorithms and Scientific Computing), 1993-2010.
- Associate Editor, IEEE Transactions on Parallel and Distributed Computing, 2010-present.
- Associate Editor, Sustainable Computing: Systems and Informatics, 2010-present.
- Associate Editor, Knowledge and Information Systems, 2010-present.
- Associate Editor, International Journal of computing, 2010-present.
- Co-General Chair, International Conference on Green Computing, 2011
- Co-General Chair, International Conference on Green Computing, 2010
- Co-General Chair, International Conference on Data Mining, 2009
- Program Chair, International Conference on Contemporary Computing, 2009
- Program Chair, International Conference on Contemporary Computing, 2010
- Track Chair, ACM Conference on Information and Knowlege Management 2010

Most important publications and presentations from the past five years:
- Weixun Wang, Sanjay Ranka and Prabhat Mishra, Energy-Aware Dynamic Reconfiguration Algorithms for Real-Time Multitasking Systems, Accepted to appear in

Elsevier Sustainable Computing: Informatics and Systems (SUSCOM), 2010. (Invited Paper)

- Yan Li, Sanjay Ranka, Sartaj Sahni, In-Advance Path Reservation For File Transfers In e-Science Applications, Journal of Supercomputing, to appear.
- Nirmalya Bandyopadhyay, Tamer Kahveci, Sanjay Ranka, Yijun Sun and Steve Goodison, Pathway based Feature Selection Algorithm for Cancer Microarray Data" Advances in Bioinformatics, to appear.
- Bin Song, Esra Buyuktahtakin, Tamer Kahveci and Sanjay Ranka, Manipulating the steady state of metabolic pathways, IEEE/ACM Transactions on Computational Biology and Bioinformatics, to appear.
- Jaeyeon Kang and Sanjay Ranka, Slack allocation algorithms for parallel machines. Journal of Parallel and Distributed Computing, Vol. 70(1), pp. 23-24, 2010.
- Parbati K. Manna, Shigang Chen, Sanjay Ranka: Inside the Permutation-Scanning Worms: Propagation Modeling and Analysis. IEEE/ACM Transaction Networks 18(3): 858-870 (2010).
- Eun-Sung Jung, Sanjay Ranka, Sartaj Sahni: Topology Aggregation for e-Science Networks. International Journal of Next-General Computing, volume 1, 2010.
- Bin Song, Padmavati Sridhar, Tamer Kahveci and Sanjay Ranka, Double Iterative Optimization for Metabolic Network-Based Drug Target Identification, International Journal of Data Mining and Bioinformatics, 3:2, pages 124-144, 2009.
- Laukik Chitnis, Alin Dobra and Sanjay Ranka. Analyzing the techniques that improve fault tolerance of aggregation trees in sensor networks. Journal of Parallel and Distributed Computing, Vol. 69 (12), pp. 950-960, 2009.
- Jun Liu, Nirmalya Bandyopadhyay, Sanjay Ranka, Michael Baudis, Tamer Kahveci. Inferring Progression Models for CGH data, Journal *of Bioinformatics*, Vol. 25:17, pp. 2208-2215, 2009.
- Kannan Rajah, Sanjay Ranka, Ye Xia, Advance Reservation and Scheduling for Bulk Transfers in Research Networks, *IEEE Transactions on Parallel and Distributed Systems*, Vol. 20(11), pp. 1682-1697, 2009.
- Laukik Chitnis, Alin Dobra, and Sanjay Ranka, Fault tolerant aggregation in heterogeneous sensor networks. Journal of Parallel and Distributed Computing. Vol 69(2): 210-219 (2009).
- Kannan Rajah, Sanjay Ranka and Ye Xia, Scheduling Bulk File Transfer with Start and End Times, Scheduling Bulk File Transfers with Start and End Times, *Computer Networks*, Vol 52(5), April 2008, pp. 1105-1122.
- Laukik Chitnis, Alin Dobra and Sanjay Ranka. Aggregation Methods for Large Scale Sensor Networks. *ACM Transactions on Sensor Networks,* Volume 4 , Issue 2, pp. 1-36, March 2008.
- Manas Somaiya, Chris Jermaine and Sanjay Ranka, Learning Correlations Using the Mixture-Of-Subsets Model. *ACM Transactions on Knowledge Discovery from Data,* Volume 1, Number 4, 2008, pp 1-42.

Most recent professional development activities: see service activities above

Name: **GERHARD RITTER**

Education: PhD, Mathematics, University of Wisconsin-Madison, 1971

Academic experience:
- UF Florida Blue Key Distinguished Professor, 2004-present
- UF Interim Chair of CISE, July 2011-present
- UF Professor Emeritus, 2007-present
- UF Director, Center for Computer Vision and Visualization, 1986-2006
- UF Professor, CISE, 1986-2007
- UF Professor, Mathematics, 1986-2007
- UF Associate Professor, Mathematics, 1981-2006
- UF Assistant Professor, Mathematics, 1971-1981

Non-academic experience:
- Research Geophysicist, Texaco, Inc., Bellaire Research Labs, Bellaire, Texas, 1980
- Director of Research and Development, Intelligent Vision Systems (IVS), Inc., Gainesville, Florida, 1990-92

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, INNS, SPIE, MAA

Honors and awards:
- European Academy of Sciences Member (Citation for fundamental work in computer vision and pattern recognition) 2002-present.
- Fellow SPIE
- IEEE Senior Member
- General Ronald W. Yates Award for Excellence in Technology Transfer (1998)
- International Federation for Information Processing (IFIP) Silver Core Award (1989).

Service activities:
- Member, Advisory Board for Migrant Education, Putnam County, FL. 2002-present.
- Editor-in-Chief, Journal of Mathematical Imaging and Vision, 1990-present.
- Chief Editor, Computation y Sistemas, CONACYT journal, 2001-2009.
- Member Advanced Sensors Committee, Key Technologies for the 1990s, Deputy Under Secretary of Defense for Research and Advanced Technology (1989).
- Member, Advanced technology research emerging technologies advisory panel to the Deputy Under Secretary of Defense for Research and Advanced Technology (1988).
- Panel Member, Desert Storm Technology: Conversion to Peacetime Applications led by Senator Graham, 1991.
- Founding Member and first Chair, SIAM Activity Group on Imaging Science (SIAG-IS), 1998-2003.
- Chair, Session on Morphological and Fuzzy Neural Networks, FUZZ-IEEE, 2003.

- Chair, SIAM Symposia on Imaging Science, 2000.
- Co-chair, Special Session, IEEE World Congress on Computational Intelligence (WCCI), 2006.
- Program Chair, SPIE Program on Mathematical Imaging Science, 1990-present.
- Editorial Board, Journal of Pattern Analysis and Applications, 1997-present

Most important publications and presentations from the past five years:
- G.X. Ritter and G. Urcid, Perfect Recovery from Noisy Input Patterns with a Dendritic Lattice Associative Memory, Proceedings of the International Joint Conference on Neural Networks (IEEE/INNS), San Jose, CA, 2011, pp. 503-510.
- X. Ritter and G. Urcid. "Lattice Algebra Approach to Endmember Determination in Hyperspectral Imagery." Advances in Imaging and Electron Physics, Vol. 160. Edited by P. Hawkes. Academic Press: Burlington, Massachusetts, 2010, pp. 113-169.
- Urcid, J.C. Valdiviezo, G.X. Ritter, Lattice Associative Memories for Segmenting Color Images in Different Color Spaces, IEEE Conference on Hybrid Artificial Intelligence Systems (HAIS), San Sebastian, Spain, 2010
- G.X. Ritter and G. Urcid, Learning in Lattice Neural Networks that Employ Dendritic Computing, Computational Intelligence Based on Lattice Theory Vol. 67 of Studies in Computational Intelligence. Edited by V.G. Kaburlasos and G.X. Ritter. Springer Science+Business Media: Berlin Heidelberg, 2007, pp 25-44.
- Urcid and G. X. Ritter. "Noise Masking for Pattern Recall Using a Single Lattice Matrix Associative Memory." Computational Intelligence Based on Lattice Theory. Vol. 67 of Studies in Computational Intelligence. Edited by V.G. Kaburlasos and G.X. Ritter. Springer Science+Business Media: Berlin Heidelberg, 2007, pp. 81-100.
- Barmpoutis and G.X. Ritter. "Orthonormal Basis Lattice Neural Networks" Computational Intelligence Based on Lattice Theory Vol. 67 of Studies in Computational Intelligence. Edited by V.G. Kaburlasos and G.X. Ritter. Springer Science+Business Media: Berlin Heidelberg, 2007, pp. 45-58.

Most recent professional development activities: see service activities above

Name: **SARTAJ SAHNI**

Education: Ph.D., Computer Science, Cornell University, 1973.

Academic experience:
- 2001 - 2011   Chair, CISE, University of Florida
- 1998 - Present Distinguished Professor, CISE, University of Florida
- 1990 - 1998   Professor, CISE, University of Florida
- 1981 - 1990   Professor, Computer Science, University of Minnesota
- 1977 - 1981   Associate Professor, Computer Science, University of Minnesota
- 1973 - 1977   Assistant Professor, Computer Science, University of Minnesota

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: European Academy of Sciences, Fellow of ACM, IEEE, and AAAS

Honors and awards:
- IEEE Computer Society Taylor L. Booth Education Award 1997.
- Distinguished Alumnus Award, Indian Institute of Technology, Kanpur, 2001.
- IEEE Computer Society W. Wallace-McDowell Award, 2003..
- ACM Karl Karlstrom Outstanding Educator Award, 2003.
- Best Paper Award. Innovations and Real-Time Applications of Distributed Sensor Network (DSN) Symposium, 2006.
- Best Paper Award. International Conference on Networking, 2007.
- Honorary Professor, Asia University, Taichung, Taiwan, 2009.
- IEEE Computer Society Technical Committee on Parallel Processing (TCPP) Outstanding Service Award, 2010.
- IEEE Computer Society Continuous Service Award, 2010

Service activities:
- Co-Editor-in-Chief, Jr of Parallel & Distributed Computing, 1992-2010.
- Managing Editor, International Journal of Foundations of Computer Science, 1999-.
- Member, Editorial Board, Parallel Processing Letters, 2001-.
- Editor-in-Chief, Computer and Information Science Series, Chapman & Hall/CRC, 2002-
- Member, Editorial Board, Intl. J. of Computational Science and Engineering, 2003-.
- Member, Editorial Board, Intl. J. of High Performance Computing & Networking, 2004-.
- Member, Editorial Board, International Journal of Distributed Sensor Networks, 2004-.
- Member, Advisory Board, Intl. J. of Pervasive Computing and Communications, 2004-.
- Member, Intl. Advisory Board, Sultan Qaboos University Journal for Science, 2005-.
- Member, Editorial Advisory Board, Enterprise Info. Systems, Taylor and Francis. 2006-.
- Member, Editorial Board, Lecture Notes on ICST Activities (Inst for Computer Sciences, Social-Informatics, and Telecommunications Engineering), Springer Verlag, 2008-.

- Member, Editorial Advisory Board, Intl. J. of Contemporary Computing, 2010-.
- Steering committee member for many international conferences.
- General chair and program chair for many international conferences.

Most important publications and presentations from the past five years:
- Wang and S. Sahni, Optical transpose systems: models and algorithms. Handbook of Parallel Algorithms, Chapman-Hall/CRC Press, 2007. Ed. S. Rajasekeran and J. Reif.
- T. Mishra and S. Sahni, Green TCAM-based Internet routers, Handbook of Green Computing, Chapman-Hall/CRC Press, 2011. Ed. I. Ahmed and S. Ranka.
- K. Kim and S. Sahni, Efficient construction of pipelined multibit-trie router-tables. IEEE Transactions on Computers, 56, 1, 2007, 32-43.
- H. Lu and S. Sahni, O(log W) multidimensional packet classification. IEEE/ACM Transactions on Networking, 15, 2, 2007, 462-472.
- S. Kamath, S. Sahni, J. Li, S. Ranka, and J. Palta, Generalized field splitting algorithms for optimal IMRT delivery efficiency. Physics in Medicine and Biology, 52, 2007, 1-14.
- X. Xu and S. Sahni, Approximation algorithms for sensor deployment. IEEE Transactions on Computers, 56, 2007, 1681-1695.
- S. Chen, M. Song, and S. Sahni, Two techniques for fast computation of constrained shortest paths. IEEE/ACM Transactions on Networking, 16, 1, 2008, 105-115.
- W. Lu and S. Sahni, Packet classification using space-efficient pipelined multibit tries. IEEE Transactions on Computers, 57, 5, 2008, 591-605.
- W. Lu and S. Sahni, Succinct representation of static packet classifiers. IEEE/ACM Transactions on Networking, 17, 3, 2009, 803-816.
- J. Park and S. Sahni, Power assignment for symmetric communication in wireless sensor networks. International Journal on Distributed Sensor Networks, 5, 2, 2009, 185-200.
- W. Lu and S. Sahni, Efficient two-dimensional multibit tries for packet classification. IEEE Transactions on Computers, 58, 12, 2009, 1695-1709.
- X. Xu, N. Rao, and S. Sahni, A computational geometry method for localization using differences of distances. ACM Transactions on Sensor Networks, 6, 2, 2010, 25 pages.
- Jung, S. Ranka, and S. Sahni, Topology aggregation for e-Science networks, International Journal of Next-Generation Computing, Invited Paper, 1, 1, 2010, 1-15.
- W. Lu and S. Sahni, Low power TCAMs for very large forwarding tables. IEEE/ACM Transactions on Networking, 18, 3, 2010, 948-959.
- W. Lu and S. Sahni, Recursively partitioned static router tables. IEEE Transactions on Computers, 59, 12, 2010, 1683-1690.
- T. Mishra and S. Sahni, PETCAM--A power efficient TCAM architecture for forwarding tables. IEEE Trasactions on Computers, to appear.
- S. Rajasekaran, V. Kundeti, R. Birge, V. Kumar, and S. Sahni, Efficient algorithms for computing with protein-based volumetric processors. IEEE Trasactions on Nanotechnology, to appear.
- Y. Li, S. Ranka, and S. Sahni, In advance path reservation for file transfers in e-science applications, Journal of Supercomputing, to appear.

Most recent professional development activities:
- Attended many international conferences

- See also service activities above

Name: **BEVERLY SANDERS**

Education: Ph.D., Applied Mathematics, Harvard University, 1985

Academic experience:
- Associate Professor, CISE Department, University of Florida, 1995-present
- California Institute of Technology, visiting Associate Professor (1994-1995, on leave from ETHZ).
- Swiss Federal Inst. of Technology (ETH Zurich), Assistant Professor, 1990- 1995.
- Swiss Federal Inst. of Technology (ETH Zurich), Senior Research Associate, 1986-1990.
- University of Maryland, Assistant Professor, 1985-1986.

Non-academic experience:
- ATT Bell Labs. Engineer. Summer 1981.
- Hughes Aircraft Company, Engineering Aid: Radar Systems Analysis, part time/summers, 1978-1980.

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE, IFIP WG10.3 on Concurrent Programming

Honors and awards:

Service activities:
- Program committee for IEEE/ACM Conf on Automated Software Engineering 2010
- Program committee for IEEE/ACM Conf on Automated Software Engineering 2011.
- Many other program committees and reviewing activities less recently)

Most important publications and presentations from the past five years:
- Beverly A Sanders, Rod Bartlett, Erik Deumens, Victor Lotrich, and Mark Ponton, "A block-oriented language and runtime system for tensor algebra with very large arrays. Proceedings of the IEEE Conference on High Performance Computing Networking, Storage and Analysis (Supercomputing 2010), New Orleans.
- KyungHee Kim, Tuba Yavuz-Kahveci, Beverly A. Sanders: JRF-E: using model checking to give advice on eliminating memory model-related bugs. Proceedings of the 25th IEEE/ACM International Conference on Automated Software Engineering (ASE 2010): 215-224, Antwerp.
- Deumens, V. F. Lotrich, A. S. Perera, R. J. Bartlett, N. Jinda, B. A. Sanders The super instruction architecture: A framework for high-productivity parallel implementation of coupled-cluster methods on petascale computers. Annual Reports for Computational Chemistry. 2011.
- Berna L. Massingill, Timothy G. Mattson, Beverly A. Sanders, Reengineering for Parallelism: an entry point into PLPP for legacy applications, Concurrency and Computation: Practice and Experience, Volume 19, Issue 4, Pages 369-569 (25 March 2007)

- Sanders and E. Deumens and V. Lotrich and M. Ponton. Refactoring a Language for Parallel Computational Chemistry. Second Workshop on Refactoring Tools. Nashville, Tennessee. Oct. 19, 2008.
- KyungHee Kim, Tuba Yavuz-Kahveci, and Beverly A. Sanders. Precise Data Race Detection in a Relaxed Memory Model using Heuristic-based Model Checking, Proceedings of the 24th ACM/IEEE Conference on Automated Software Engineering, 2009.
- Victor Lotrich, Norbert Flocke, Mark Ponton, Beverly A. Sanders, Erik Deumens, Rodney J. Bartlett. An Infrastructure for Scalable and Portable Parallel Programs for Computational Chemistry Proceeding of the ACM International Conference on Supercomputing. June, 2009.
- Beverly A. Sanders. The Shared Map Pattern. Proceedings of the Workshop on Parallel Programming Patterns (ParaPLoP 2010) March 30-31, 2010.
- V. F. Lotrich, J. M. Ponton, A. S. Perera, E. Deumens, R. J. Bartlett, B. A. Sanders, "Super instruction architecture for petascale electronic structure software: the story", Mol. Phys., p. 3323, vol. 108, (2010)
- Beverly A Sanders, Rod Bartlett, Erik Deumens, Victor Lotrich, and Mark Ponton, "A block-oriented language and runtime system for tensor algebra with very large arrays. Proceedings of the IEEE Conference on High Performance Computing Networking, Storage and Analysis   (Supercomputing 2010), New Orleans.

Most recent professional development activities: see service activities above

Name: MARK SCHMALZ

Education: Ph.D. Computer Science (in Image Compression) University of Florida 1996

Academic experience:
- Associate Scientist, CISE, University of Florida, 2003-present
- Assistant Scientist, CISE, University of Florida, 1998-2003
- Visiting Assistant Professor, CISE, University of Florida, 1996-1998

Non-academic experience:
- UltraHiNet, LLC, Gainesville, FL
- Research/Scientist, (parallel high-performance computing), 2008-present
- University of Florida, Gainesville, FL
- Research/Teaching Assistant Department of CISE, 1990-1996
- Research Assistant, Center for Computer Vision and Visualization 1989-1990
- Harbor Branch Oceanographic Institution Ft. Pierce, FL
- Electrical Engineer, Division of Engineering Res. and Development, 1985-1988
- Research Assistant, Department of Physical Oceanography, 1983-1985
- Applications Programmer, Department of Computer Services, 1982-1983

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE, SPIE, Tau Beta Pi

Honors and awards:
- Nominated for University of Florida College of Engineering Teaching/Advisement Awards, 2003
- Best Paper Award, SCI-2002 World Multiconference on Systemics, Man, and Cybernetics, *Conference on Medical Imaging*
- University of Florida College of Liberal Arts and Sciences Research Award, *Laryngeal Imaging* (Co-PI with C. Sapienza as PI), 2001

Service activities:
- Member, Electronic Data Subcomittee of the Traffic Records Coordinating Committee (TRCC), State of Florida, 2011-present
- Member, Traffic Records Electronic Dataset Subcommittee (TREDS) of the Traffic Records Coordinating Committee (TRCC), State of Florida, 2009-2010
- Reviewer: IEEE Transactions on Parallel and Distributed Systems (IEEE Press), Journal of Electronic Imaging (SPIE), Journal of Mathematical Imaging and Vision (Kluwer), Optical Engineering (SPIE), Pattern Analysis and Applications (Springer-Verlag), VLSI Design Journal (Gordon & Breach)
- Member, Technical Organizing Committee, Optical Engineering and Applications Program, SPIE Optics and Photonics Symposium, San Diego, CA, August 2009
- Member, Executive Committee, Optical Engineering and Applications Program, SPIE Optics and Photonics Symposium, San Diego, CA, August 2007

- Member, Technical Organizing Committee, Optical Engineering and Applications Program, SPIE Optics and Photonics Symposium, San Diego, CA, August 2007
- Conference Co-Chair, Mathematics of Data/Image Pattern Recognition, Compression, and Encryption XIV, with Applications, to be held in San Diego, CA, August 2011
- Conference Co-Chair, Mathematics of Data/Image Pattern Recognition, Compression, and Encryption IX – XIII, with Applications, San Diego, CA, August 2006 – 2010

Most important publications and presentations from the past five years:
- A Helal, M. Mokhtari, B. Abdulrazak and M. Schmalz. "Introduction", The Engineering Handbook on Smart Technology for Aging, Disability and Independence, John Wiley & Sons. Computer Eng. Series, Copyright 2007.
- Chapman, W., S. Ranka, S. Sahni, M. Schmalz, and U. Majumder. "Parallel processing techniques for the processing of synthetic aperture radar data on FPGAs", in Proceedings of the IEEE Intl. Symposium on Signal Processing and Information Technology (2010).
- Helal, M. Schmalz, and D. Cook, "Smart home-based health platform for behavioral monitoring and alteration of diabetes patients", Journal of Diabetes Science and Technology, 3(1):1-8 (2009).
- M. Al-Turkistany, A. Helal, and M. Schmalz. "Adaptive wireless thin-client model for mobile computing", Wireless Communications and Mobile Computing 9:47-59 (2009).
- Ritter, G.X., G. Urcid, and M.S. Schmalz. "Autonomous single-pass endmember approximates using lattice auto-associative memories", Neurocomputing 72:2101-2110 (2009).
- Li, Y., S. Ranka, S. Sahni, and M. Schmalz. "Network centered muliple resource scheduling in e-science applications", Proceedings of the GridNets Conference, Lecture Notes in Computer Science 25:37-44, Springer Verlag (2009).
- Schmalz, M.S. and G. Key. "Noise-tolerant hyperspectral signature classification in unresolved object detection using tabular nearest-neighbor encoding", in Proceedings of the AMOS 2007 Conference, Maui Hawaii (2008).
- Schmalz, M.S. and L.A. Conway. "IT/CS workshop – Multimodal, multimedia courseware for integrating technical concepts and humanistic context", in Proceedings of the ACM SIGITE Conference, Cincinnati Ohio (2008).
- Schmalz, M.S. and G. Key. "Noise-tolerant hyperspectral signature classification in unresolved object detection using tabular nearest-neighbor encoding", in Proceedings of the AMOS 2007 Conference, Maui Hawaii (2008).
- Schmalz, M.S. and G. Key. "Hyperspectral signature classification with tabular nearest-neighbor encoding", in Proceedings of the AMOS 2007 Conf., Maui Hawaii (2008).
- Schmalz, M.S. and G.X. Ritter. "Spectral discrimination in noisy sensors using morphological neural computation", in Proceedings of the AMOS 2006 Conference, Maui Hawaii (2007).
- Ritter, G.X. and M.S. Schmalz. "Efficient autonomous endmember detection using lattice auto-associative memories", in Proceedings of the Eighth International Conference on Natural Computing, JCIS Multiconference, Salt Lake City UT, pp. 1632-1638 (2007).

Most recent professional development activities:

- Numerous invited talks, conferences, over $5.5 million in grants or contracts (PI or Co-PI) over past 10 years
- See also service activities above

Name: **MARKUS SCHNEIDER**

Education: Doctoral degree (Dr. rer. nat., Ph.D.) in Computer Science, Fern Universität Hagen, Hagen, Germany, 1995

Academic experience:
- Department of Computer and Information Science and Engineering (CISE), University of Florida, Gainesville, Florida, USA; Associate Professor; since August 2008; full time
- Department of Computer and Information Science and Engineering (CISE), University of Florida, Gainesville, Florida, USA; Assistant Professor; January 2002−August 2008; full time
- Department of Computer Science, FernUniversität Hagen, Hagen, Germany; University assistant ("Hochschulassistent (C1)"); June 1996−December 2001; full time
- Department of Computer Science, FernUniversität Hagen, Hagen, Germany; Scientific associate ("wissenschaftlicher Mitarbeiter"); July 1991−June 1996; full time

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: ACM, ACM SIGSPATIAL

Honors and awards:
- NSF CAREER award

Service activities:
- Curriculum committee
- Graduate admissions committee
- Chair and member of PhD committees
- Chair and member of Master thesis committees
- Co-founder of ACM SIGSPATIAL
- Treasurer of ACM SIGSPATIAL from 2008 to 2011
- Reviewer for many journals, conferences, and workshops
- Workshop Chair of the 19th ACM SIGSPATIAL Int. Conf. on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS) 2011
- Dagstuhl Seminar titled Data Warehousing: from Occasional OLAP to Real-time Business Intelligence

Most important publications and presentations from the past five years:
- Hechen Liu & Markus Schneider. Detecting the Topological Development in a Complex Moving Region. Journal of Multimedia Processing and Technologies (JMPT), 1(3), 160-180, 2010.
- Markus Schneider. Soft Computing Techniques in Spatial Databases. Handbook of Research on Soft Computing Applications for Database Technologies: Techniques and Issues. IGI Global, 49-71, 2010.

- Virupaksha Kanjilal & Markus Schneider. Modeling and Querying Spatial Networks in Databases. Journal of Multimedia Processing and Technologies (JMPT), 1(3), 142-159, 2010.
- Alejandro Pauly & Markus Schneider. VASA: An Algebra for Vague Spatial Data in Databases. Informations Systems, 35(1), 111-138, 2010.
- Markus Schneider. Spatial and Spatio-Temporal Data Models and Languages. Encyclopedia of Database Systems. Springer-Verlag, 2009.
- Reasey Praing & Markus Schneider. Topological Feature Vectors for Exploring Topological Relationships. Int. Journal on Geographical Information Science (IJGIS), 23(3), 319-353, 2009.
- Markus Schneider. Moving Objects in Databases and GIS: State-of-the-Art and Open Problems. Research Trends in Geographic Information Science. Springer-Verlag, 169-188, 2009.
- Reasey Praing & Markus Schneider. Efficient Implementation Techniques for Topological Predicates on Complex Spatial Objects. GeoInformatica, 12(3), 313-356, 2008.
- Markus Schneider. Fuzzy Spatial Data Types for Spatial Uncertainty Management in Databases. Handbook of Research on Fuzzy Information Processing in Databases. Information Science Reference, 490-515, 2008.

Most recent professional development activities: see service activities above

Name: **MEERA SITHARAM**

Education: 1990 PhD in CS, University of Wisconsin-Madison

Academic experience:
- 1998– Associate Professor of CISE, University of Florida (UF Tenure: 2002)
- 1997-1998 Visiting Associate Professor of CS, Purdue University
- 1996-1999 Assoc Professor of Math and CS, Kent State University(KSU Tenure: 1996)
- 1991-1995 Assistant Professor of Math and CS, Kent State University
- 1990–1991 A. v. Humboldt postdoc fellowship, University of Bonn, Germany

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations:

Honors and awards:

Service activities:
- International Conference Program Committees:
- ACM SAC, Geometric constraints and reasoning, on PC annually since 2006.
- ADG Automated deduction in geometry, every two years, on PC since 2004.
- ASCM (Asian symposium on Computational Mathematics), on PC 2005-2007.
- Association for Symbolic Annual meeting, 2007, Gainesville (Organizing committee)
- IASTED-ACST (Advances in Computer Sci. Tech.), annually, on PC 2003-2009.
- IASTED-NANA (Nanoscience and technology), 2009.

Most important publications and presentations from the past five years:
- M. B´ona, M. Sitharam, A. Vince "Tree orbits under the action of the icosahedral group and enumeration of macromolecular assembly pathways," Bull. Math. Bio, special issue on Algebraic Biology, to appear, 2011
- Aysegul Ozkan(grad student), Meera Sitharam, EASAL: efficient atlasing, search and analysis of assembly landscapes, Proceedings of IEEE BiCoB, New Orleans, 2011.
- K. Haller, A. Lee, M. Sitharam, I. Streinu, N. White (alphabetical order) "Body-and-Cad constraint systems" ACM-SAC Geometric constraints and Reasoning, 2009 and FwCG 2008. Computational Geometry Theory and Applications.
- J. Cheng (grad student), M. Sitharam http://arxiv.org/pdf/1010.4052 "Better bounds for rank of 3D rigidity matroid of general graphs," Proceedings of FWCG: Fall Workshop in Computational geometry, Oct. 2010
- M. Sitharam, Y. Zhou (grad student), J. Peters Reconciling Combinatorial Preprocessors for Geometric constraint systems International Journal of Computational Geometry and Applications, 20(6):631651, 2010.
- M. Sitharam, J. Peters, Y. Zhou (grad student), "Combinatorial optimization of algebraic complexity of minimal geometric constraint sytems" J. of Symbolic Computation, 2010

- M. Sitharam, H. Gao http://arxiv.org/abs/0809.3935 Characterizing graphs with convex configuration spaces, Discrete and Computational Geometry 2009.
- J. Cheng, M. Sitharam, I. Streinu, "Nucleation-free 3D rigidity," Canadian Conference on Computational Geometry (CCCG), 2009.
- M. B´ona, M. Sitharam "Icosahedral symmetry analysis of virus assembly pathways," Computational and Mathematical methods in medicine, special issue on Mathematical Virology (Stockley and Twarock special Ed.s) 2009.
- H. Gao, M. Sitharam "Henneberg graphs with efficient configuration spaces" Proceedings of the ACM-SAC Geometric constraints and Reasoning, 2009.
- Lomonosov, M. Sitharam "Stability, Optimality and Complexity of Network Games with Player Dropouts," Scalable Computation Journal (Used to be "Parallel and Distributed Computation" Journal), Vol 8, No. 1, 2007
- O. Boykin, M. Sitharam, M. Tarifi, P. Wocjan "Nonextendibility of Mutually unbiased bases," QIP symposium (Quantum Information Processing), February 2007
- O. Boykin, M. Sitharam, P. Tiep, P. Wocjan "Orthogonal decomposition of lie algebras and Mutually Unbiased Bases" QIC journal (Quantum Information and Computation), Vol 7, No 4, 2007.
- M. Sitharam "Characterizing Well-formed systems of incidences for resolving collections of rigid bodies" Int. J. Comput. Geometry Appl., Vol. 16, No. 5-6, 591-615. 2006.
- M. Sitharam, J. Oung, A. Arbree and Y. Zhou, "Mixing features and variational constraints in 3D" Computer Aided Design, Vol. 38, pp 22-38, 2006.
- M. Sitharam, A. Arbree, Y. Zhou, N. Kohareswaran, "Solution management and navigation for 3D geometric constraint systems" ACM Trans. Graph., Vol 25, No. 2, 194–213, 2006.
- M. Sitharam, M. Agbandje-Mckenna "Sampling virus assembly pathways: avoiding dynamics using geometric constraint decomposition" Vol 13, Number 6, Journal of Computational Biology, pp 1232-1265, 2006.

Most recent professional development activities:
- Running a local elementary school math circle for 4 years with help from Tau Beta Pi and other UF student organizations; Member of UF-Gainesville committee on mathematical circles in local schools.
- As faculty advisor of Gators for Asha, exploring P2P social entrepreneurship: partnering with grassroots nonprofits locally and in India applying information and computation principles to engineer social movements by designing protocols for collaborative, distributed, participatory decision making; building transparent and efficient P2P economies (including manufacturing and finance) and sustainable community resource base.
- As faculty advisor of Spicmacay, exploring global P2P musicmaking. Honors and Awards in the past 5 years (1) 1 NSF grant, 1 joint NSF-NIGMS grant, one gift from SolidWorks Corp., and 1 UF seed grant. (2) 1 Keynote talk at (International conference on applied computing) ICAC in 2009;
- At least 2 invited addresses talks every year.
- See also service activities above

Name: MY THAI

Education: Ph.D. in Computer Science, University of Minnesota, Sep 2001 – Dec 2005

Academic experience:
- Associate Professor, CISE Department, University of Florida, 2011-present
- Assistant Professor, CISE Department, University of Florida, Aug 2006-2011

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: IEEE, ACM

Honors and awards:
- UF Provost's Excellence Awards for Assistant Professor, 2011
- National Science Foundation (NSF) CAREER Award, 2010-2015
- DTRA Young Investigator Award, 2009-2011
- Outstanding Service Award, Int Conf on Bioinformatics and Computational Biology (BIOCOMP), 2007

Service activities:
- Book Series Editor: Springer Briefs in Optimization.
- Associate Editor: Journal of Combinatorial Optimization, Optimization Letters, Ad Hoc and Wireless Sensor Networks
- Guest Editor: Algorithmica, Ad Hoc Networks, Discrete Mathematics, Algorithms and Applications
- Conference and PC co-Chairs: SIMPLEX 11, DIS 11, COCOON 10
- NSF Panelist, 2006, 2008, 2010
- College of Engineering Commencement Marshall, 2007-2011
- Scholarship and Awards Committee, 2007-2011
- CISE Ambassador, 2006-2008
- Judge for the UF Engineering and Science Fair, 2006-2007

Most important publications and presentations from the past five years:
- M. T. Thai, Group Testing Theory in Network Security: Advanced Solutions, Springer Publisher, Aug 2011.
- M. T. Thai and P. Pardalos (eds), Handbook of Optimization in Complex Networks: Theory and Applications, Springer Publisher, 2011, ISBN: 978-1461407539
- M. T. Thai and P. Pardalos (eds), Handbook of Optimization in Complex Networks: Communication and Social Networks, Springer Publisher, 2011, ISBN: 978-1461408567
- T. N. Dinh, Y. Xuan, M. T. Thai, P. Pardalos, and T. Znati, On New Approaches of Assessing Network Vulnerability: Hardness and Approximation, IEEE/ACM Transactions on Networking (ToN), 2011.
- Y. Xuan, Y. Shen, N. P. Nguyen, and M. T. Thai, A Trigger Identification Service of

Defending Reactive Jammers in WSNs, IEEE Transactions on Mobile Computing (TMC), 2011.

- Y. Xuan, I. Shin, M. T. Thai, and T. Znati, Detecting Application Denial-of-Service Attacks: A Group Testing Based Approach, IEEE Transactions on Parallel and Distributed Sysms, vol. 21, no. 8, pp. 1203-1216, 2010.
- M. T. Thai and T. Znati, On the Complexity and Approximation of Non-unique Probe Selection Using d-Disjunct Matrix, Journal of Combinatorial Optimization, vol. 17, no. 1, pp 45-53, 09.
- P. Deng, M. T. Thai, and W. Wu, Efficient Non-Unique Probes Selection Algorithms for DNMicroarray, BMC Genomics, vol. 9, suppl. 1, 2008.
- M. T. Thai, R. Tiwari, and D.-Z. Du, On Construction of Virtual Backbone in Wireless Ad Hoc Networks with Unidirectional Links, IEEE Transactions on Mobile Computing (TMC), vol. no. 8, pp. 1-12, 2008.
- M. T. Thai, N. Zhang, R. Tiwari, and X. Xu, On Approximation Algorithms of k-Connected m-Dominating Sets in Disk Graphs, Theoretical Computer Science, vol. 385, no. 1-3, pp. 459, 2007.
- M. T. Thai, F. Wang, D. Liu, S. Zhu, and D.-Z. Du, Connected Dominating Sets in Wireless Networks with Different Transmission Ranges, IEEE Transactions on Mobile Computing (TMC), vol. 6, no. 7, July, 2007.
- N. P. Nguyen, T. N. Dinh, S. Tokala, and M. T. Thai, Overlapping Communities in Dynamic Networks: Their Detection and Mobile Applications, in Proceedings of ACM International Conference on Mobile Computing and Networking (MobiCom), 2011
- Y. Shen, N. P. Nguyen, and M. T. Thai, Exploiting the Robustness on Power-Law Networks, in Proceedings of the 17th Int Computing and Combinatorics Conference (COCOON), 2011
- N. P. Nguyen, T. N. Dinh, Y. Xuan, and M. T. Thai, Adaptive Algorithms for Detecting Community Structure in Dynamic Social Networks, in Proceedings of the IEEE Communications Society (INFOCOM), 2011
- T. N. Dinh, Y. Xuan, M. T. Thai, EK Park, and T. Znati, On Approximation of New Optimization Methods for Assessing Network Vulnerability, in Proceedings of the IEEE Communications Society (INFOCOM), 2010
- M. T. Thai, Y. Xuan, and T. Znati, On Detection of Malicious Users Using Group Testing Techniques, in Proceedings of Int. Conf. on Distributed Computing Systems (ICDCS), 2008.

Most recent professional development activities: see service activities above

Name: STEVE THEBAUT

Education: Ph.D., Computer Science, Purdue University, 1983

Academic experience:
- University of Florida, CISE Dept., Associate Chairman, 2000 – Present, full time
- University of Florida, CISE Dept., Undergraduate Coordinator, 2001 – Present
- University of Florida, CISE Dept., Site Director, Software Engineering Research Center (SERC), an NSF Industry/University Cooperative Research Center, 1994 –2000Hong Kong University of Science and Technology, Department of Computer Science, Visiting Scholar, 1991-1993
- University of Florida, CISE Dept., Assistant Professor, 1983 – Present

Non-academic experience:
- IBM Santa Teresa Laboratory, Academic Associate, summers of 1980, 1981, 1983, 1984

Certifications or professional registrations: none

Current membership in professional organizations: ASEE

Honors and awards:
- Nominated as Outstanding UF EDGE Faculty for the Academic year 2005-2006
- IBM Post-Doctoral Research Fellowship, University of Florida, 1983-84.
- Maurice H. Halstead Award for Research Excellence in Software Engineering, Purdue University, 1982

Service activities:
- Chair, CISE Undergraduate Petitions Committee
- Member, Systems Facilities Committee and Commencement Representatives
- Faculty Adviser to Association of Graduate Students in CISE (ASCIE)
- College of Engineering EDGE Class Scheduling Committee
- Academic Advisor, National Technological University (NTU), Software Engineering Masters Program, 1995-2004
- Advisory Board Member, Sino Software Research Center (SSRC), Hong Kong University of Science and Technology, 1992-1995
- Associate Editor, International Journal of Computer and Software Engineering, 1990-1996
- Program Comm Member, IASTED International Conference on Advances in Computer Science and Technology (ACST), 2004, 2005, 2006
- Program Comm Member, Fourth International Conference on Computer Science, Software Engineering, Information Tech., e-Business and Applications (CSITeA'04), 2004
- Program Comm Member, International Computer Software & Applications Conference, 1990,1991,1995
- Program Comm Member, 9th Conference on Software Engineering Education, 1995

- Technical Advisor: DoD Software Technology for Adaptable, Reliable Systems (STARS) program, 1988-89
- Invited Lecturer: Software Engineering Institute (SEI), Carnegie Mellon University, ''Software Project Management,'' nationally distributed video continuing ed. course, 1989
- Referee: IEEE Transactions on Software Engineering, International Journal of Computer and Information Sciences, Software-Practice & Experience, and several others
- Technical Consultant: ''Automated Measurement System,'' Rome Air Development Center (RADC), Defense Mapping Agency, and Harris GISD, 1985.

Most important publications and presentations from the past five years:
- "An Intelligent Plan Selection Model for BDI Frameworks," (with Umut Sargut), European Workshop on Multi-Agent Systems (EUMAS'07), Hammamet, Tunisia, December 2007.
- "Software Engineering Foundations," a series of technical lectures delivered to the faculty and staff of the Infosys Education and Research Department, Mysore, India, July-August, 2009.
- Invited seminar: "Three Talks for the Price of One: Making Meetings Work, Reviews and Inspections, Test Plans and Planning," IPPD Guest Lecture, Fall 2010, UF College of Engineering, University of Florida.

Most recent professional development activities:
- Participated in 2010 NSF ADVANCE Workshop on Recruitment and Mentoring in Engineering and Physics
- See also service activities above

Name: **ALPER UNGOR**

Education: Ph.D., University of Illinois at Urbana-Champaign, 2002

Academic experience:
- Associate Professor, CISE Department, University of Florida, 2010-present
- Assistant Professor, CISE Department, University of Florida, 2004-2010

Non-academic experience:
- Sandia National Labs, Visiting Researcher, Summer 1999

Certifications or professional registrations: none

Current membership in professional organizations: ACM, SIAM

Honors and awards:
- CAREER Award, National Science Foundation, 2009-2014
- David J. Kuck Best Ph.D. Thesis Award, UIUC
- Best Paper award (among over 360 papers submitted to) ISCIS, 2003
- Computational Science and Engineering Fellowship, UIUC, 2002
- C.L. Dave and Jane W. -S. Liu Award, UIUC, 2001
- Excellence in Teaching Award, University of Illinois at Urbana-Champaign, 1998.

Service activities:
- Program Committee Member for International Sym. on Voronoi Diagrams, June 2009.
- Program Committee Member for Sym. on Geometric Processing, July 2007
- Program Committee Member for ACM Symp. on Computational Geometry, June 2006.
- Chair of the International Meshing Roundtable (IMR), Oct 2004
- Organizer and Chair of the Workshop on Meshing for Computational Biology, IMR 2004
- Program Committee Member for Intl Symp.on Computer and Information Sciences (ISCIS), 2004
- Program Committee Member for the International Meshing Roundtable (IMR), Oct 2003.
- Program Committee Member for Intl Symp.on Computer and Information Sciences (ISCIS), 2003.

Most important publications and presentations from the past five years:
- Hale Erten, Alper Üngör: Quality Triangulations with Locally Optimal Steiner Points. SIAM Journal on Scientific Computing 31(3): 2103-2130 (2009)
- Alper Üngör: Off-centers: A new type of Steiner points for computing size-optimal quality-guaranteed Delaunay triangulations. Comput. Geom. 42(2): 109-118 (2009)
- Daniel A. Spielman, Shang-Hua Teng, Alper Üngör: Parallel Delaunay Refinement: Algorithms and Analyses. Int. J. Comput. Geometry Appl. 17(1): 1-30 (2007)
- Zhao, H. Erten and A Ungor, Mesh Smoothing Algorithms for Complex Geometric Domains, Proc. of the 18th Int. Meshing Roundtable (IMR)}, 2009.
- H. Erten and A. Ungor, Computing Triangulations with No Small No Large Angles,

International Symposium on Voronoi Diagrams (ISVD) 2009.

- A.Saifullah and A Ungor, A Simple Algorithm For Triconnectivity of a Multigraph, Computing: The Australasian Theory Symposium (CATS) Wellington, New Zealand, 2009. (also published as a technical report at Washington University, WUCSE-2009-6).
- H. Erten and A. Ungor, Computing Acute and Non-obtuse Triangulations, Canadian Conference on Computational Geometry (CCCG) 2007: 205-208.
- Cem Boyaci, H. Erten and A. Ungor. Triangulations Loosing Bundles and Weight, Canadian Conference on Computational Geometry (CCCG) 2007: 201-204.
- H. Erten and A. Ungor, Triangulations with locally optimal Steiner points, Symposium on Geometry Processing (SGP) 2007: 143-152.
- R. Jampani and A. Ungor, Construction of Sparse Well-spaced Point Sets for Quality Tetrahedralizations, Proc. of the 16th Int. Meshing Roundtable (IMR), 63--80, 2007.

Most recent professional development activities: attended and spoke at multiple international conferences; see also service activities above.

Name: BABA VEMURI

Education: PhD, Electrical & Computer Engineering, University of Texas at Austin, 1987

Academic experience:
- 2010- To date: Professor and Director, Laboratory for Computer Vision, Graphics & Medical Imaging, affiliate appointment in ECE and BME Departments.
- 2003-2010: Professor and Director of the Center for Vision, Graphics and Medical Imaging (CVGMI), Dept of CISE and BME, affiliate appt. Dept of ECE, Univ Florida
- 2003-2006: University Research Foundation (UFRF) Prof., Dept of CISE, BME, ECE.
- 1999-2003: Professor, Department of CISE, BME and ECE.
- 1992-1999: Associate Professor, Department of CISE and ECE.
- 1987-1992: Assistant Professor, Department of CISE.

Non-academic experience:
- 1989-1990: Research Sci., German Aerospace Res. Inst, Oberpfaffenhofen, Germany.
- Summer 1989: IBM TJ Watson Research Center, NY.
- Summer 1992: IBM TJ Watson Research Center, NY.

Certifications or professional registrations: none
Current membership in professional organizations: IEEE, ACM, MICCAI

Honors and awards:
- ACM Fellow 2009
- IEEE Fellow 2001
- Plenary speaker at several conferences
- Chartered member of the Neuro-techology study section at NIH
- Member external advisory board Neuro-imaging Center, Brigham and Womens Hospital, Harvard Medical School
- UFRF Professorship 2003-06
- UF SPP award 2007.

Service activities:
- Chair, faculty search and screening 2001-2010.
- Member, Departmental steering committee 2001- to date.
- Member, Departmental Tenure and Promotion committee – 2008-2010
- Chair, Departmental Tenure and Promotion committee 2011.
- Member, COE Tenure and Promotion committee 2011.
- Associate Editor, Journal of Medical Image Analysis, Elsevier Publishing, 2000- to date.
- Associate Editor, J of Computer Vision and Image Understanding,, 2000- to date.
- Area Chair, IEEE Int. Conference on Computer Vision (ICCV) 2011, Barcelona, Spain.
- Area Chair, Intl. Conf. on Info. Processing in Medical Imaging, 2011, Germany.
- Area Chair, IEEE Conf on Computer Vision and Pattern Recogntion, 2008, Alaska, USA.
- Area Chair, Intl. Conf. on Medical Image Comput. and CAI, 2008, NYC, USA.
- Program Chair, IEEE Intl. Conf. on Computer Vision 2007, Rio de Janeiro Brazil.

- Area Chair, IEEE Conference on Computer Vision and pattern Recognition, 2006,

Most important publications and presentations from the past five years:
- Yuchen Xie, Jeffrey Ho, Baba C. Vemuri: Nonnegative Factorization of Diffusion Tensor Images and Its Applic. Intl. Conf. on Info. Proc. in Medical Imaging, 2011: 550-561.
- Meizhu Liu, Baba C. Vemuri: RBoost: Riemannian distance based regularized Boosting. IEEE Intl. Symp. On Biomedical Imaging, 2011: 1831-1834.
- Baba C. Vemuri, M. Liu, Shun-ichi Amari, Frank Nielsen: Total Bregman, Divergence and Its Applic. to DTI Analysis. IEEE Trans. Med. Imaging 30(2): 475-483 (2011).
- Ritwik Kumar, Angelos Barmpoutis, Arunava Banerjee, Baba C. Vemuri: Non-Lambertian Reflectance Modeling and Shape Recovery of Faces Using Tensor Splines. IEEE Trans. Pattern Anal. Mach. Intell. 33(3): 533-567 (2011).
- Bing Jian, Baba C. Vemuri: Robust Point Set Registration Using Gaussian Mixture Models. IEEE Trans. Pattern Anal. Mach. Intell. 33(8): 1633-1645 (2011).
- Özlem N. Subakan, Baba C. Vemuri: A Quaternion Framework for Color Image Smoothing and Segmentation. Intl. Journal of Computer Vision 91(3): 233-250 (2011).
- Ting Chen, Baba C. Vemuri, Anand Rangarajan, Stephan J. Eisenschenk: Group-Wise Point-Set Registration Using a Novel CDF-Based Havrda-Charvát Divergence. International Journal of Computer Vision 86(1): 111-124 (2010).
- Micha Feigin, Nir A. Sochen, Baba C. Vemuri: Anisotropic Alpha-Kernels and Associated Flows. SIAM Journal of Imaging Sciences 3(4): 904-925 (2010).
- Yuchen Xie, Jeffrey Ho, Baba C. Vemuri: Image atlas construction via intrinsic averaging on the manifold of images. IEEE CVPR 2010: 2933-2939.
- Meizhu Liu, Baba C. Vemuri, Shun-ichi Amari, Frank Nielsen: Total Bregman divergence and its applications to shape retrieval. IEEE CVPR 2010: 3463-3468.
- Barmpoutis, A; Hwang, M.S.; Howland, D.; Forder, J.R. and Vemuri, B.C., Regularized positive-definite fourth order tensor field estimation from DW-MRI, NeuroImage, 45 (1), S153-S162 (2009).
- Ritwik Kumar, Arunava Banerjee, Baba C. Vemuri: Volterrafaces: Discriminant analysis using Volterra kernels. IEEE CVPR 2009: 150-155.
- Fei Wang, Baba C. Vemuri, Anand Rangarajan, Stephan J. Eisenschenk: Simultaneous Nonrigid Registration of Multiple Point Sets and Atlas Construction. IEEE Trans. Pattern Anal. Mach. Intell. 30(11): 2011-2022 (2008).
- Bing Jian, Baba C. Vemuri: A Unified Computational Framework for Deconvolution to Reconstruct Multiple Fibers From Diffusion Weighted MRI. IEEE Trans. Med. Imaging 26(11): 1464-1471 (2007).
- Angelos Barmpoutis, Baba C. Vemuri, Timothy M. Shepherd, John R. Forder: Tensor Splines for Interpolation and Approximation of DT-MRI With Applic. to Segmentation of Isolated Rat Hippocampi. IEEE Trans. Med. Imaging 26(11): 1537-1546 (2007).
- N A. Lord, J Ho, B C. Vemuri, Stephan J. Eisenschenk: Simultaneous Registration and Parcellation of Bilateral Hippocampal Surface Pairs for Local Asymmetry Quantification. IEEE Trans. Med. Imaging 26(4): 471-478 (2007).
- Fei Wang, Baba C. Vemuri: Non-Rigid Multi-Modal Image Registration Using Cross-Cumulative Residual Entropy. Intl. Journal of Computer Vision 74(2): 201-215 (2007).

Most recent professional development activities:
- See service activities above

Name: 'DAISY' ZHE WANG

Education: Ph.D. Electrical Eng. and Computer Sciences, Dec., 2011 UC Berkeley

Academic experience:
- Fall 2011 - Assistant Professor, CISE Department, University of Florida
- Fall 2005-Summer2011 Ph.D. candidate, Research Assistant, Database Group, UC Berkeley
- Summer 2003-Spring 2005 Undergraduate Researcher, University of Toronto

Non-academic experience:
- Summer 2008 Research Internship, Yahoo! Research. Santa Clara
- Spring 2008 – Spring 2010 Research Collaborator, IBM Almaden Research Center
- Summer 2007 Software Engineer, Google Inc.
- Summer 2006 Research Internship, Intel Research Berkeley
- Summer 2003, 2004, 2005 Software Developer, DB2 UDB Compiler Group, IBM Toronto Lab

Certifications or professional registrations: none

Current membership in professional organizations: ACM, IEEE

Honors and awards:
- UC Berkeley, Department of Electrical Engineering and Computer Sciences Stonebraker/Wong Fellowship 2009,
- UCC Berkeley, Dept of EECS, Departmental Fellowship 2005

Service activities:
- Reviewer: ICDE2011, TKDE2011
- External Conference Reviewer: VLDB, SIGMOD, ICDE
- Founder of Women in Engineering: University of Toronto, 2004-2005.

Most important publications and presentations from the past five years:
- Hybrid In-Database Inference for Declarative Information Extraction Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein, Michael Wick Proceedings of ACM SIGMOD International Conference on Management of Data, 2011.
- Selectivity Estimation for Extraction Operators over Text Data Daisy Zhe Wang, Long Wei, Yunyao Li, Frederick Reiss, and Shivakumar Vaithyanathan Proceedings of 27th IEEE International Conference on Data Engineering (ICDE), 2011.
- Querying Probabilistic Information Extraction. Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein Proceedings of 36th Very Large Data Base Endowment (VLDB), 2010, Vol.3: p1057-1067
- Probabilistic Declarative Information Extraction. Daisy Zhe Wang, Eirinaios Michelakis, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein, Proceedings of 26th IEEE International Conference on Data Engineering (ICDE), 2010 short paper: p173-176

- BayesStore: Managing Large, Uncertain Data Repositories with Probabilistic Graphical Models. Daisy Zhe Wang, Eirinaios Michelakis, Minos N. Garofalakis, Joseph M. Hellerstein. Proceedings of 34th Very Large Data Base Endowment (VLDB), 2008, Vol1: p340-351
- WebTables: Exploring the Power of Tables on the Web. Michael J. Cafarella, Alon Halevy, Daisy Zhe Wang, Eugene Wu, Yang Zhang. Proceedings of 34th Very Large Data Base Endowment (VLDB), 2008, Vol1: p538-549.
- "Hybrid In-Database Inference for Declarative Information Extraction" VLDB Conference, June 15, 2011
- "Selectivity Estimation for Extraction Operators over Text Data" ICDE Conference, April 14, 2011
- "Querying Probabilistic Information Extraction" EMC/Greenplum Seminar, July 11, 2011
- CSAIL Seminar, MIT, November 17, 2010.
- Datbase Seminar, University of Toronto, January 5, 2010.
- "Declarative Information Extraction in a Probabilistic Database System", Info Lab Seminar, Stanford, 2009.

Most recent professional development activities: see service activities above

Name: **JOSEPH WILSON**

Education: Ph.D., Computer Science, University of Virginia, 1985
              M.S., Applied Math and Computer Science, University of Virginia, 1980
              B.S., Applied Math and Computer Science, Florida State University, 1977

Academic experience:
- Assistant Professor, CISE Department, University of Florida, 1985-present
- Associate Chair, CISE, 1994-2001

Non-academic experience:
- Programmer, State of Florida Office of Manpower Planning, 1977-1978
  Helped develop forms-oriented graphical database user interfaces in Cobol
- Software Engineer Intermetrics 1980
  Maintained DARPA DEC Twenex B-Ada compiler parser and performed compiler testing using the ACVC

Certifications or professional registrations: none

Current membership in professional organizations:
- Member IEEE
- Member IEEE Data Fusion Technical Committee
- Member ACM

Honors and awards:
- 2001-2002 ACM Professor of the Year (UF Student Chapter award)
- General Ronald W. Yates Award for Excellence in Technology Transfer, AFL, 1998.
- 1994, University of Florida Teaching Incentive Program Award Winner

Service activities:
- IEEE IGARSS TPC Member 2010
- University of Florida Faculty Senator

Most important publications and presentations from the past five years:
- Nicholas I. Rummelt and J.N. Wilson, "Array set addressing: an enabling technology for the efficient processing of hexagonally sampled imagery," *Journal of Electronic Imaging*, 20, 03 June 2011.
- R. Mazhar, P.D. Gader, J.N. Wilson, Matching-pursuits dissimilarity measure for shape-based comparison and classification of high-dimensional data, *IEEE Transactions on Fuzzy Systems*, 17(5), pp. 1175-1188, May 2009.
- G. Ramachandran, P.D. Gader, and J.N. Wilson, GRANMA: gradient angle model algorithm on wideband EMI data for landmine detection, *IEEE Geoscience and Remote Sensing Letters*, 7(3), July 2010, pp. 535-539.
- H. Frigui, L. Zhang, P. Gader, J.N. Wilson, K.C. Ho, A. Mendez-Vazquez, An evaluation of several fusion algorithms for anti-tank landmine detection and

discrimination, *Information Fusion*, Special issue in Information Fusion, Elsevier, 10 November 2009.

- Mazhar, R., Gader, P.D., Wilson, J.N., A matching pursuit based similarity measure for fuzzy clustering and classification of signals, *IEEE Intl. Conf. On Fuzzy Systems, 2008, FUZZ-IEEE 2008*, June 2008, pp. 1950-1955.
- Ho, K.C., Wilson, J.N., Gader, P.D., On the use of aggregation operator for humanitarian demining using hand-held GPR, *IEEE Intl. Conf. On Fuzzy Systems, 2008, FUZZ-IEEE 2008*, June 2008, pp. 2103-2108.
- Bolton, J., Gader. P, Wilson, J.N., Discrete Choquet integral as a distance metric, *IEEE Trans. Fuzzy Sys.*, 16(4), April 2008, pp. 107-1110.
- Ho, K.C., Carin, L., Gader, P.D., Wilson, J.N., An investigation of using the spectral characteristics from ground penetrating radar for landmine/clutter discrimination, *IEEE Trans. Geoscience and Remote Sensing*, 46(4), Part 2, April 2008, pp. 1177-1191.
- Wilson, J.N., Gader, P.D., Lee, W-H., Frigui, H., Ho, K.C., "Large-Scale Evaluation of Algorithms Using Ground Penetrating Radar for Landmine Detection and Discrimination," *IEEE Trans. Geoscience and Remote Sensing*, 45(8). Aug. 2007, pp. 2560-2572.

Most recent professional development activities:
- *HMDS Historical Perspective*, invited presentation, L-3 Cyterra Corporation, 8 August, 2010.
- International conference session organizer and chair: Remote Sensing for Landmine and Unexploded Ordnance Identification and Removal II, IEEE International Geoscience and Remote Sensing Symposium, 8 July 2008.

Name: **YE XIA**

Education: PhD, University of California, Berkeley, EECS, 2003.

Academic experience:
- Associate professor, University of Florida, Computer and Information Science and Engineering Department. Aug. 2009 – Present
- Assistant professor, University of Florida, Computer and Information Science and Engineering Department. Aug. 2003 – Aug. 2009.

Non-academic experience:
- Bell Laboratories, Lucent Technologies. Holmdel, New Jersey. 06/1994-08/1996

Certifications or professional registrations: none

Current membership in professional organizations: IEEE

Honors and awards:

Service activities:
- Member of the Technical Program Committee for the following conferences.
- Fifth International Workshop on Systems and Networks (SSN 2009). 2009.
- IEEE Infocom 2008, 2009, 2010, 2011, 2012
- The First IEEE Int. Workshop on Info. and Data Assurance (IPCCC WIDA'08). 2008
- International Workshop on Wireless and Sensor Networks (WSNS 2008)
- The First International Workshop on Wireless Security and Privacy (WiSP 2008)
- Fourth International Workshop on Systems and Networks (SSN 2008)
- IEEE Wireless Communications and Networking Conference (WCNC 2007).
- Third International Workshop on Systems and Networks (SSN 2007)
- Third ACIS Intl. Workshop on Self-Assembling Wireless Networks (SAWN 2007)
- Third International Workshop on Wireless and Sensor Networks (WSNS 2007)

Most important publications and presentations from the past five years:
- Bo Li, Cem Boyaci and Ye Xia. A Refined Performance Characterization of Longest-Queue-First Policy in Wireless Networks. IEEEE Transactions on Networking. Accepted.
- YoungSang Yun and Ye Xia. Maximizing the Lifetime of Wireless Sensor Networks with Mobile Sink in Delay-Tolerant Applications. IEEE Transactions on Mobile Computing, vol. 9, no. 9, Sept. 2010, pp. 1308-1318.
- Xiaoying Zheng, Chunglae Cho and Ye Xia. Optimal Swarming for Massive Content Distribution. IEEE Transactions on Parallel and Distributed Systems, , vol. 21, no. 6, June 2010, pp 841-856.
- Kannan Rajah, Sanjay Ranka and Ye Xia. Advance Reservation and Scheduling for Bulk Transfers in Research Networks. IEEE Transactions on Parallel and Distributed Systems, vol. 20, issue 11, Nov. 2009, pp. 1682 – 1697.
- Xiaoying Zheng, Feng Chen, Ye Xia and and Yuguang Fang. A Class of Cross-Layer

Optimization Algorithms for Performance and Complexity Trade-offs in Wireless Networks. IEEE Transactions on Parallel and Distributed Systems, vol. 20, issue 10, Oct. 2009, pp. 1393 – 1407.

- Seung Chul Han and Ye Xia. Optimal Node Selection Algorithm for Parallel Access in Overlay Networks. Computer Networks, vol. 53, issue 9, June 2009, pp. 1480-1496.
- Ye Xia, Shigang Chen, Chunglae Cho and Vivekanand Korgaonkar. Algorithms and Performance of Load Balancing with Multiple Hash Functions in Massive Content Distribution. Computer Networks, vol. 53, issue 1, January 2009. Pages 110-125.
- Ye Xia. A Refinement of the Jensen's Inequality for a Class of Increasing and Concave Functions. Journal of Inequalities and Applications. Volume 2008, July 2008.
- Seung Chul Han and Ye Xia. Network Load-Aware Content Distribution in Overlay Networks. Computer Communications. vol. 53, issue 1, January 2009. Pages 51-61.
- Ye Xia. Two Refinements of the Chernoff Bound for the Sum of Non-identical Bernoulli Random Variables. Statistics and Probability Letters. Vol. 78, 2008. Page 1557-1559.
- Kannan Rajah, Sanjay Ranka and Ye Xia. Scheduling Bulk File Transfer with Start and End Times. Computer Networks. vol 52, issue 5, April, 2008. Page 1105-1122.
- Ye Xia and David Tse. On the Large Deviations of Resequencing Queue Size: 2-M/M/1 Case. IEEE Transactions on Information Theory, vol. 54, no. 9, September 2008. Page 4107-4118.

Most recent professional development activities: see service activities above

Name: **TUBA YAVUZ-KAHVECI**

Education: Ph.D., Computer Science, University of California, Santa Barbara Summer 2004

Academic experience:
- Lecturer, Dept of Computer and Info. Science and Eng, Univ Florida, 2004 to date.

Non-academic experience:
- Summer Internship, Texas Instruments, Santa Barbara, Summer 2001.

Certifications or professional registrations: none

Current membership in professional organizations: none

Honors and awards:
- NSF Educators Travel Grant
- Microsoft Travel Grant

Service activities:
- Referee for IEEE Transactions of Software Engineering, Automated Software Engineering, Software Tools for Technology Transfer (STTT) journals.
- Program Committee Member for ICSOFT.

Most important publications and presentations from the past five years:
- KyungHee Kim, Tuba Yavuz-Kahveci, and Beverly Sanders. "JRF-E: Using Model Checking to give Advice on Eliminating Memory Model-related Bugs". Accepted for publication in the Proceedings of 25th IEEE/ACM International conference on Automated Software Engineering (ASE 2010), Antwerp, Belgium, 20-24 September 2010.
- KyungHee Kim, Tuba Yavuz-Kahveci, and Beverly Sanders. "Precise Data Race detection in Relaxed Memory Model using Heuristic based Model Checking". Proceedings of 24th IEEE/ACM International conference on Automated Software Engineering (ASE 2009), Auckland, New Zealand, 16th-20th November 2009.
- Tuba Yavuz Kahveci and Tevfik Bultan. "Action Language Verifier: An Infinite State Model Checker for Reactive Software Specifications." Accepted for publication in the Formal Methods in System Design.

Most recent professional development activities: see service activities above

Name: **RONG ZHANG**

Education: Ph.D, Computer Science, Rutgers - the State University of New Jersey, 2006

Academic experience:
- Lecturer, Dept of Computer and Info. Science and Eng, Univ Florida, 2006 to date.

Non-academic experience: none

Certifications or professional registrations: none

Current membership in professional organizations: none

Honors and awards:

Service activities:
- Assistant Undergraduate Coordinator in the Undergraduate Petitions Committee of CISE dept
- Commencement Representatives of CISE dept
- Student Exit Interview Coordinator of CISE dept

Most important publications and presentations from the past five years:

Most recent professional development activities: