

# Welcome to UF Faculty Research Expertise

Helping faculty find research partners  
and new ways to collaborate.

Academic Analytics, Discovery Suite

May 2018

# Goals

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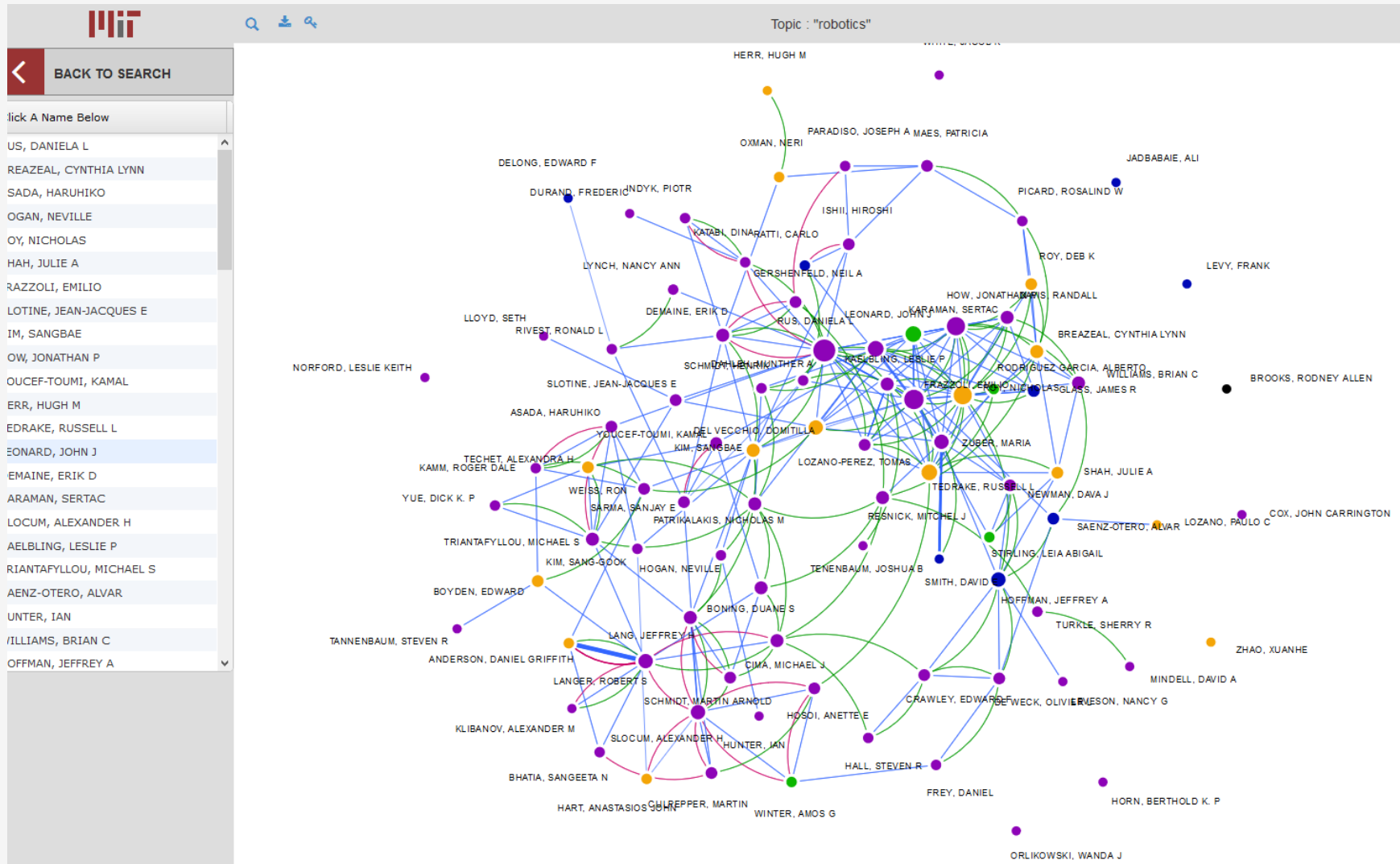
- Promote faculty expertise to external stakeholders
- Encourage research collaboration, new discoveries
- Expand the research enterprise, find grant opportunities
  
- Add content from UF (grants and patents)
- Edit content (update Faculty profile, add publications)
- Search by faculty names or research topics

# Agenda

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- Preliminary models at other universities
- University of Florida model – external and internal views
- Sources of information
- Next steps

# MIT Faculty Research Collaboration Tool



# Duke Collaboration Tool

**Duke**  
UNIVERSITY  
COLLABORATION TOOL

Search by Research Term

OR SEARCH BY

RESEARCH INITIATIVES

- BIG DATA
- GLOBAL HEALTH
- NEURODISCOVERY
- WATER QUALITY
- SUSTAINABLE ENERGY
- NANOTECHNOLOGY
- BIOMEDICAL
- SOCIAL ENTREPRENEURSHIP

About This Tool: The Duke University Collaboration Tool is an online portal intended to showcase and foster research collaboration. The tool's underlying data comprise the entire set of Duke research faculty, their grants, initiatives, and collaborations. Users may input a specific search term, or browse by university-wide research initiatives.

**Duke**  
UNIVERSITY  
COLLABORATION TOOL

Enter A Research Term Below

Filter Results

Duke Research Initiatives(0)

Departments(6)

- Electrical and Computer Engineering
- Biomedical Engineering
- Mechanical Engineering and Materials Science
- Computer Science
- Literature
- Environmental Sciences and Policy

### Search Results

Network graph showing collaborations between researchers:

- ZHOU, PEI (green dot) connected to DONALD, BRUCE (blue dot)
- PARR, RONALD (blue dot) connected to CARIN, LARRY (blue dot)
- CARIN, LARRY (blue dot) connected to SAPIRO, GUILLERMO (green dot)
- IAM (pink dot) connected to WOLF, PATRICK D (pink dot)
- Other isolated nodes: HUANG, JUN T (red dot), TC (blue dot), ZAVLANOS, MIC (red dot), and an unlabeled blue dot.

### Funding Opportunities

Current

Faculty at the University of Florida are helping to solve issues that challenge our state, the nation, and global communities.

The external view helps the university promote the range of faculty expertise to prospective faculty and students, industry leaders and funding agencies.



**UF FACULTY RESEARCH EXPERTISE**

## Explore faculty research, collaborations, and partnership opportunities

UF Faculty Research Expertise is an online portal into the research portfolio of the University of Florida, enabling industry leaders, community partners, students, and faculty to easily explore research areas, collaborations, faculty profiles and works, and to identify opportunities for partnerships in future innovation. Search by faculty name or research topic.



## Faculty Profile

- 1 Affiliations with academic departments and doctoral programs
- 2 Recent publications, grants, and honors
- 3 Research summary, research interests, and key terms
- 4 Shows similar scholars and network of faculty collaborations

SELECT ME



<b>SMITH, SUZANNA D</b> Family Youth and Community Sciences, Department of
<b>SMITH, CRAIG</b> Art and Art History, School of
<b>SMITH, BRENDA JO</b> Music, School of
<b>SMITH, BENJAMIN B</b> Political Science, Department of
<b>SMITH, WESLEY CLAY</b> Neuroscience, Department of
<b>SMITH, BARBARA K</b> Physical Therapy, Department of
<b>SMITH, HUGH A</b> Entomology and Nematology, Department of
<b>SMITH, STEVEN M</b> Community Health and Family Medicine, Department of
<b>SMITH, STEPHANIE ANN</b> English, Department of
<b>SMITH, SONDRA LORI</b> Human Development and Organizational Studies in Education - Counselor Education
<b>SMITH, KATHRYN JEAN</b> Pharmacotherapy and Translational Research, Department of



Doug Soltis studies the origin and evolution of flowering plants, plant genome evolution and the relationships between plants. Florida Museum of Natural History photo by Kristen Grace

## PLANT BIOLOGIST DOUG SOLTIS ELECTED TO NATIONAL ACADEMY OF SCIENCES

MAY 3, 2017

### SOLTIS, DOUGLAS EDWARD

Biology, Department of

### DOUGLAS, ELLIOT PAUL

Sustainable Infrastructure and Environment, Engineering School of

### DOUGLAS, J YELLOWLEES

English, Department of

### ARCHER, DOUGLAS L

Food Science and Human Nutrition, Department of

### CARTER, DOUGLAS R

Forest Resources and Conservation, School of

### CENZER, DOUGLAS A

Mathematics, Department of

### MCFADDEN, DOUGLAS GRANT

Molecular Genetics and Microbiology, Department of

### WALDO, DOUGLAS G

Economics, Department of

### SPEAROT, DOUGLAS

Mechanical and Aerospace Engineering, Department of

### DUNCAN, STEWART DOUGLAS RHODERICK

Philosophy, Department of

### PRESNELL, BRETT DOUGLAS

Statistics, Department of (LS)



## DOUGLAS EDWARD SOLTIS

### PROFESSOR

Botany, Doctoral Program of  
Plant Molecular and Cellular Biology, Doctoral Program of  
Zoology, Doctoral Program of  
Biology, Department of

User Login

## RESEARCH SUMMARY

I am a Distinguished Professor in the Florida Museum of Natural History and Department of Biology at the University of Florida. My research interests in plant biology are diverse—we study plant evolution using modern DNA approaches including next generation sequencing methods and the use of “big data” sets that require challenging computational analyses; specific interests include plant phylogeny, genome doubling (polyploidy), floral evolution, angiosperm diversification, and phylogeography.

## RESEARCH INTERESTS

polyploidy

## KEY TERMS

Species

angiosperm

clade

datum

gene

population

result

project

lineage

## SIMILAR SCHOLARS

RICHARD HENNIG

ISER DELEON

CAROLE BEAL

JOSE PRINCIPE

ADRIAN ROITBERG

GRAHAM LAMB

ERIC TRIPLETT

MARK TEHRANIPOOR

DOUGLAS SPEAROT

listed by year and title

2017



- Deep reticulation and incomplete lineage sorting obscure the diploid phylogeny of rain-lilies and allies (Amaryllidaceae tribe Hippeastreae)
- Taxonomic revision of the *Opuntia humifusa* complex (Opuntieae: Cactaceae) of the eastern United States
- Whole-genome duplication and molecular evolution in *Cornus* L. (Cornaceae) - Insights from transcriptome sequences
- Detecting Alternatively Spliced Transcript Isoforms from Single-Molecule Long-Read Sequences without a Reference Genome
- Pure polyploidy: Closing the gaps in autopolyploid research: Pure polyploidy
- Insights into the evolution of hydroxyproline rich glycoproteins from 1000 plant transcriptomes
- Evolutionary Conservation of ABA Signaling for Stomatal Closure in Ferns
- Evolution of floral diversity: genomics, genes and gamma
- Evolutionary and domestication history of *Cucurbita* (pumpkin and squash) species inferred from 44 nuclear loci
- Karyotypic variation and pollen stainability in resynthesized allopolyploids *Tragopogon miscellus* and *T. mirus*
- Insights into the historical assembly of East Asian subtropical evergreen broadleaved forests revealed by the temporal history of the tea family
- Impacts of Nitrogen and Phosphorus: From Genomes to Natural Ecosystems and Agriculture
- Diversification of Rosaceae since the Late Cretaceous based on plastid phylogenomics
- Cytogeography of *Callisia* section *Cuthbertia* (Commelinaceae)
- Adding loci improves phylogeographic resolution in red mangroves despite increased missing data: comparing

# Grants and Patents

EXTERNAL VIEW

federal grants, from AA  
state, corporate, institutional grants, from UF

2014



- **DISSERTATION RESEARCH: An integrative genomic study of multiple domestication events in squash and pumpkin (*Cucurbita*, *Cucurbitaceae*), *National Science Foundation***
- **Plant exploration to collect wild cucurbita Germplasm, *US DEPT OF AG AG RES SVC***

2015



- **Collaborative Research: ABI Innovation: Connecting resources to enable large-scale biodiversity analyses, *National Science Foundation***
- **Dimensions US-China: Collaborative Research: How historical constraints, local adaptation, and species interactions shape biodiversity across an ancient floristic disjunction, *National Science Foundation***
- **DISSERTATION RESEARCH: Comparative phylogeography of three co-distributed Neotropical mangrove species, *National Science Foundation***
- **Dissertation Research: The evolutionary significance of autopolyploidy in *Tolmiea* (*Saxifragaceae*), *National Science Foundation***
- **Evolution of Specialized Metabolite Biosynthetic Pathways in the *Lamiaceae*: Sources of Chemical Diversity for Molecules Essential for Human Use and Plant Defense, *National Science Foundation***

2017



- **DISSERTATION RESEARCH: Evolutionary impact of genome duplication on alternative splicing: Genome-wide assessment in a polyploid plant (*Tragopogon*), *National Science Foundation***

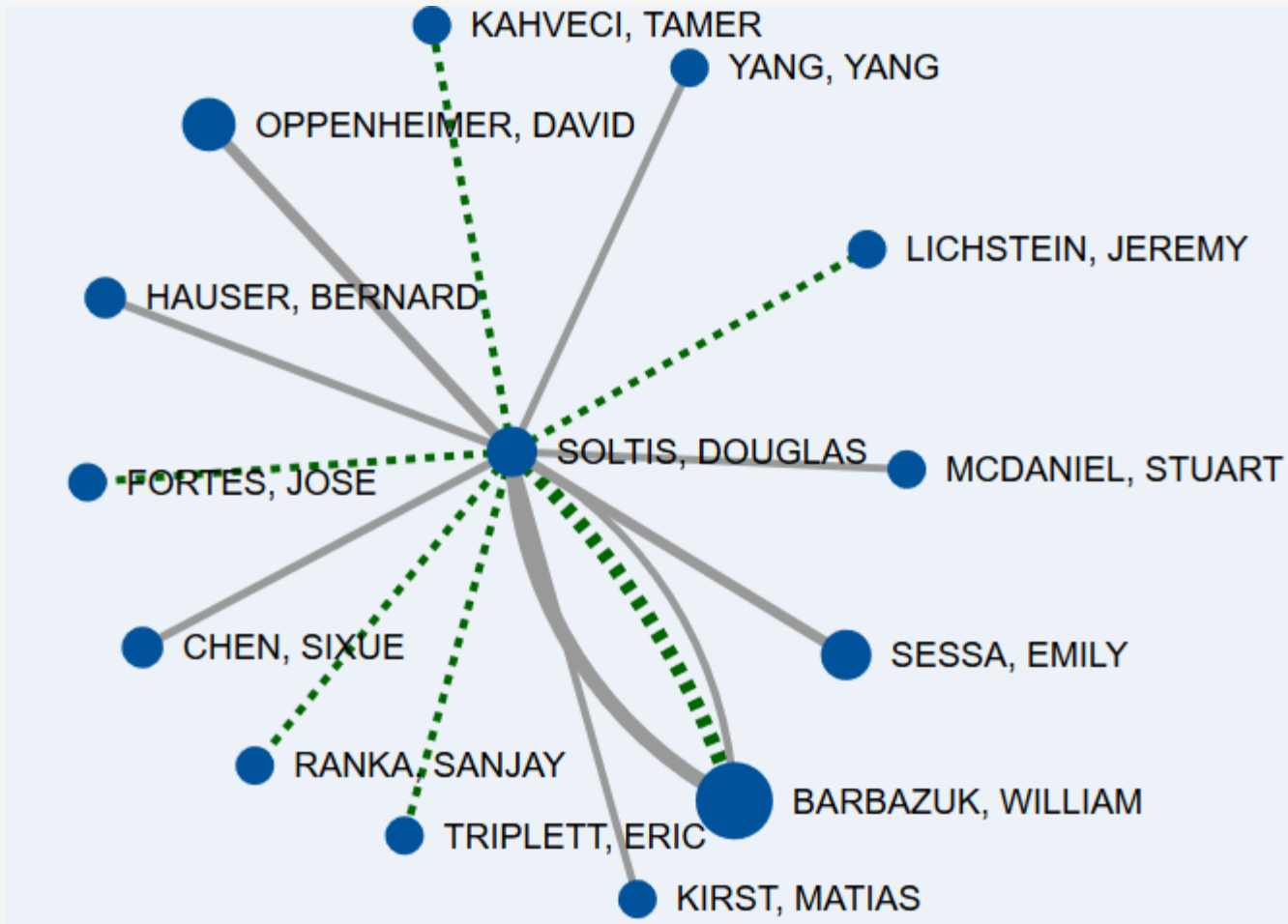
# Awards and Honors

professional awards and honors  
listed by title with name of organization

2010	● <b>Asa Gray Award</b> <i>American Society of Plant Taxonomists, The</i>
2010	● <b>Botanical Society of America Merit Award</b> <i>Botanical Society of America</i>
2014	● <b>Highly Cited Researcher</b> <i>Thomson Reuters</i>
2015	● <b>Highly Cited Researcher</b> <i>Thomson Reuters</i>
2016	● <b>Darwin-Wallace Medal</b> <i>Linnean Society of London</i>
2017	● <b>Fellow</b> <i>American Academy of Arts and Sciences</i>
2017	● <b>Members/Foreign Associates</b> <i>National Academy of Science</i>

# Collaboration

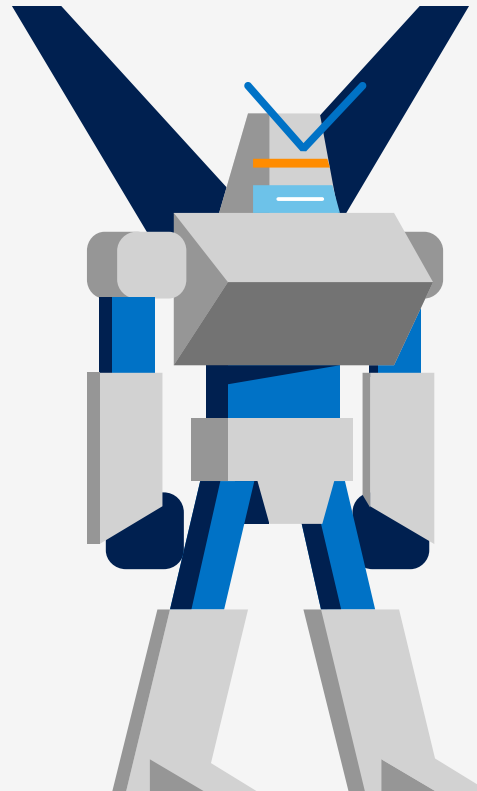
EXTERNAL VIEW



# Search by Research Topic

e.g. Robotics

- 1 Refine search using related terms
- 2 See list of related scholars
- 3 Link to faculty profile
- 4 See collaboration networks



## Related terms

[AUTOMATA THEORY](#)  
[AUTOMATIC CONTROL](#)  
[COMPUTER AIDED MANUFACTURING](#)  
[COMPUTER AIDED MAPPING](#)  
[COMPUTER VISION](#)  
[INVERSE KINEMATICS](#)  
[MAN MACHINE SYSTEMS](#)  
[MANIPULATORS](#)  
[REMOTE OPERATIONS \(ROBOTICS\)](#)  
[ROBOT ARMS](#)  
[ROBOT DYNAMICS](#)  
[ROBOTS](#)  
[TASK PLANNING \(ROBOTICS\)](#)  
[TELEOPERATORS](#)  
[TELEROBOTICS](#)  
[TRAJECTORY PLANNING](#)  
[UNMANNED GROUND VEHICLES](#)

## EXTERNAL VIEW

### Related scholars

[CARL CRANE](#)  
[DANIEL HOH](#)  
[DAVID ARNOLD](#)  
[DAVID HAHN](#)  
[KAMRAN MOHSENI](#)  
[MARKUS SCHNEIDER](#)  
[MATTIA PROSPERI](#)  
[NORMAN FITZ-COY](#)  
[RICCARDO BEVILACQUA](#)  
[ROGER TRAN SON TAY](#)  
[SCOTT BANKS](#)  
[YULI RUDYAK](#)

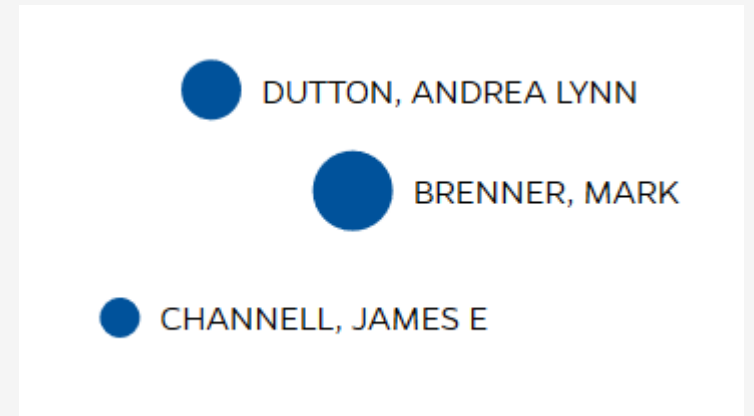
# Search by Research Topic

EXTERNAL VIEW

## Climate Change



## Paleoclimate



**MARK BRENNER** X

Associate Professor, Geological Sciences, Department of

**RECENT WORKS**

Holocene environmental history of tropical, mid-altitude Lake Ocotlito, México, inferred from ostracodes and non-biological indicators

Read Full Text

View Full Profile

# Internal View

Only visible to UF faculty.

View more information about publications, grants, and awards.  
Explore existing networks of collaborators.  
Scan funding opportunities.  
Download results.

SELECT ME



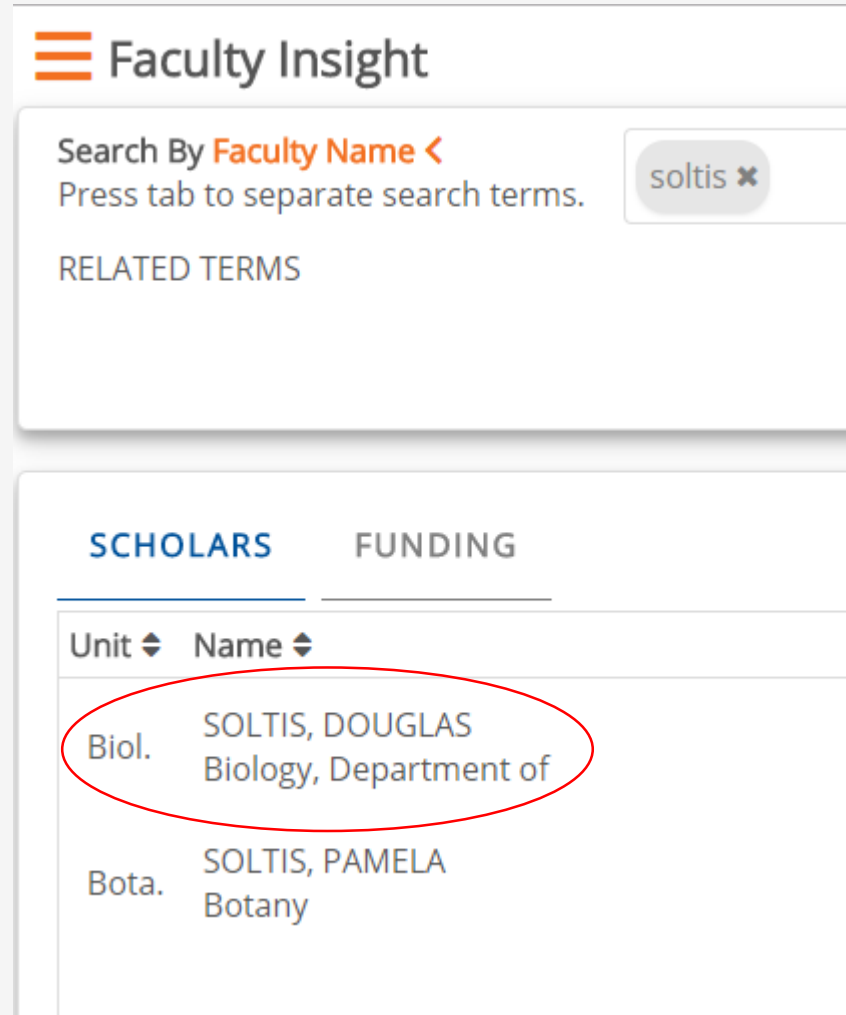
The screenshot shows the 'UF FACULTY RESEARCH EXPERTISE' section of a website. It features a main heading: 'Explore faculty research, collaborations, and partnership opportunities'. Below this is a descriptive paragraph: 'UF Faculty Research Expertise is an online portal into the research portfolio of the University of Florida, enabling industry leaders, community partners, students, and faculty to easily explore research areas, collaborations, faculty profiles and works, and to identify opportunities for partnerships in future innovation. Search by faculty name or research topic.' At the bottom, there is a search interface with two input fields: 'Research Topic' and 'Faculty Name'. Below these fields is a search button with the text 'Add Search Term...' and a plus sign icon. In the top right corner of the page, there are two buttons: 'User Login' (orange) and 'Contact Us' (blue). A red arrow labeled 'SELECT ME' points to the 'User Login' button.



# Internal View

More details, including link to current publications

- 1 Works versus Timeline
- 2 Collaborations
- 3 Suggested Funding
- 4 Recent Activity, Related Activity









The screenshot shows the Faculty Insight interface. At the top, there is a search bar with the text "Search By Faculty Name <" and a button labeled "soltis x". Below the search bar, there is a section titled "RELATED TERMS". Underneath, there are two tabs: "SCHOLARS" and "FUNDING". The "SCHOLARS" tab is active, and it displays a table with two columns: "Unit" and "Name". The table contains two entries: "Biol. SOLTIS, DOUGLAS Biology, Department of" and "Bota. SOLTIS, PAMELA Botany". The first entry is circled in red.

Unit	Name
Biol.	SOLTIS, DOUGLAS Biology, Department of
Bota.	SOLTIS, PAMELA Botany

# Works

## SOLTIS, DOUGLAS

Biology, Department of  
Botany, Doctoral Program of  
Plant Molecular and Cellular Biology, Doctoral Program of  
Zoology, Doctoral Program of

RESEARCH PROFILE	WORKS	TIMELINE	RELATED TERMS AND PEOPLE	SUGGESTED FUNDING
Date: <input type="text" value="Search within results"/>				
Scholars (2) <a href="#">AA</a>	<b>crossref</b>			
2017 Article Scholars (1) <a href="#">AA</a>	 <b>Insights into the historical assembly of East Asian subtropical evergreen broadleaved forests revealed by the temporal history of the tea</b> <i>New Phytologist</i> [0028646X], Vol 215, Issue 3 <b>crossref</b>			
2017 Article Scholars (1) <a href="#">AA</a>	 <b>Pure polyploidy: Closing the gaps in autopolyploid research: Pure polyploidy</b> <i>Journal of Systematics and Evolution</i> [16744918] <b>crossref</b>			
2017 Article Scholars (1) <a href="#">AA</a>	 <b>Evolution of floral diversity: genomics, genes and gamma</b> <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> [09628436], Vol 372, Issue 1713 <b>crossref</b>			
2017 Article Source: <a href="#">AA</a>	 <b>Insights into the evolution of hydroxyproline rich glycoproteins from 1000 plant transcriptomes</b> <i>Plant Physiology</i> [00320889] <b>crossref</b>			
2017 Article Scholars (2) <a href="#">AA</a>	 <b>Detecting Alternatively Spliced Transcript Isoforms from Single-Molecule Long-Read Sequences without a Reference Genome</b> <i>Molecular Ecology Resources</i> [1755098X] <b>crossref</b>			

# Link to published articles, conference proceedings

crossref

ASPB - Institution: University Of Florida  
My alerts Log in Log out

*Plant Physiology*

search  Advanced Search

Home Content Info for About More

Check for updates

Research Article | BREAKTHROUGH TECHNOLOGIES

## Insights into the Evolution of Hydroxyproline-Rich Glycoproteins from 1000 Plant Transcriptomes

Kim L. Johnson, Andrew M. Cassin, Andrew Lonsdale, Gane Ka-Shu Wong, Douglas E. Soltis, Nicholas W. Miles, Michael Melkonian, Barbara Melkonian, Michael K. Deyholos, James Leebens-Mack, Carl J. Rothfels, Dennis W. Stevenson, Sean W. Graham, Xumin Wang, Shuangxiu Wu, J. Chris Pires, Patrick P. Edger, Eric J. Carpenter, Antony Bacic, Monika S. Doblin, Carolyn J. Schultz

Published June 2017. DOI: <https://doi.org/10.1104/pp.17.00295> 5

Article Figures & Data Info & Metrics PDF


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### Abstract

The carbohydrate-rich cell walls of land plants and algae have been the focus of much interest given the value of cell wall-based products to our current and future economies. Hydroxyproline-rich glycoproteins (HRGPs), a major group of wall glycoproteins, play important roles in plant growth and development, yet little is known about how they have evolved in parallel with the polysaccharide components of walls. We investigate the origins and evolution of the HRGP superfamily, which is

View this article with **LENS**

In this issue

 Plant Physiology  
Vol. 174, Issue 2  
Jun 2017  
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[Table of Contents \(PDF\)](#)  
[Cover \(PDF\)](#)

## SOLTIS, DOUGLAS

Biology, Department of  
Botany, Doctoral Program of  
Plant Molecular and Cellular Biology, Doctoral Program of  
Zoology, Doctoral Program of

RESEARCH PROFILE

WORKS

**TIMELINE**

RELATED TERMS AND PEOPLE

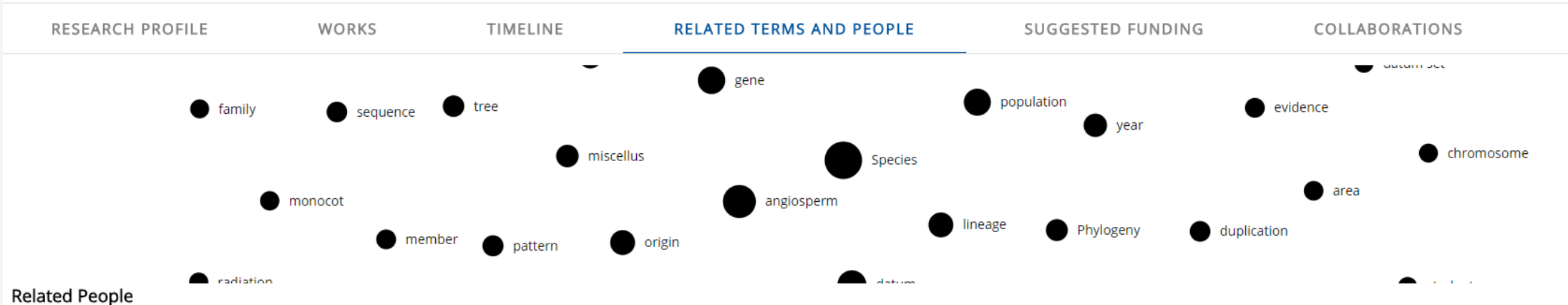
### 2017

- Deep reticulation and incomplete lineage sorting obscure the diploid phylogeny of rain-lilies and allies (Amaryllidaceae tribe Hippeast
- Taxonomic revision of the *Opuntia humifusa* complex (Opuntieae: Cactaceae) of the eastern United States
- Whole-genome duplication and molecular evolution in *Cornus* L. (Cornaceae) – Insights from transcriptome sequences
- Detecting Alternatively Spliced Transcript Isoforms from Single-Molecule Long-Read Sequences without a Reference Genome
- Pure polyploidy: Closing the gaps in autopolyploid research: Pure polyploidy
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- Diversification of Rosaceae since the Late Cretaceous based on plastid phylogenomics
- Cytogeography of *Callisia* section *Cuthbertia* (Commelinaceae)
- Adding loci improves phylogeographic resolution in red mangroves despite increased missing data: comparing microsatellites and RA
- 🏆 Fellow
- 🏆 Members/Foreign Associates
- 📖 Phylogeny and Evolution of the Angiosperms
- 🎓 DISSERTATION RESEARCH: Evolutionary impact of genome duplication on alternative splicing: Genome-wide assessment in a polyplo

# Related Terms and People



**SOLTIS, DOUGLAS**  
 Biology, Department of  
 Botany, Doctoral Program of  
 Plant Molecular and Cellular Biology, Doctoral Program of  
 Zoology, Doctoral Program of



## Related People

**HENNIG, RICHARD**  
 Materials Science and Engineering, Department of

**DELEON, ISER**  
 Psychology, Department of

**BEAL, CAROLE**  
 Teaching and Learning - Curriculum and Instruction

**PRINCIPE, JOSE**  
 Electrical and Computer Engineering, Department of

**BOITREB, ADRIAN**

**NINO, JUAN**  
 Materials Science and Engineering, Department of

**COHEN, MATTHEW**  
 Forest Resources and Conservation, School of

**CHEN, SHIGANG**  
 Computer and Information Science and Engineering, Department of

**RANKA, SANJAY**  
 Computer and Information Science and Engineering, Department of

**LONG, IOANNA**

**DERENDORF, HARTMUT**  
 Pharmaceutics, Department of

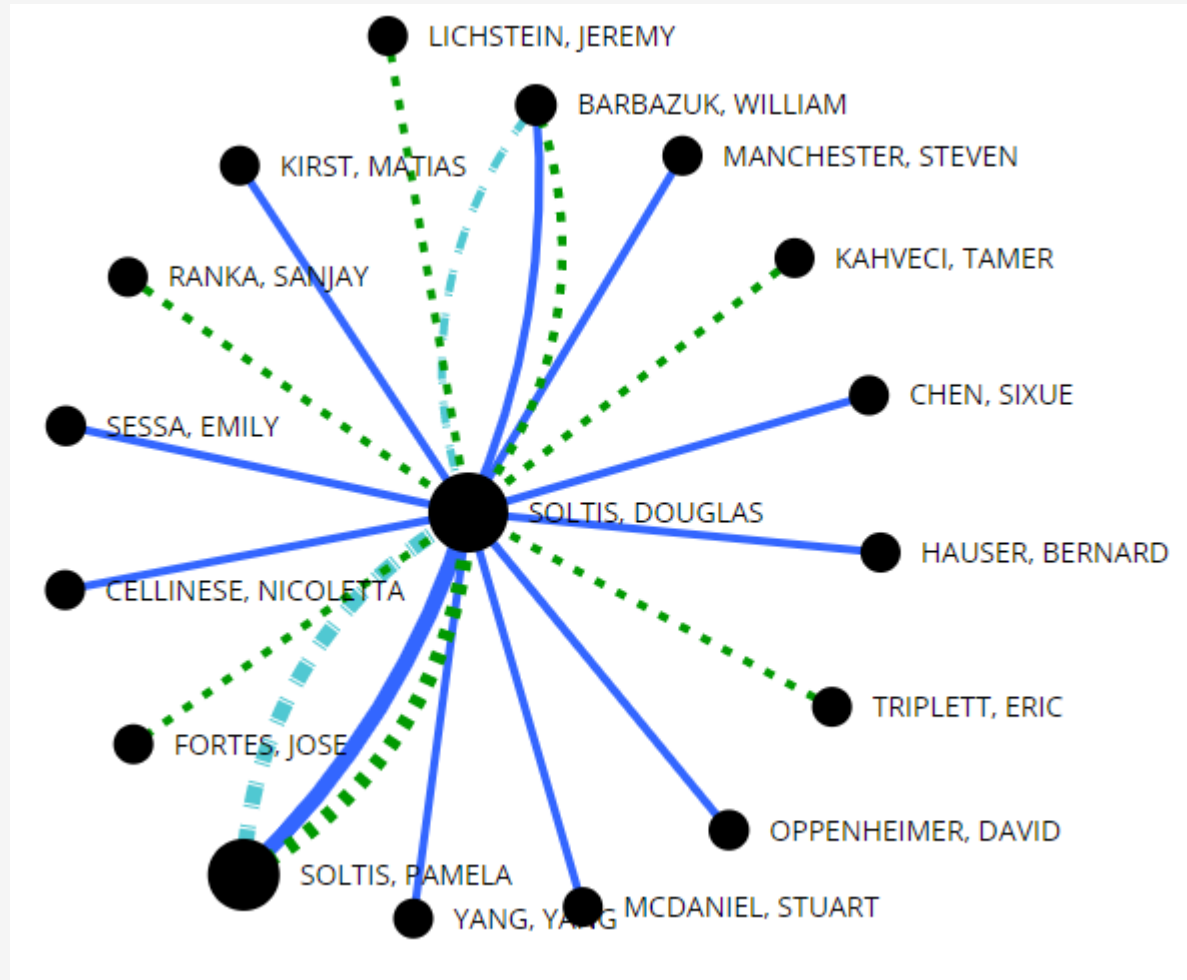
**HOCHHAUS, GUENTHER**  
 Pharmaceutics, Department of

**HELAL, ABDELSALAM**  
 Computer and Information Science and Engineering, Department of

**HEESACKER, MARTIN**  
 Psychology, Department of

**GRAHAM, WENDY**

# Collaborations



- Faculty
- More Collaborations
- Less Collaborations
- Articles
- Books
- Conference Proceeding
- Grants
- Patents

LICHSTEIN, JEREMY has collaborated on 1 grant.

Hide Works

2015 **Dimensions US-China: Collaborative Re species interactions shape biodiversity**  
 Grant **Dimensions US-China: Collaborative Re species interactions shape biodiversity**  
 Scholars *Granting agency: National Science Foundation*  
 (3) < *Awarded amount: \$1.1990429999999999m*  
 + Biodiversity is multidimensional, con

# Suggested Funding

## SOLTIS, DOUGLAS

Biology, Department of  
Botany, Doctoral Program of  
Plant Molecular and Cellular Biology, Doctoral Program of  
Zoology, Doctoral Program of

RESEARCH PROFILE	WORKS	TIMELINE	RELATED TERMS AND PEOPLE	SUGGESTED FUNDING	COLLABORATIONS	
Title/Sponsor ↕				Last Deadline ↕	Amount ↕	☆
Ecology and Evolution of Infectious Diseases (EEID) BIO, SBE, FIC, NIFA, NIGMS, NSF, BSF, NIH, NIAID, BBSRC				11/21/18	\$13.5m	☆
Ecology and Evolution of Infectious Diseases (EEID) BIO, SBE, FIC, NIFA, NIGMS, NSF, BSF, NIH, NIAID, BBSRC				11/21/18	\$13.5m	☆
Limited Competition: Additional Sequencing for the Alzheimer's Disease Sequencing Project (U01) NIA, NIH				7/5/19	\$1m	☆
Computational Radiation Dosimetry in Medicine NIST, NRC Research Associateship Programs RAP				8/1/18	\$2.5m	☆
Computational Radiation Dosimetry in Medicine NIST, NRC Research Associateship Programs RAP				8/1/18	\$2.5m	☆
Etiology of the Acute Radiation Syndrome across Multiple Animal Species and Biological Moderators of Radiation Sensitivity NRC Research Associateship Programs RAP, None				11/1/18	\$2.5m	☆
Etiology of the Acute Radiation Syndrome across Multiple Animal Species and Biological Moderators of Radiation Sensitivity NRC Research Associateship Programs RAP, None				11/1/18	\$2.5m	☆

# Sources of Information

# AA Details Data

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Scholarly Activity	Description	Time Range
Journal articles	from 33,000 journals, with digital identifiers	2004 - present
Citations	to recently published articles, from CrossRef	2004 - present
Conference Proceedings	collected directly from publishers	2008 - present
Books	British Library catalog, Baker & Taylor	2004 - present
Honorific Awards	track 5725 awards from 845 societies	1998 - present
Grants	from 12 Federal agencies, 2 foundations, plus internal and state grants	2006 - present



# Next Steps

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spring 2018

Demos for deans, research deans, provost office, faculty senate

Open access for select departments, authorized users

Add research summary, research interests for faculty

Open edit feature for faculty profiles, key terms

Monthly updates to scholarly content

UF Faculty Research Expertise

developed by UF Office of the Provost, Institutional Planning and Research

application and content provided by Academic Analytics, LLC

additional content provided by UF

