Recruitment for Fall 2026 PhD Programs

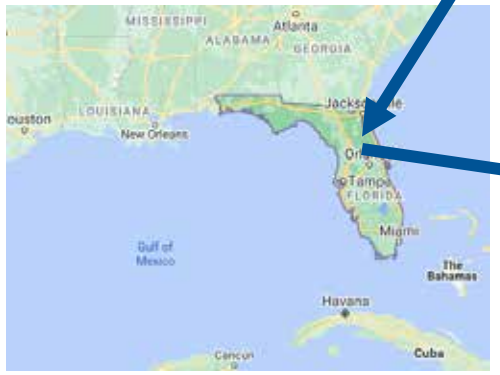
Department of CHEMICAL ENGINEERING

Travis J. Anderson, PhD
Professor
PhD Recruitment Coordinator

Gabrielle Donalson, MS
Graduate Advisor

Fee Waivers and more information

Questions?
Email: grad@che.ufl.edu



Hiking Trails and Wildlife

Local breweries

https://www.visitgainesville.com/

27 Primary Faculty Members

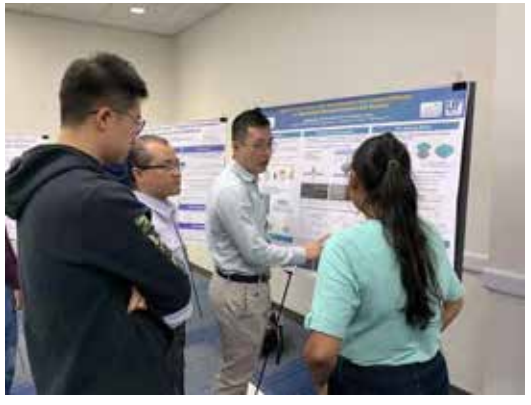
450 Undergraduate Students

65+ PhD Students

50+ MS and ME Students

Welcoming and Inclusive Environment

- Committed to educating you via a rigorous chemical engineering curriculum and supporting your growth toward research excellence
- Outstanding research infrastructure & access to state-of-the-art centers
- Interdisciplinary research programs for interactions and collaborations across campus
- Diverse, socially & intellectually active student body that supports each other through the PhD program



Engaged Student Organizations

- **Peer Mentoring**
- **Social and Cultural Events**
- **Community Outreach**
- **Student-led Research Symposia**
- **Student Chapters of Professional Societies**

UF Chemical Engineering Primary Faculty


Travis Anderson


Jason Butler


Won Tae Choi


Carl Denard


Rich Dickinson


LiLu Funkenbusch

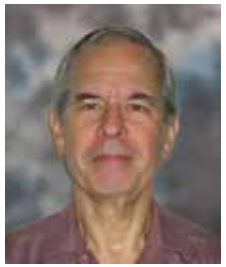

Helena Hagelin-Weaver


Piyush Jain


Yeongseon Jang


Peng Jiang


Dmitry Kopelevich


Tony Ladd


Fernando Mérida


Josh Moon


Ranga Narayanan


Mark Orazem


Sumant Patankar


Fan Ren


Juan M. Restrepo-Flórez


Carlos Rinaldi-Ramos


Janani Sampath


Whitney Stoppel


Spyros Svoronos


VJ Tocco


Sergey Vasenkov


Jason Weaver


Kirk Ziegler

UF Chemical Engineering Primary Faculty – 20 with Growing Research Programs!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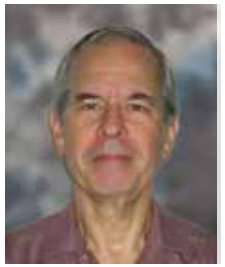
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Sergey Vasenkov


Jason Weaver


Kirk Ziegler

UF Chemical Engineering Graduate Program Leadership

Richard Dickinson
Interim Department Chair

Mark Orazem
Associate Chair for Graduate Studies and William P. and Tracy Cirioli Term Distinguished Professor

Travis J. Anderson
Professor, Graduate Program Recruitment Coordinator

Sumant Patankar
Instructional Assistant Professor and Master's Program Coordinator

Fee Waivers and more information

14 Affiliate Faculty- can take ChE PhD Students*

Zhanar Abil
Assistant Professor
Department of Biology

Yong Huang
Professor
Department of Mechanical and Aerospace Engineering

Jamal Lewis
Associate Professor
J. Crayton Pruitt Family Department of Biomedical Engineering

Amor Menezes
Associate Professor
Department of Mechanical and Aerospace Engineering

Lisa McElwee-White
Crow Professor
Department of Chemistry

Renato "Sam" Navarro
Assistant Professor
Materials Science and Engineering Department

Angelika Neitzel
Assistant Professor
Materials Science and Engineering Department

Juan Nino
Professor
Department of Materials Science and Engineering, Nuclear Engineering Program

Sindia Rivera-Jimenez
Assistant Professor
Department of Engineering Education

Christine Schmidt
Pruitt Family Professor
J. Crayton Pruitt Family Department of Biomedical Engineering

Blanka Sharma
Associate Professor
J. Crayton Pruitt Family Department of Biomedical Engineering

Idalis Villanueva Alarcón
Associate Professor
Department of Engineering Education

Nathalie Wall
Professor
Department of Materials Science and Engineering, Nuclear Engineering Program

Fan Zhang
Assistant Professor
Department of Pharmaceutics College of Pharmacy

***affiliate faculty may choose to participate in pool recruiting or may admit ChE students directly into their groups. Affiliate faculty members make this choice, and it should not be expected that all are taking students each year. Information on actively recruiting affiliate faculty will be communicated each August during matching**

We have excellent staff support to assist in our smooth and efficient function!


Sharla Alexander


Shaniece Benis


Nicole Bristow


Amanda Bolcar


Gabrielle Donalson


Christina Formisano


Janice Harris


Shirley Kelly


David Sante


Shaura Thomas


Preston Towns

Gabrielle Donalson and Shirley Kelly serve in the Graduate Student Advising Office, helping with everything from recruiting, to registration, to paperwork (e.g., i-20s), to petitions, to helping you in times of stress.

They also help monitor and respond to the grad@che.ufl.edu inbox

Fee Waivers and more information

Chemical Engineering Buildings and Facilities

Chemical Engineering Building- Will be undergoing $44M renovation starting in 2025

Chemical Engineering Student Center

- Funded 100% by Alumni donations
- Designed by students and faculty
- Multiple study and collaboration spaces
- Vast, multi-story atrium for social events
- PhD student offices and spaces for student organizations

Renovated Chemical Engineering Building (~2027)

Renovated Chemical Engineering Building

- Modern lab infrastructure, hood capacity, and safety measures
- New Unit Ops laboratory
- New teaching labs for biomolecular engineering and advanced manufacturing
- Pre-Good Manufacturing Practices lab for synthesis and production of biomaterials
- Semiconductor research and fabrication spaces
- Faculty, Staff, and Student offices, lounge, and collaborative space

Student village

Unit Ops Lab

Modern Labs

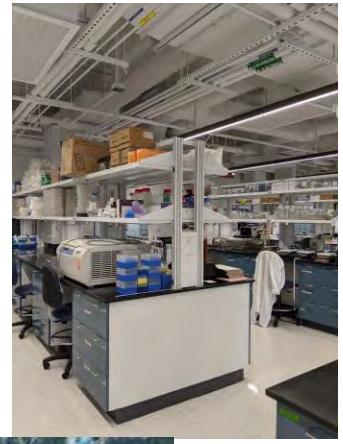
Wertheim Laboratory for Engineering Excellence

- 21,000 sq. ft. of collaborative research space
- $3.8M in new research equipment for PhD student use
- Interdisciplinary research floor with open bench spaces and grad student offices
- Wertheim Engineers' Biotech Organization (WEBiO) organizes interdisciplinary social, research, and professional development activities in the building

Chemical Engineering Research Groups in Wertheim Building:

Whitney Stoppel
Yeongseon Jang
Carl Denard
Rich Dickinson

Affiliate Faculty:
Jamal Lewis
Yong Huang
Zhanar Abil



Nanoscale Research Facility

Fabrication

- Lithography
- Mask writing
- E-beam lithography
- Plasma etch
- Metal deposition
- Sputtering
- PECVD
- ALD

Characterization

- SEM/FIB
- TEM
- XRD
- XPS
- AFM
- X-ray tomography (Xradia and NanoCT)
- Raman spectroscopy/mapping (532nm)
- Photoluminescence spectroscopy/mapping (325nm)
- Optical profilometry

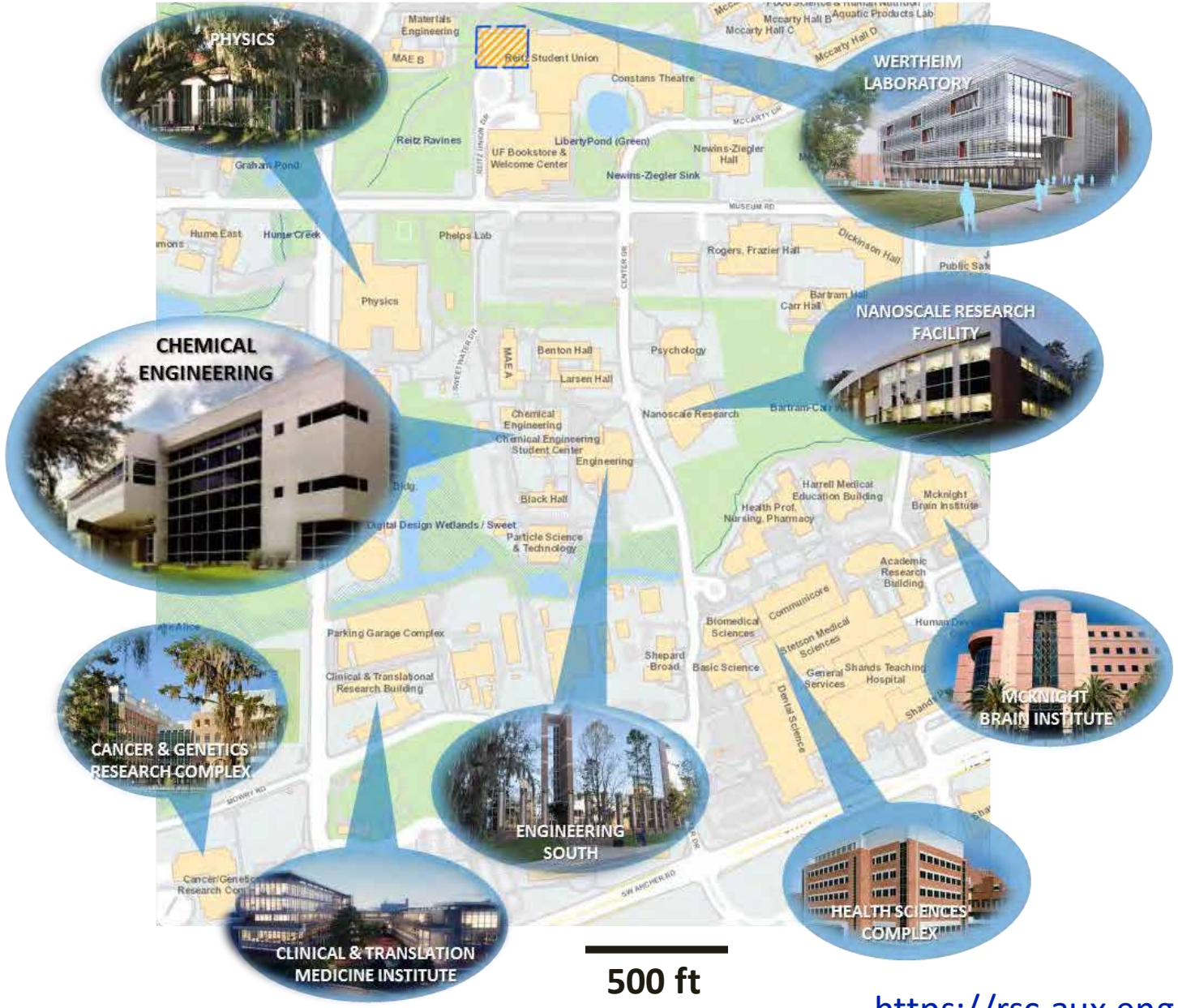
State-of-the-art user facility for semiconductor fabrication and major analytical instrumentation

Easy WALKING access to state-of-the-art facilities!

PhD students have the opportunity to learn how to use specialty equipment

Equipment is managed by PhD level scientists and engineers who offer weekly trainings, brown bag learning lunches, webinars, and other professional development opportunities

Students can easily navigate collaborative efforts across campus without even getting in the car



https://rsc.aux.eng.ufl.edu/

MS/ME Program Overview

- Admission for Fall **or** Spring semesters
  - Priority Deadline for Spring: September 15
  - Priority Deadline for Fall: January 5
- Enrolled students pay tuition and fees
- Opportunities for merit scholarships for international students after enrollment
- Applicants must have a BS in a science or engineering field
  - Do not need experience with chemical engineering
  - Completion of differential equations is recommended though
- Enrolled student benefits:
  - Career fairs and resume sessions for graduate internships in industry
  - Hands-on learning and coursework to prepare you for career
  - Pathways to PhD applications

Fee Waivers and more information

PhD Program Details

Fee Waivers and more information

PhD Application Information

Priority deadline: **December 5**

- **Application fee waivers expire on December 5th**

- Ensure submission by December 15th for full consideration
- GRE is not required for any application to the UF ChE PhD Program
- TOEFL or similar scores need to arrive at UF by the **first week of January** for applicants to remain under consideration
- Please make sure recommendation letter writers are timely with their recommendation letter submission, but note that these do not need to be in by Dec. 5th and won't prevent you from using the fee waiver code (ideally by ~Dec. 16th)

More information, including methods to obtain application fee waivers and detailed Application Preparation Information can be found on our ChE PhD FAQs Page

Application Requirements

Fall 2025 PhD Application includes:

- Application forms via the UF Graduate School https://admissions.ufl.edu/apply/graduate/
- Official transcripts (must be physically mailed to the UF admissions department- unofficial transcripts are ok for the initial submission)
- Personal statement (1-2 pages)
- ~2-page CV/resume
- 3+ recommendation letters from professors
- English Language Proficiency demonstration is waived for students from University of Puerto Rico at Mayagüez and many other countries where English is the first language
    - Reach out to the UF International Office for more info on this

ChE PhD FAQs Page
https://www.che.ufl.edu/academics/doctorate-program/ph-d-application-and-admission-faq/

Assignment of PhD Advisor and Project Selection Process

Advisor selection is not a part of our PhD acceptance process - PhD project matching and advisor selection occurs in the first semester (fall) of the graduate program

Timeline during your 1st Fall Semester in the Department:

Late August: Overview of Research Projects and Opportunities

August, September, and October: Meetings, Discussions, and Tours of Research and Office Space

- New PhD students meet with at least 3-5 faculty members to discuss details of available projects
- Students learn about mentoring styles, attend group meetings, and read relevant papers
- Students meet with current PhD students to learn about the environment and group culture
- Students participate in the annual Fall GRACE Symposium to learn about on-going research efforts

November: Advisor Matching

- Students submit their ranking of projects to the Graduate Program Associate Chair
- Faculty convene to match students to available projects and advisors

PhD Program Info: Supporting you along your PhD Journey

Highly Competitive Admissions Rate

- 15–25% Ph.D. admission rates

5 years of guaranteed funding for Ph.D. students making satisfactory progress

- Competitive Graduate Assistant Stipend: **$35,000** per year salary
- Full Tuition, Health Insurance provided
- Very Low Cost of Living

Awards and Bonuses opportunities:

- Departmental awards for receiving external fellowships
- Travel awards for conference attendance
- Departmental awards for research achievements
- Departmental awards for service, leadership, and outreach

ChE Women's Mentoring Group
Holiday Cookie and Gift Exchange

Our goal is to prepare students for fruitful and successful careers in many industrial, academic, and government sectors through rigorous scientific and engineering research experiences and curriculum

- Prepares students to be entrepreneurs and business leaders
  - Engages students in technology transfer and offers workshops and courses/graduate certificates on *entrepreneurship*, business development and planning
  - Prepares students to be leaders in industry with graduate certificates in engineering leadership
    - Collaboratory for women innovators
    - Assistance in finding graduate internships with industry partners
  - Offers courses and training on instrumentation and equipment necessary for future employment
- Prepares students for academic careers
  - Passport to Great Teaching graduate certificates to prepare for academic careers
  - Department of Engineering Education courses and training opportunities
  - Mock Interviews for PhD program alumni
- Encourages a sense of community through GRACE (Graduate Association of Chemical Engineers)
  - Support from the Gator Nation and a strong alumni network

Chemical Engineering Student Center

Thankful artwork created while celebrating "Diwaligiving" via GRACE event

PhD Program Opportunities

Many Certificates and Technical Training Opportunities

- Engineering Leadership Certificate
- Engineering Entrepreneurship Certificate
- Engineering Education Certificate
- Safety and UF ChE Unit Operations Training Opportunities

- Training and “Super-User” Status on instruments
- Training for Clean Room Operation
- Trainings for biological operation and cell culture
- Opportunities for graduate internships or co-ops

UF ChE Research Areas and Project Examples

Fee Waivers and more information

UF ChE Research Areas

Advanced Materials, Devices, and Nanotechnology

Anderson, Choi, Hagelin-Weaver, Jain, Jang, Jiang, Orazem, Ren, Rinaldi-Ramos, Sampath, Stoppel, Ziegler

Biomolecular Engineering, Cellular Engineering, and Synthetic Biology

Denard, Dickinson, Jain, Jang, Orazem, Ren, Rinaldi-Ramos, Sampath, Stoppel

Complex and Multiphase Flow Dynamics

Butler, Ladd, Narayanan

Energy, Environment, and Sustainability

Choi, Hagelin-Weaver, Jiang, Moon, Restrepo-Florez, Sampath, Vasenkov, Weaver, Ziegler

Heterogeneous Catalysis and Surface Science

Hagelin-Weaver, Weaver, Ziegler

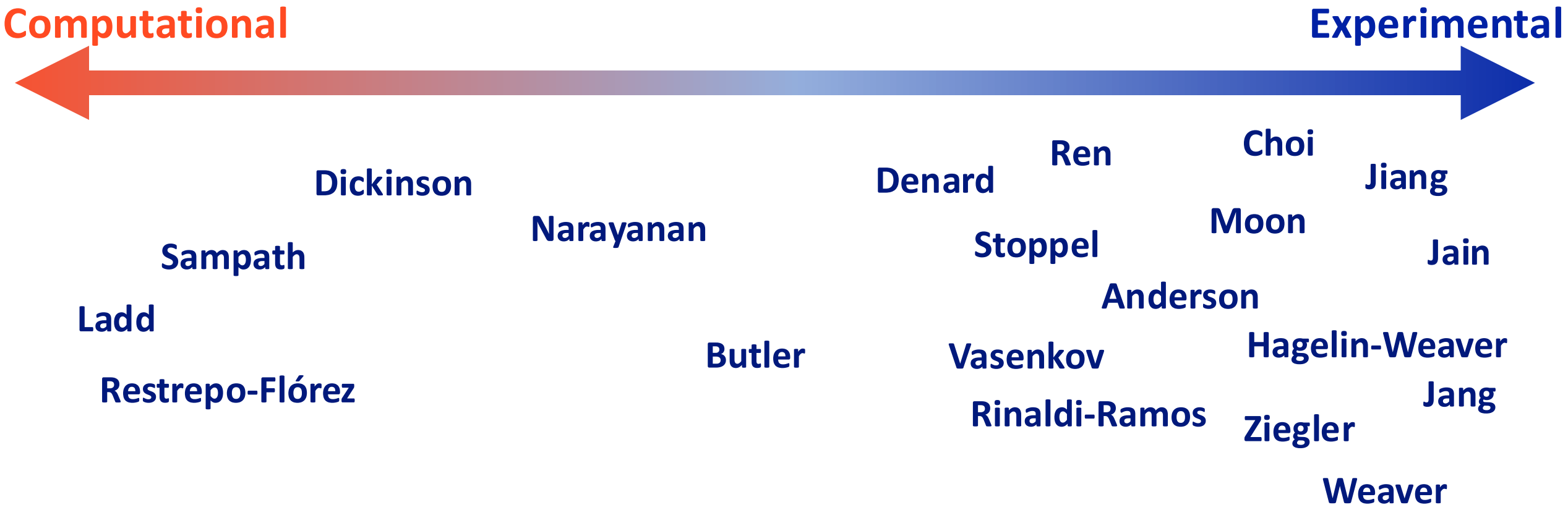
Modeling, Theory, and Simulation

Ladd, Narayanan, Restrepo-Florez, Sampath

Transport, Molecular Thermodynamics, and Electrochemical Engineering

Butler, Choi, Ladd, Narayanan, Rinaldi, Sampath, Vasenkov

Research Groups in the department span the spectrum of skills from simulation and modeling to hands-on benchwork



In some groups, students perform both benchwork and computational work. In other groups, students really focus on one skill over another. For more information, contact the professor or students in their group to get a better idea of the group organization

Congratulations to new professional society fellows!

Ranga Narayanan
Fellow, American Society for Gravitational and Space Research

Mark Orazem
Fellow, AAAS Lifetime

Fan Ren
Fellow, American Institute of Chemical Engineers

Carlos Rinaldi-Ramos
Fellow, AAAS Lifetime
Fellow, Society of Rheology
Fellow, AIChE

Other faculty honors and awards

Won Tae Choi

Hanwa Non-Tenured Faculty Award

Yeongseon Jang

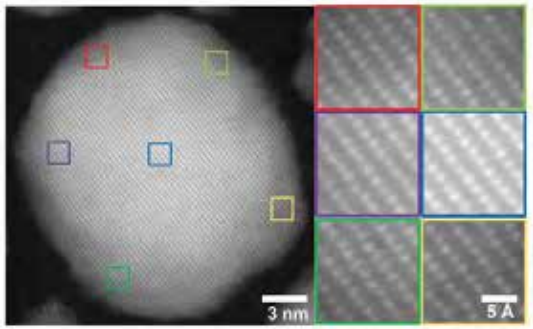
Korean Institute of Chemical Engineers President's Young Investigator Award

Mark Orazem

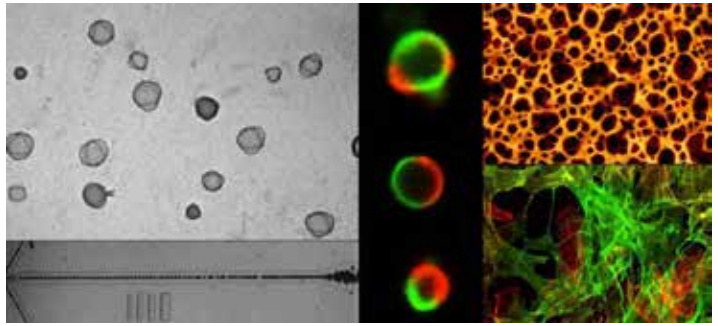
Electrochemical Society Corrosion Division H.H. Uhlig Award

Advanced Materials, Devices, and Nanotechnology

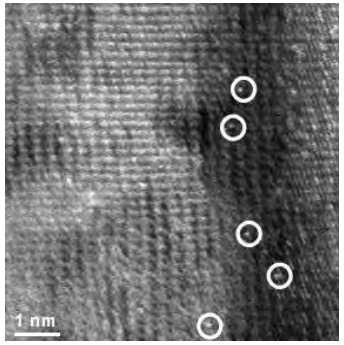
We develop fundamental understanding and control over various advanced materials for a spectrum of device and nanotechnology applications ranging from nanoparticle catalysts and magnetic nanoparticles to impedance glucose sensors and next-generation power switches to supramolecular assemblies and interfacial engineering of nanomaterials.



High Quality Nanoparticles

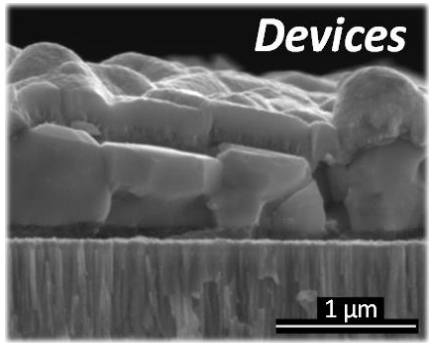


Smart Capsules-Enabled Functional Coatings



Pt/CeO_2 Catalysts

Impedance Glucose Sensor



2D Chalcogenides

Anderson

Choi

Hagelin-Weaver

Jain

Jang

Jiang

Moon

Ren

Rinaldi-Ramos

Sampath

Stoppel

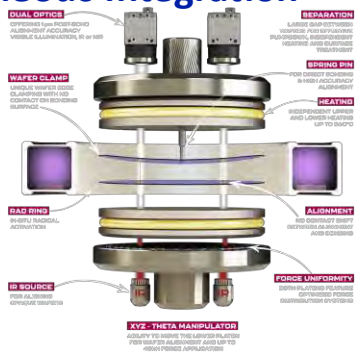
Ziegler

Travis J. Anderson, Ph.D. (CHE Department)
Professor, tjanderson@che.ufl.edu

Semiconductor Research and Process Integration

Wafer Bonding for Heterogeneous Integration

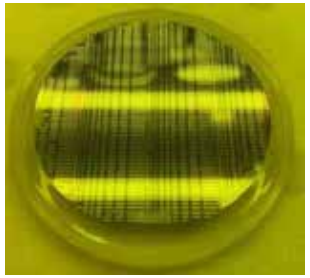
- Surface functionalization for atomic fusion bonding
- Integration of heat spreading films (diamond)
- Transport across interfaces



Extreme Environment Testing

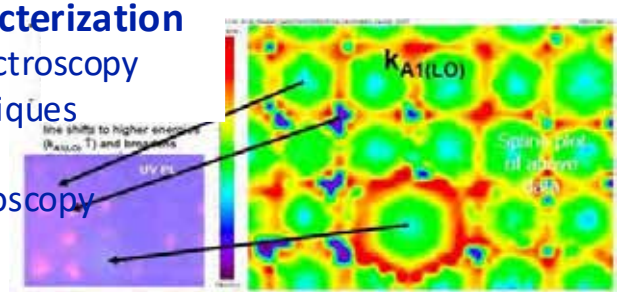
- High temperature operation (1000 C)
- Radiation (via collaboration)
- High voltage/high current stress
- Develop thermally robust materials

Advanced Device Fabrication



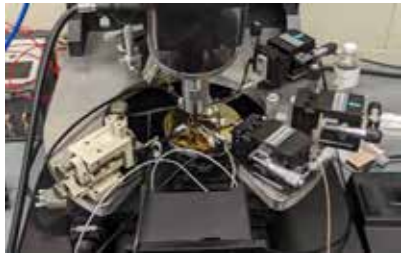
Materials Characterization

- Optical spectroscopy
- X-ray techniques
- Electron Microscopy



Electrical Testing

- Current-Voltage
- Dynamic I-V
- High Voltage
- Electrical stressing

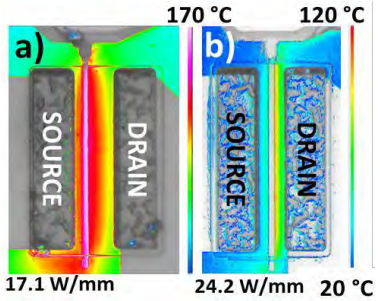


Epitaxial Growth (w/ MSE – Hite Group)

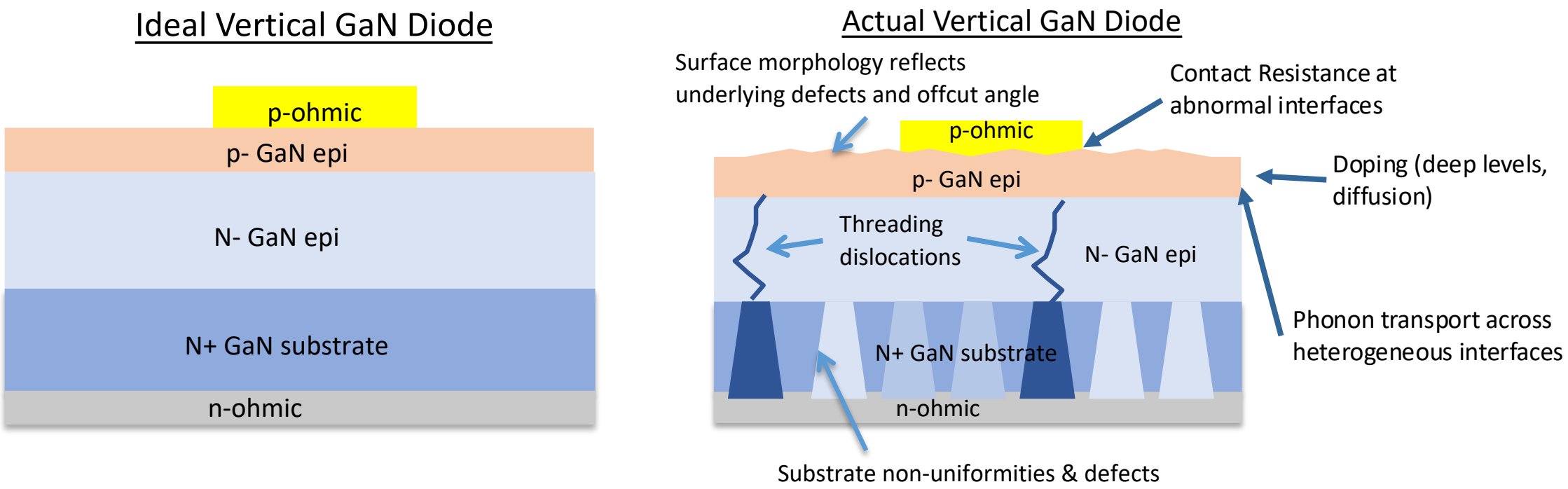
- Metal Organic Chemical Vapor Deposition (MOCVD)
- GaN, AlN, Ga_2O_3, etc

Thermal Management

- Thermoreflectance techniques
- Device modeling



The Reality of Semiconductor Materials



- The complexity of semiconductor materials is often overlooked in simple device schematics (except Si)
- A closer look reveals a world of challenging problems requiring depth of understanding and innovative solutions
- ALL semiconductor devices are thermally limited

Research Portfolio

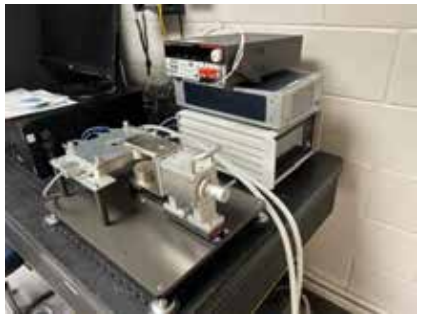
- **Startup Projects**
  - Exploratory activities with new collaborators and materials systems
  - Example: studies of diamond, AlN, and AlScN with Northrop Grumman and Agnitron
- **OSD/ME Commons – NC State (PI)**
  - Radiation effects in commercial AlGaN/GaN HEMTs
  - Simulation and high-k dielectric integration
- **DARPA UWBGS – Raytheon (PI)**
  - Doping and contacts to n-AlN
  - Wafer bonding of AlN and diamond for p-n junction
- **DARPA CRYSTAL – UF (PI)**
  - Fundamental studies of $LiNbO_3$ and SiC wafer bonding and ion cu
  - Simulations of process conditions and experimental validation
- **OSD/ME Commons – Kyma (PI)**
  - Ga_2O_3 power diode design, fabrication, and testing
  - P-n junction development using p-NiO
- **NIST**
  - GaN p-i-n diode reliability and failure mechanisms

Fast-paced research – most projects involve weekly team meetings, monthly reports, quarterly reviews, and annual go/no-go review

Anderson Research Lab

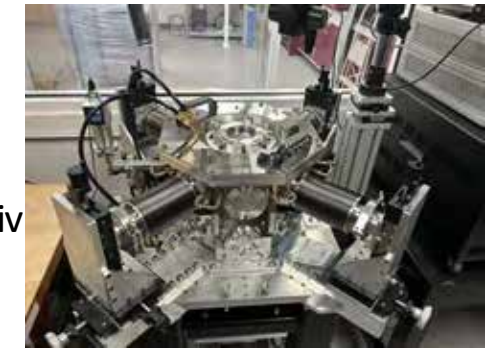
Electrical Characterization

- DC I-V/C-V
- Hall effect (to 600 ºC)
- Hg Probe
- High temperature probing (to 1000 ºC)
- Automated probing
- High voltage (20kV)
- 4-12 GHz load pull
- 40 GHz network analyzer (w/ Ren group)



Device Processing

- Aligned wafer bonding with in-situ radical activ
- Excimer laser machining/lift-off



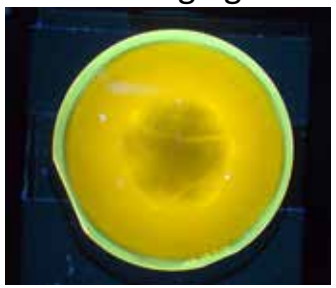
Optical Characterization

- Raman spectroscopy
- Hyperspectral Photoluminescence imaging
- Time resolved PL spectroscopy

TCAD

- COMSOL Semiconductor
- Synopsis Sentaurus
- FLOOXS (w/ Law group)

PL Imaging



3 PhD Students (started Fall 2024)

Abdulfatai Faro

Zachary Hargus

Katharina Loske

+ 1-2 PhD Students in Fall 2025

MS Students:

Sanjana Bandalamudi
Neha Bollineni
Maria Camila Fajardo
Sagarkumar Kariya
Anshika Kushwaha
Yu Xi
Shubham Ravan

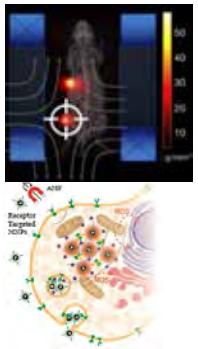
BS Students:

Robert Casanova
Thomas Graves
Jacob Saperstein
Matthew Richardson
Aditya Narayanan
Caden Crow

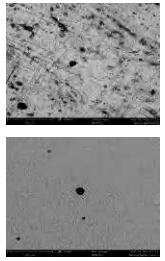
~1800 sq ft facility
Cleanroom space
Dark space
Test space

Biomolecular Engineering, Cellular Engineering, and Synthetic Biology

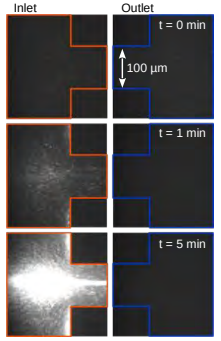
We perform fundamental research and develop technologies for improving human health. Ongoing research includes studies of nanoparticle-biological interactions, cellular mechanics, engineering of proteases and CRISPR-Cas systems, development of new types of sensors and new materials for biomedical applications.



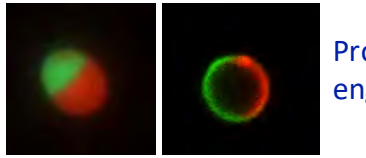
Targeted nanoscale cancer therapy



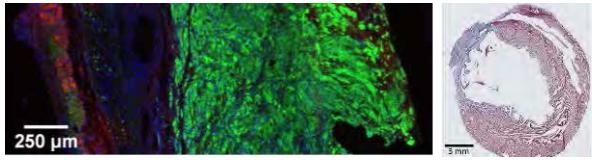
SiC coatings, dental ceramics



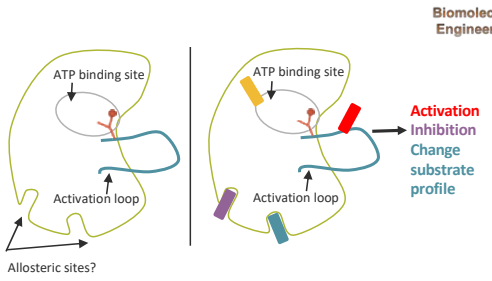
Polyelectrolyte trap for DNA separations



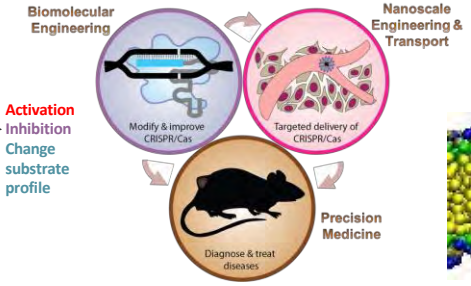
Protein vesicle engineering



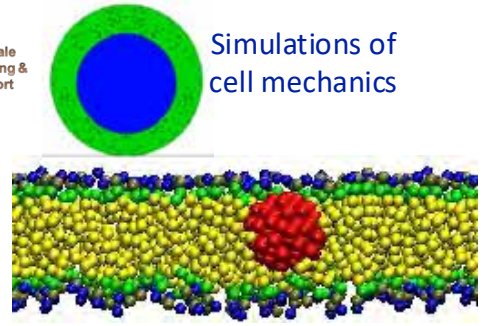
Cell – biomaterial interactions



Enzyme engineering



CRISPR Cas engineering



Simulations of cell mechanics

Modeling of lipid membranes

Denard

Dickinson

Jain

Jang

Ren

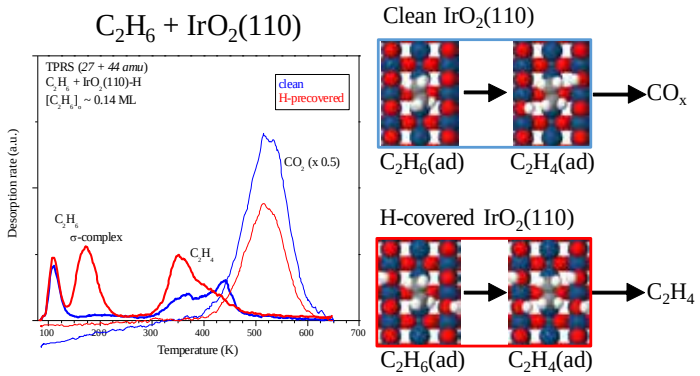
Rinaldi-Ramos

Sampath

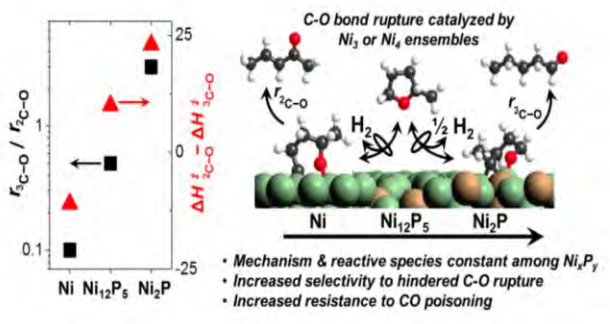
Stoppel

Energy, Environment, and Sustainability

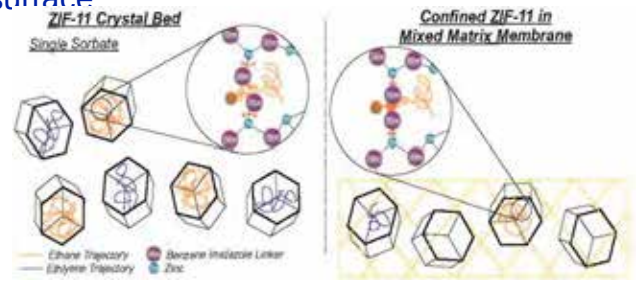
We develop fundamental knowledge and technologies to meet an increased demand for energy with minimal environmental impact. Examples of current focus areas include development of active and selective catalysts, advancing new strategies in membrane-based separations, and introduction of next-generation semiconductors for energy research.



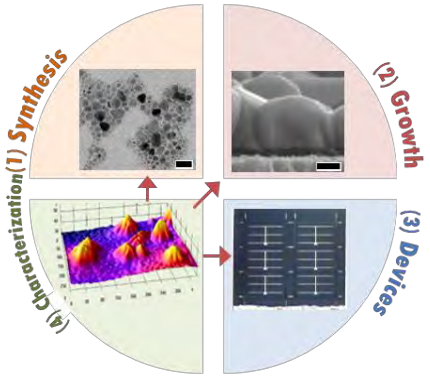
Ethane dehydrogenation on the IrO_2(110) surface



C-O bond rupture over nickel pohosphide catalysts



Changing gas transport in MOF crystals by confining these crystals in polymers to form hybrid membranes



Holistic energy materials research

Choi

Hagelin-Weaver

Jiang

Moon

Sampath

Vasenkov

Weaver

Ziegler

Heterogenous Catalysis and Surface Science

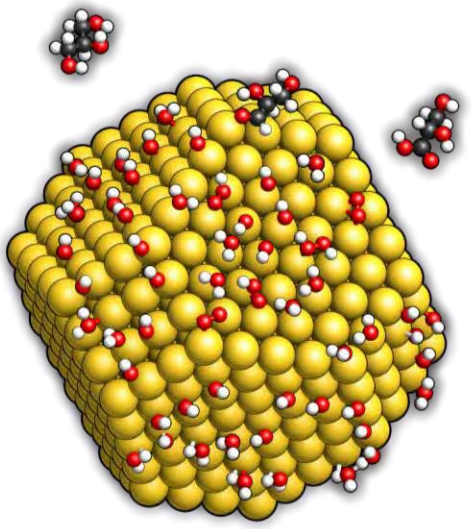
Synthesis and Characterization, Kinetic Studies, and Density Functional Theory

Heterogeneous Catalysts are key to mitigating climate change, forging a renewable energy and chemicals industry, and providing a high quality of life throughout the globe without sacrificing our environment. At UF, we study catalysis through a combination of synthesis, characterization, and kinetic studies (Hagelin-Weaver and Hibbitts), surface science studies of interfacial chemistry (Weaver), and density functional theory calculations to give insights into atomistic behavior (Hibbitts).

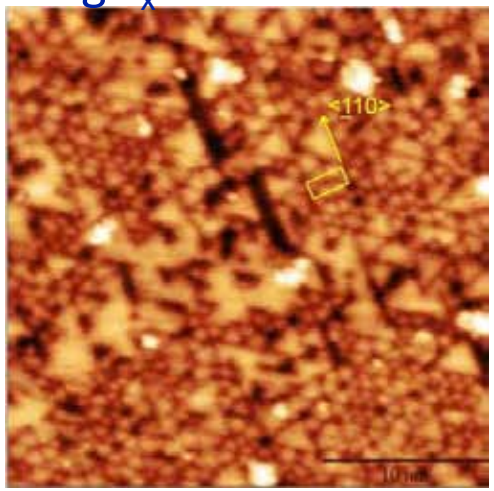
Hagelin-Weaver

Weaver

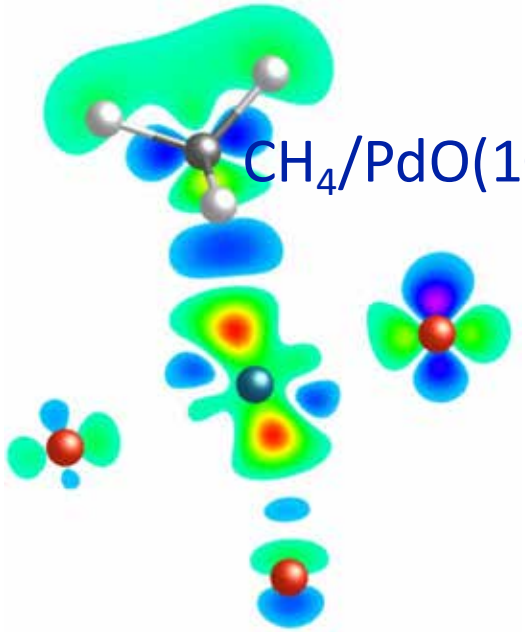
Ziegler

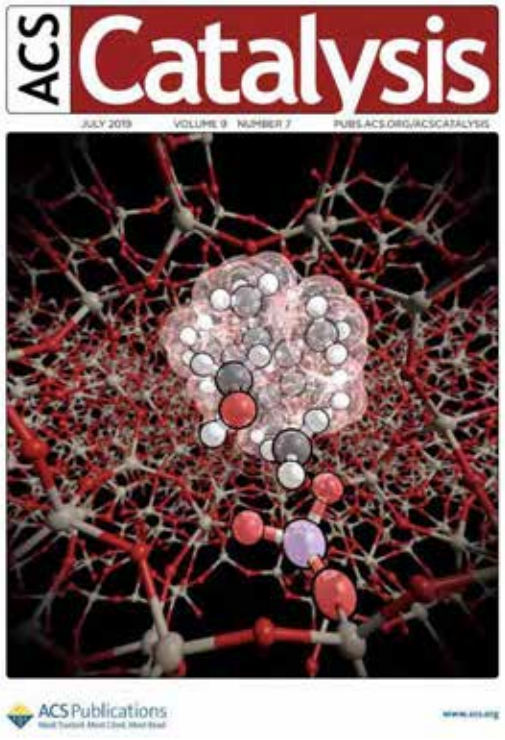


Pd-AgO_x



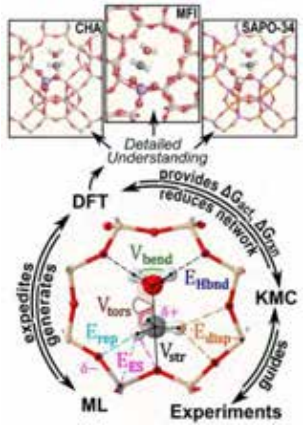
CH_4/PdO(101)



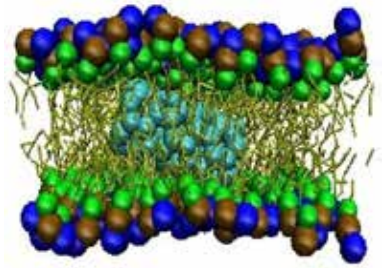


Modeling, Theory, and Simulation

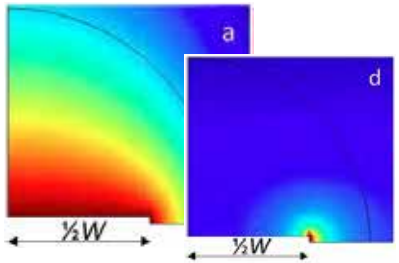
We develop mathematical theories, AI-based algorithms, and computational simulations across the atomistic, particle, and continuum levels to model chemical engineering processes, with the aims of gaining fundamental scientific knowledge and devising next-generation applications in in-space manufacturing, renewable energy, drug delivery, geological formation, electrochemical impedance spectroscopy, and membrane-based separation.



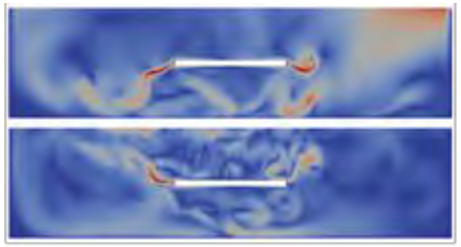
Machine-learning and AI-assisted development of heterogeneous catalysts



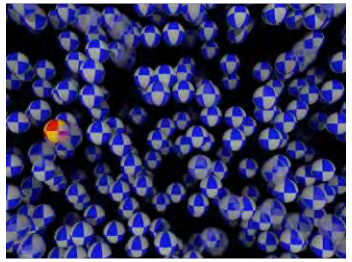
Carbon nanotube embedded in a lipid bilayer



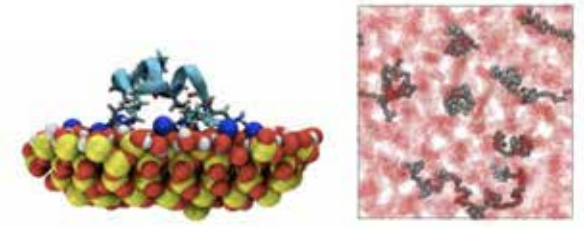
False-color distributions for interdigitated electrodes



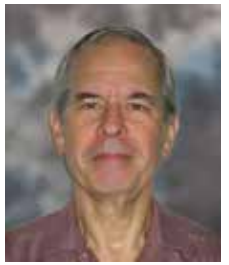
Flow fields around a rotating disk, used for measuring geochemical reaction rates



Particle dynamics theory and simulation of heterogeneous soft matter



Molecular modelling and machine learning of soft materials



Ladd

Narayanan

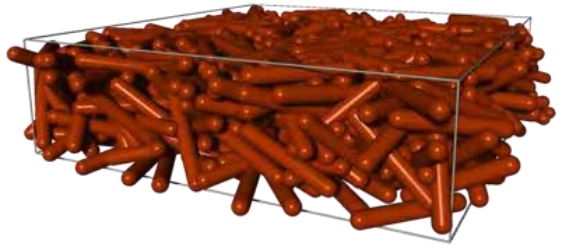
Orazem

Restrepo-Flórez

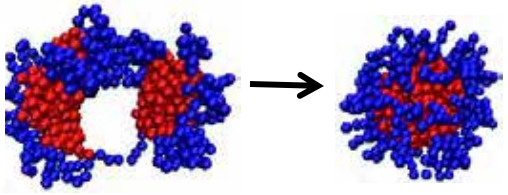
Sampath

Transport, Molecular Thermodynamics, and Electrochemical Engineering

We generate insights on the dynamics of complex systems through experiments, theoretical analysis, and simulation. Aims of the research include enabling the efficient control and processing of these systems which are used in a wide range of industries, products, and emerging technologies.



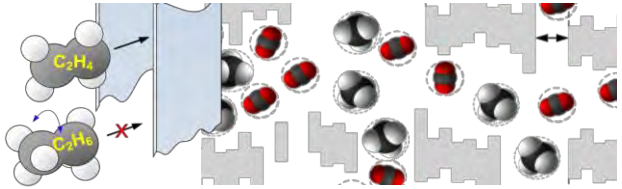
Suspension dynamics and rheology



Dynamics of self-assembly

Geochemical instabilities

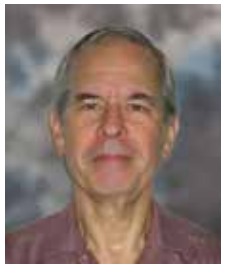
Instabilities in magma flows



Transport in nanochannels

Butler

Choi



Ladd

Moon

Narayanan

Restrepo-Flórez

Rinaldi-Ramos

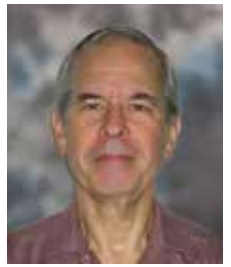
Sampath

Vasenkov

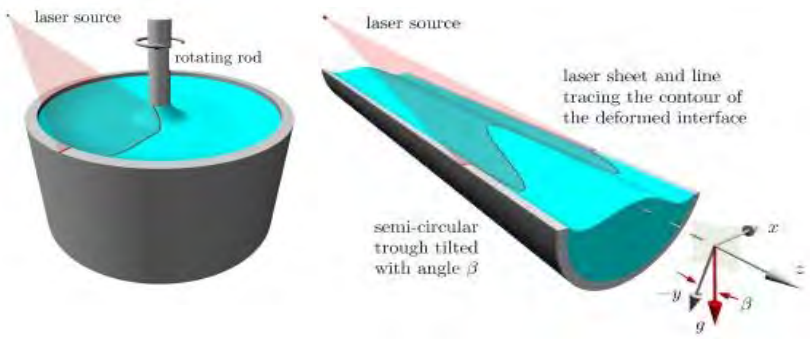
Complex and Multiphase Flow Dynamics

Insights on the dynamics of complex and multiphase fluids through experiments, theoretical analysis, and simulation are generated. A wide range of industries, products, and emerging technologies are being favorably impacted.

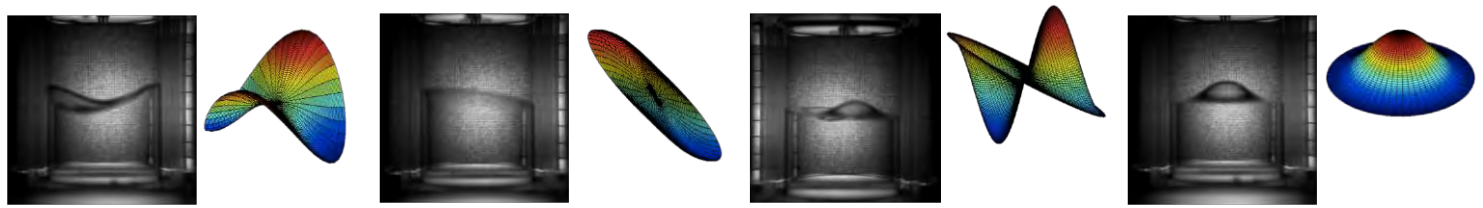

Butler


Ladd

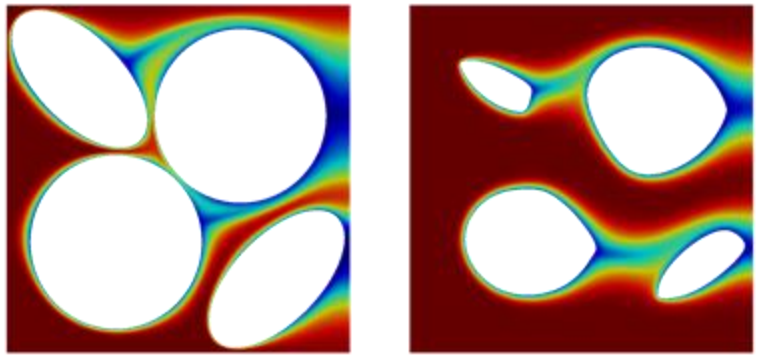

Narayanan



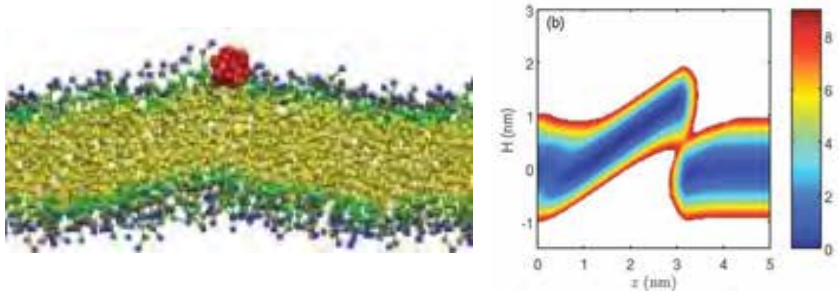
Analysis of the rheology and fluid mechanics of viscous suspensions.



Pattern formation and nonlinear dynamics in interfacial processes.



Concentration field in an evolving pore volume. Increasing concentration is shown from blue to red. Fluid flow is from left to right. The initial pore space (left) is increased by the flow of reactive ions (right)



Molecular and multi-scale modeling of soft matter.

How do our UF Chemical Engineering PhD students excel during their studies?

Fee Waivers and more information

Research from the department is published in a variety of academic journals, highlighting the efforts of the research teams!

nature reviews methods primers

Electrochemical impedance spectroscopy

Shangshang Wang, Jianbo Zhang, Oumaïma Gharbi, Vincent Vivier, Ming Gao & Mark E. Orazem

Science Advances

Perfusion, cryopreservation, and nanowarming of whole hearts using colloidally stable magnetic cryopreservation agent solutions

Andreina Chiu-Lam[1], Edward Staples[2], Carl J. Pepine[3], Carlos Rinaldi[1,4]*

nature communications

Enhancement of trans-cleavage activity of Cas12a with engineered crRNA enables amplified nucleic acid detection

Long T. Nguyen, Brianna M. Smith & Piyush K. Jain

Nature Communications **11**, Article number: 4906 (2020) | Cite this article

Tuning the Structural Integrity and Mechanical Properties of Globular Protein Vesicles by Blending Crosslinkable and NonCrosslinkable Building Blocks

Ruwen Tan,‡ Jooyong Shin,‡ Jiwoong Heo, Blair D. Cole, Jinkee Hong, and Yeongseon Jang*

Biomacromolecules

ACS NANO

Angewandte Chemie

Eine Zeitschrift der Gesellschaft Deutscher Chemiker

Rigid Arrangements of Ionic Charge in Zeolite Frameworks Conferred by Specific Aluminum Distributions Preferentially Stabilize Alkanol Dehydration Transition States

Alexander J. Hoffman, Jason S. Bates, John R. Di Iorio, Steven V. Nystrom, Claire T. Nimlos, Rajamani Gounder, and David Hibbitts**

Thermal Decomposition Synthesis of Iron Oxide Nanoparticles with Diminished Magnetic Dead Layer by Controlled Addition of Oxygen

Mythreyi Unni,† Amanda M. Uhl,‡ Shehaab Savliwala,† Benjamin H. Savitzky,‖ Rohan Dhavalikar,† Nicolas Garraud,§ David P Arnold,§ Lena F. Kourkoutis,#,¶ Jennifer S. Andrew,‡ and Carlos Rinaldi*,†,⊥

Science

Low-temperature activation of methane on the $IrO_2(110)$ surface

Zhu Liang,[1] Tao Li,[1] Minkyu Kim,[2] Aravind Asthagiri,[2] Jason F. Weaver[1]*

Electro-hydrodynamic concentration of genomic length DNA†

Mert Arca, Anthony J. C. Ladd* and Jason E. Butler*

Soft Matter

Successful support during your PhD can lead to many outcomes

Departmental Awards for Excellence in Research, Teaching, Leadership and Service

2023-2024 Excellence in ChE PhD Research
- *Jian-Sian Li*
- *Hansel Montalvo-Castro*
- *Santosh Ranaware*
- *Victor Riviera-Llabres*

2024-2025 Excellence in ChE PhD Research
- *Hayden Good*
- *Chester Chiang*
- *Mohammed Al Otmi*
- *Jooyong Shin*

2024 Ray W. Fahien Graduate Teaching Award in Chemical Engineering
- Shreyanshu Agrawal
- Conor Pope

2023-2024 Excellence in ChE Leadership and Service
- *Hayden Good*
- *Samantha Martinusen*

2024-2025 Excellence in ChE Leadership and Service
- *Elizabeth Aikman*
- *Nikki Kragt*

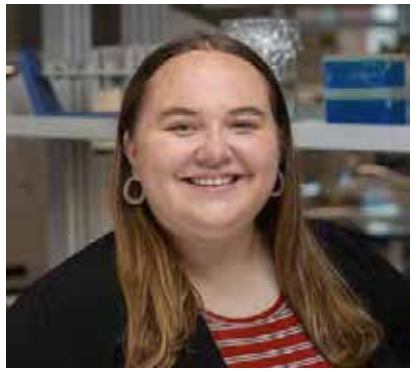
2024-2025 PhD Peer Mentoring Award
- *Marisa Pacheco*
- *Sree Laxmi*
- *Yinhao Jia*
- *Nikki Kragt*
- *Ryan Johnson*

Successful support during your PhD can lead to many outcomes

Fellowships to support your research

Victor Rivera-Llabres
NSF Graduate Research Program (NSF GRFP) Fellowship Recipient
Rinaldi-Ramos Lab

Elizabeth Aikman
NSF GRFP Fellowship Recipient
Stoppel Lab



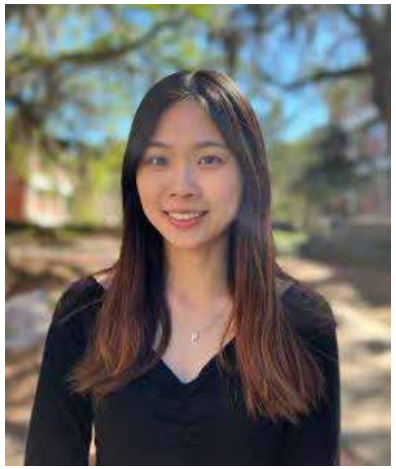
Marisa Pacheco
REU 2019
NSF GRFP Fellowship Recipient
SEC Emerging Scholar
Stoppel Lab

Andrew Simonson
REU 2021
NSF GRFP Fellowship Recipient
Hibbitts Research Group

Diana Aponte Claudio
REU 2021
NSF GRFP Fellowship Recipient
Sampath Research Group

Successful support during your PhD can lead to many outcomes

Strong Publications and Publication Records



Hsiao-Hsuan (Renee) Wan

3rd Year Student

Ren Lab

RESEARCH ARTICLE | MARCH 08 2023

NiO/β-$(Al_xGa_{1-x})_2O_3$/Ga_2O_3 heterojunction lateral rectifiers with reverse breakdown voltage >7 kV

Special Collection: Gallium Oxide Materials and Devices

Hsiao-Hsuan Wan; Jian-Sian Li; Chao-Ching Chiang; Xinyi Xia; Fan Ren; Hannah N. Masten; James Spencer Lundh; Joseph A. Spencer; Fikadu Alema; Andrei Osinsky; Alan G. Jacobs; Karl Hobart; Marko J. Tadjer; S. J. Pearton

Journal of Vacuum Science & Technology A

RESEARCH ARTICLE | JULY 09 2024

Dry and wet etching of single-crystal AlN

Special Collection: Commemorating the Career of Gerry Lucovsky

Hsiao-Hsuan Wan; Chao-Ching Chiang; Jian-Sian Li; Nahid Sultan Al-Mamun; Aman Haque; Fan Ren; Stephen J. Pearton

Journal of Vacuum Science & Technology B

RESEARCH ARTICLE | FEBRUARY 13 2024

High sensitivity saliva-based biosensor in detection of breast cancer biomarkers: HER2 and CA15-3

Hsiao-Hsuan Wan; Haochen Zhu; Chao-Ching Chiang; Jian-Sian Li; Fan Ren; Cheng-Tse Tsai; Yu-Te Liao; Dan Neal; Josephine F. Esquivel-Upshaw; Stephen J. Pearton

The Electrochemical Society
Advancing solid state & electrochemical science & technology

ACCEPTED MANUSCRIPT

Functionalization Process for Commercial Viability: Oral Leukoplakia Detection Using IL-6 Biomarker

Hsiao-Hsuan Wan[1], Haochen Zhu[2], Chao-Ching Chiang[1], Xinyi Xia[1], Jian-Sian Li[1], Fan Ren[3], Cheng-Tse Tsai[4], Yu-Te Liao[5], Tai-Cheng Chou[6], Dan Neal[2], Joseph Katz[2] and Josephine Esquivel-Upshaw[7] Hide full author list

Accepted Manuscript online 13 August 2024 • © 2024 The Electrochemical Society ("ECS"). Published on behalf of ECS

Point-of-Care Detection of HER2 and CA 15-3 in Breast Cancer Patients: Dual-Channel Biosensor Implementation

Hsiao-Hsuan Wan[6,1], Haochen Zhu[1], Chao-Ching Chiang[6,1], Xinyi Xia[1], Jian-Sian Li[6,1], Fan Ren[6,7,1], Cheng-Tse Tsai[2], Yu-Te Liao[2], Tai-Cheng Chou[3], Dan Neal[4] Show full author list

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ECS Journal of Solid State Science and Technology, Volume 13, Number 5

IOPscience

OPEN ACCESS ECS Journal of Solid State Science and Technology

Operation of NiO/β-$(Al_{0.21}Ga_{0.79})_2O_3$/$Ga_2O_3$ Heterojunction Lateral Rectifiers at up to 225 °C

Hsiao-Hsuan Wan[7,1], Jian-Sian Li[1], Chao-Ching Chiang[7,1], Xinyi Xia[1], Fan Ren[8,1], Hannah N. Masten[2], James Spencer Lundh[2], Joseph A. Spencer[3,4], Fikadu Alema[5], Andrei Osinsky[5], Alan G. Jacobs[3], Karl Hobart[3], Marko J. Tadjer[3] and S. J. Pearton[8,6] Hide full author list

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Sensitive Detection of Oral Leukoplakia: Analyzing P90 Biomarkers in Saliva and Tissue

biosensors

by Hsiao-Hsuan Wan [1], Haochen Zhu [1], Chao-Ching Chiang [1], Jian-Sian Li [1], Fan Ren [1], Cheng-Tse Tsai [2], Yu-Te Liao [2], Dan Neal [3], Joseph Katz [4] and Josephine F. Esquivel-Upshaw [5,*]

Successful support during your PhD can lead to many outcomes

Igin Benny Ignatius
2024 PhD Graduate
Narayanan Research Group

Chateaubriand
Fellowship Program

Science, Technology, Engineering, Math & Health

2022 Chateaubriand Fellow

- *Awarded by the French Embassy*
- *University of Paris Saclay visiting scholar*
  - *March 2022 - July 2022*

2023 UF ChE Ray W. Fahien Graduate Teaching Excellence Awardee

Successful support during your PhD can lead to many outcomes

Cynthia Ezeh
PhD Candidate
Orazem Research Group

2023 WIC Travel Award Winner

2023 UF International Center Alec Courtelis Awardee

2023-2024 UF ChE Peer Mentor Awardee

Successful support during your PhD can lead to many outcomes

Marisa O. Pacheco
PhD Candidate
Stoppel Research Group

2024 WCC Merck Research Award

2022 NSF Graduate Research Fellow

2022 WIC Travel Award Winner

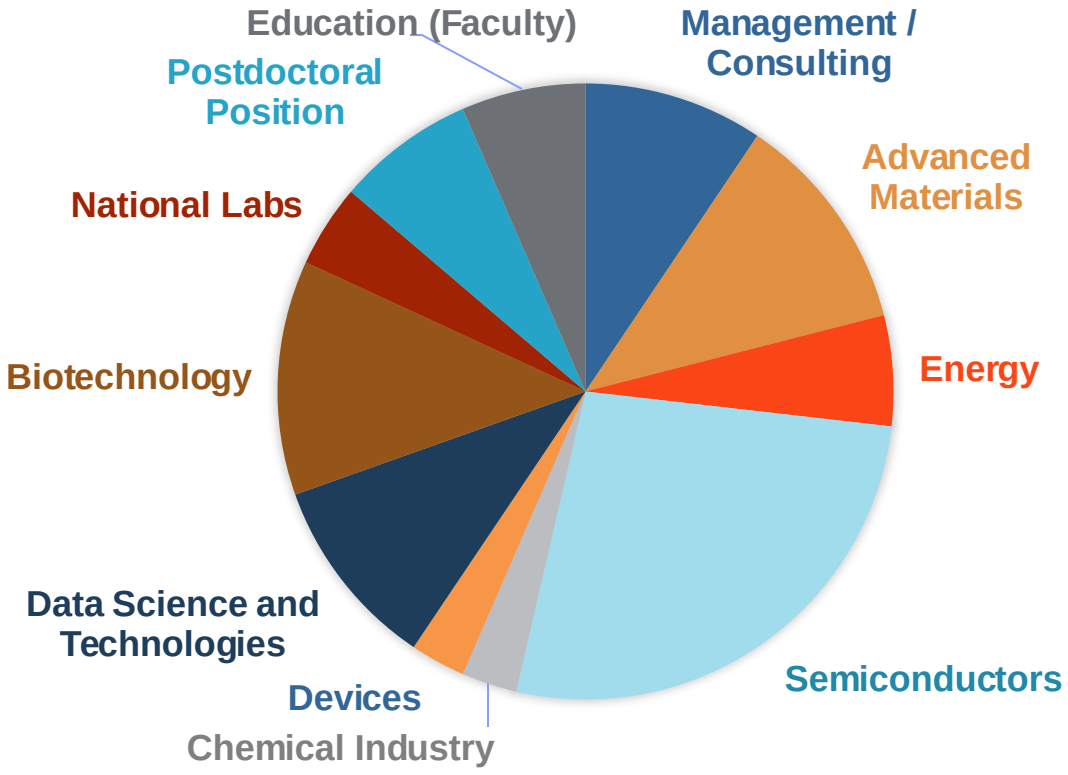
2022-2023 SEC Emerging Scholar

21-22 UF ChE Research Excellence Awardee

2022-2023 and 2023-2024 UF ChE Peer Mentor Awardee

Based on these varied successes, UF ChE PhD Graduates are Employed Across the Globe

UF CHE PHD GRADUATES (2014-2024)- CURRENT JOB SECTORS



Question Time!

Fee Waivers and more information

Common Questions and their Answers

Common questions and their answers

Do I have to TA or could I be put on a Teaching Assistantship?

In the ChE department, we do not have Teaching Assistantships for PhD students. In general, PhD students remain on Graduate Research Assistantships. However, you do spend 1 semester in a role that allows you to participate in undergraduate or graduate course execution. All PhD students enroll in one (1) 4-credit class, commonly taken in the 3rd year, called Supervised Teaching. When taking this class, you assist a faculty member in the execution of their course, engaging in activities that help you grow as an educator and mentor.

Do I have to pay the difference between in-state and out-of-state tuition costs?

No. Ultimately your faculty advisor will pay your tuition at whatever rate is appropriate for you. These cost differences are never charged to the PhD student.

If I don't have an advisor in my first semester, how am I paid and who covers my tuition?

For most PhD students: During your first semester, you are on a graduate assistantship that is paid for by the ChE department. Once you match to your advisor, your advisor is responsible for your costs (stipend, tuition, insurance). This starts January 1st each year.

PhD students are never responsible for paying for their own tuition, stipend, or insurance. Your PhD advisor signs a contract when they accept you into their lab agreeing to cover these costs for you. Finances are something discussed between the advisor and the department chair. PhD students should never worry about being paid when they are making satisfactory progress.

Common questions and their answers

Does UF have a paid family leave policy for PhD students?

Yes. PhD students are eligible for 8 weeks of paid family leave. More information can be found here.

Are there official UF vacation policies for PhD students?

Yes. PhD students are given 5 paid days off during each semester in addition to other designated HR holidays (different from semester breaks like spring break). More information can be found here. However, many research groups have additional policies and flexibility for time off to visit family. Feel free to ask each faculty member about their policy and how they implement it.

What do the fees cover?

In addition to supporting things like University wide health and wellness, your fees give you access to:

- Access to the UF Recreational Facilities, such as intramural sports and southwest rec
- Access to the Gainesville RTS bus system
- Entry into UF Museums
  - Harn Museum of Art
  - Florida Museum of Natural History
- Reduced or free ticket prices for UF Events
  - Phillips Center for Performing Arts
  - UF Sporting Events
- Some services via UF Student Health care: https://shcc.ufl.edu/

Common questions and their answers

What is satisfactory progress?

As a PhD student, you are 50% an employee and 50% a student. Thus, you must maintain satisfactory progress and good academic standing to ensure you remain in the PhD program.

Academic Satisfactory Progress

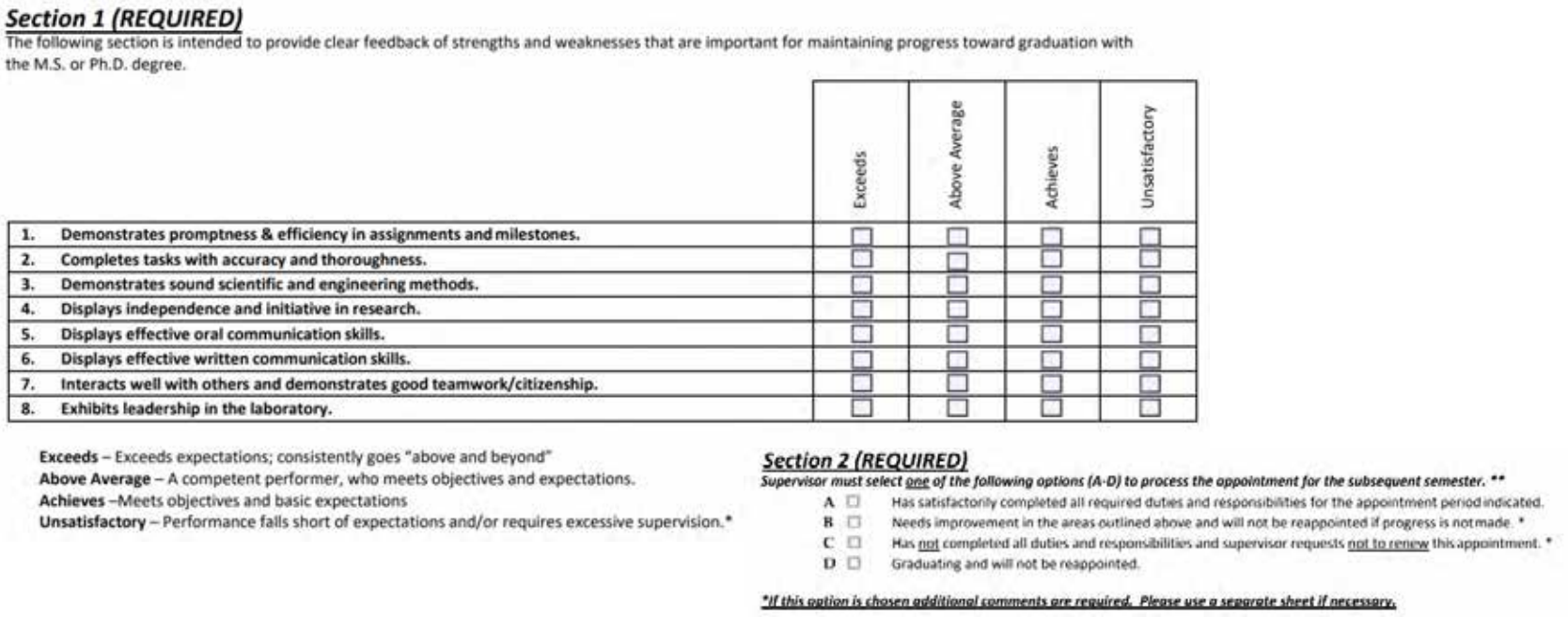
Graduate students at UF must maintain a 3.0 GPA to remain in good academic standing. Other general requirements for graduate students are outlined in the UF Graduate School Handbook.

More specific details about requirements for academic progress can be found in the UF Chemical Engineering Graduate Student Handbook.

Employee Satisfactory Progress

Employment contracts are re-instated prior to each semester (Fall, Spring, and Summer). They come with a form from HR that allows the supervisor (usually your PhD advisor, except for the 1st semester) to comment on your progress.

PhD students are encouraged to use each of these reappointments to discuss their progress and the supervisor's expectations for the employee over the next period and document this in sections 1 and 2 below.



Section 1 (REQUIRED)

The following section is intended to provide clear feedback of strengths and weaknesses that are important for maintaining progress toward graduation with the M.S. or Ph.D. degree.

	Exceeds	Above Average	Achieves	Unsatisfactory
1. Demonstrates promptness & efficiency in assignments and milestones.	☐	☐	☐	☐
2. Completes tasks with accuracy and thoroughness.	☐	☐	☐	☐
3. Demonstrates sound scientific and engineering methods.	☐	☐	☐	☐
4. Displays independence and initiative in research.	☐	☐	☐	☐
5. Displays effective oral communication skills.	☐	☐	☐	☐
6. Displays effective written communication skills.	☐	☐	☐	☐
7. Interacts well with others and demonstrates good teamwork/citizenship.	☐	☐	☐	☐
8. Exhibits leadership in the laboratory.	☐	☐	☐	☐

Exceeds – Exceeds expectations; consistently goes "above and beyond"
Above Average – A competent performer, who meets objectives and expectations.
Achieves –Meets objectives and basic expectations
Unsatisfactory – Performance falls short of expectations and/or requires excessive supervision.*

Section 2 (REQUIRED)

Supervisor must select one of the following options (A-D) to process the appointment for the subsequent semester. *

A ☐ Has satisfactorily completed all required duties and responsibilities for the appointment period indicated.
B ☐ Needs improvement in the areas outlined above and will not be reappointed if progress is not made. *
C ☐ Has not completed all duties and responsibilities and supervisor requests not to renew this appointment. *
D ☐ Graduating and will not be reappointed.

**If this option is chosen additional comments are required. Please use a separate sheet if necessary.*

Common questions and their answers

How can I find information on a faculty member?

Faculty member information is provided here:
https://www.che.ufl.edu/people/faculty/

You can also do this for all the current PhD Students here:
https://www.che.ufl.edu/people/ph-d-students/

You can click on a faculty member using the plus button as I did for Dr. Denard below:

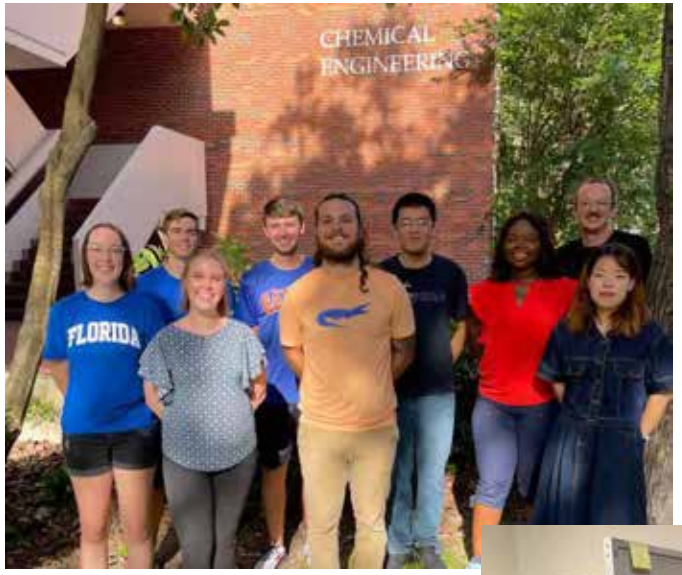
Then you can click on “View Profile” in the bottom right corner

Additional Information on Student Organizations and Support

Graduate Association of Chemical Engineers (GRACE)

Events foster relationships between the student body and department. It hosts several events throughout the school year: trips to the local springs, research socials, tailgates, and celebrations!

Fall 2022 GRACE Symposium



PhD Program Opportunities organized by GRACE

First Friday Food Fling

- Monthly department sponsored Friday afternoon social events
- Food
- Music
- Lawn (outdoor) games

Annual GRACE Symposium

- Research day with oral and poster presentations by graduate students
- Opportunities to win departmental travel awards
- Alumni keynote speakers

UF ChE Professional Development Committee

Events and efforts to help re-build community following the COVID19 pandemic interruptions

- Diwali Giving
- Relaxing Yoga for ChE Graduate Students
- End of Semester “Ice Cream and Therapy Dogs”

Women's Advancement and Mentoring

We are a group of faculty and students, located in the Chemical Engineering department at the University of Florida. Our mission is to empower, advance, and advocate for women in chemical engineering!

1st Year PhD Student Peer Mentoring

- Groups of 4-6 1st year PhD students are paired with a mentor (year 3+) to help them acclimate to UF ChE
- Social activities
- Study groups
- Method to dispel "hidden curriculum" in the PhD program

On-going efforts are aimed at:

- Tracking student retention
- Formal and informal feedback from participants, faculty, and mentors
- Improving long-term student success

2022-2023 Cohort and Mentors

2023-2024 cohort hanging out at the campus bowling alley

End of Semester Popsicles

End of Fall Semester Celebration

The Florida Museum

Curtis M. Phillips Center for Performing Arts

Lake Wauburg

Intramural and Club Sports

Gymnastics

Golf

Rock Climbing

Kick Boxing

Surf

Soccer

Lacrosse

Swamp Head Brewing Company
High Springs Brewing Company

First Magnitude Brewing Company
Cypress and Grove Brewing Company

4th Ave Food Park

Crescent Beach

Neptune Beach

Amelia Island

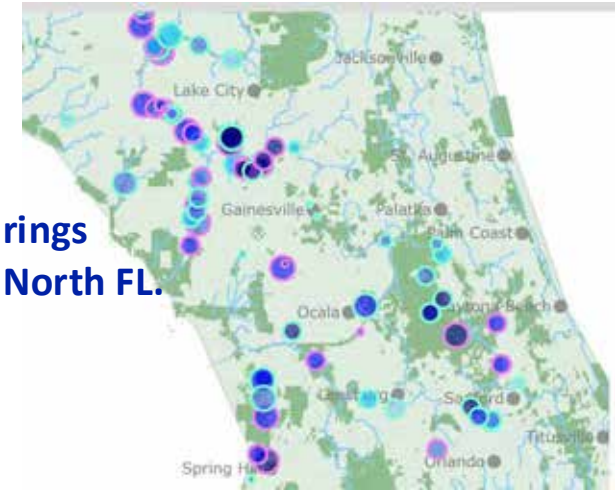
Daytona Beach

Ginnie Springs

Rainbow Springs State Park

Sweetwater Wetlands

Springs in North FL.



The Hatchetbury

Arcade Bar

Vivid Music Hall