The Department of Chemical Engineering at the University of Florida is excited to introduce you all to what we hope is a life changing experience, full of learning, amazing intellectual pursuits, new colleagues, and fun!

To request more information or a fee waiver code: https://ufl.qualtrics.com/jfe/form/SV_8euYYHuEPU5MHwq
PhD Program Informational Session

Questions?
Email: grad@che.ufl.edu

To request more information or a fee waiver code:
https://ufl.qualtrics.com/jfe/form/SV_8euYYHuEPU5MHwq

The Department of Chemical Engineering at the University of Florida is excited to introduce you all to what we hope is a life changing experience, full of learning, amazing intellectual pursuits, new colleagues, and fun!
Where Nature & Culture Meet.

Hiking Trails and Wildlife

Local breweries

https://www.visitgainesville.com/
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
UF Chemical Engineering Primary Faculty – 30 and Growing!
We have excellent staff support to assist in our smooth and efficient function!
Supporting you along your PhD Journey

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

- Competitive Graduate Assistant Stipend
  - $32,000 per year (your salary as a graduate employee)
- Full Tuition
- Health Insurance

Opportunities to win awards during your time in the department and HWCOE that can provide 1-time or continued “bonuses”

- Financial awards to students through HWCOE competitive fellowships
- Departmental awards for receiving external fellowships
- Travel awards for conference attendance
- Departmental awards for research achievements
- Departmental awards for service, leadership, and outreach
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.

Our Program:

- 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
PhD Program Requirements

Highlights from the Handbook

- PhD students are 50% student (tuition covered) and 50% employee (graduate stipend)
- You remain fully enrolled for all 12 months of the year
- Summer stipends and tuition are paid similar to the spring and fall semesters
- 12 credits of core ChE graduate coursework are required along with regular registration and participation in Graduate Seminar during the time you are enrolled
  
  ECH 6285  Transport Phenomena (3 credits)
  ECH 6847  Advanced Mathematics for Chemical Engineering (3 credits)
  ECH 6272  Molecular Basis (Molecular Thermodynamics) (3 credits)
  ECH 6506  Chemical Engineering Kinetics OR ECH 6526 Reactor Design (3 credits for either)

- Students register for Graduate seminar every fall and spring
- UF ChE doesn’t offer TA appointments
  
  Students register for 4 credits of Supervised teaching at times to be determined by the Associate Chair for Graduate studies and your advisor (1 semester, usually 3rd year)

- Minimum of 12 additional credits of electives are required for graduation
  
  Minimum of 6 credits must come from Chemical Engineering
  
  6+ may be completed from a variety of graduate level classes across campus or from the ChE Department
Common Graduate Electives Offered in ChE on a 3–4-year rotating basis:

- Polymer Science & Engineering
- Complex Fluids
- Management of Unit Operations Lab
- Managing Safety in the Chemical Industry
- Molecular Understanding of Catalysis
- Nanoscale Transport
- Research Methods in Chemical Engineering
- Semiconductor Device Fabrication Principles for Chemical Engineers
- Electron Transport
- Material Self-Assembly Over All Length Scales
- Surface Science
- Chemical Process Data Science
- Fundamentals of Artificial Neural Networks
- Statistics and Design of Experiments for Chemical Engineers
- Pharmaceutical Engineering
- Genetic Engineering/ Synthetic Biology
- Mechanobiology for Engineers/ Quantitative Analysis of Cellular Phenomena

The only requirement is that you take the 4 core ChE courses within the first two years (part of our qualifying exam component). After that, you can take electives when it's convenient for your research plans and when courses that interest you are offered.
Graduate Electives Offered outside ChE Commonly Taken:

- EMA 6001 Properties of Materials - A Survey
- EMA 6105 Fundamentals and Applications of Surface Science
- EMA 6265 Mechanical Properties of Polymers
- EMA 6412 Synthesis and Characterization of Electronic Materials
- EMA 6507 Scanning Electron Microscopy and Microanalysis + EMA 6507L Scanning Electron Microscopy and Microanalysis Lab
- EMA 6510 Survey of Materials Analysis Techniques
- EMA 6516 X-Ray Methods for Materials Characterization + EMA 6516L X-Ray Methods Laboratory for Materials Characterization
- EGS 6101 Divergent Thinking
- EMA 6518 Transmission Electron Microscopy + EMA 6518L Transmission Electron Microscopy Laboratory
- EMA 6580 Science of Biomaterials
- BME 5703 Statistical Methods for Biomedical Engineering
- BME 5704 Advanced Computational Methods for Biomedical Engineering
- BME 6330 Cell and Tissue Engineering
- BME 6705 Mathematical Modeling of Biological and Physiological Systems
- EGM 5584 Biomechanics of Soft Tissue
- EGM 6855 Bio-Fluid Mechanics and Bio-Heat Transfer
- PHC 6002 Epidemiology of Infectious Diseases
- PHC 6003 Epidemiology of Chronic Diseases and Disability
- RSD 6401 Skeletal Muscle in Aging and Disease, and Implications for Rehabilitation
- STA 6166 Statistical Methods in Research I
- STA 6167 Statistical Methods in Research II
- STA 6208 Basic Design and Analysis of Experiments
- GMS 6841 Design and Analysis of Translational Research in Biomedical Sciences
- GMS 6861 Applied Biostatistics I
- PHC 6050C Biostatistical Methods I
- BMS 6816 - Cancer Biology in Clinical Oncology
- EEE 5354L Semiconductor Device Fabrication Laboratory
- EEE 5776 Applied Machine Learning
- EGN 5442 Programming for Applied Data Science
- EGN 6446 Mathematical Foundations for Applied Data Science
- EGN 6640 Entrepreneurship for Engineers
- EGN 6642 Engineering Innovation
- EGN 6937 Engineering Fellowship Preparation
- EGS 6039 Engineering Leadership
- EGS 6050 Foundations in Engineering Education
- EGS 6056 Learning and Teaching in Engineering
- EGS 6626 Fundamentals of Engineering Project Management
- EGS 6628 Advanced Practices in Engineering Project Management
- EGS 6681 Advanced Engineering Leadership
- BME 6644 Pharmacokinetics
- BME 6322 Dynamics of Cellular Processes
- CHM 5275 The Organic Chemistry of Polymers

Note that some courses on this list can count as ChE core courses. Confirm all registration with Shirley Kelly to ensure you are covering the requirements.

The only requirement is that you take the 4 core ChE courses within the first two years (part of our qualifying exam component). After that, you can take electives when it's convenient for your research plans and when courses that interest you are offered.
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
PhD Program Opportunities

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

A peer mentoring group hanging out at the campus bowling alley
PhD Program Opportunities

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
Assignment of PhD Advisor and Project Selection Process

PhD project matching and advisor selection occurs in the first semester (fall) of the graduate program.

Advisor selection is not a part of our PhD acceptance process.

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.
ADVANCED MATERIALS, DEVICES, AND NANOTECHNOLOGY
Won Tae Choi  Yeongseon Jang  Carlos Rinaldi-Ramos
Helena Hagelin-Weaver  Peng Jiang  Janani Sampath
Charles Hages  Joshua Moon  Whitney Stoppel
David Hibbitts  Mark Orazem  Kirk Ziegler
Piyush Jain  Fan Ren

HETEROGENEOUS CATALYSIS AND SURFACE SCIENCE
Helena Hagelin-Weaver  Jason Weaver
David Hibbitts  Kirk Ziegler

MODELING, THEORY, AND SIMULATION
Henry Chu  Anthony Ladd
David Hibbitts  Ranga Narayanan
Dmitry Kopelevich  Mark Orazem
Juan Restrepo-Flórez  Spyros Svoronos

BIO MOLECULAR ENGINEERING, CELLULAR ENGINEERING, AND SYNTHETIC BIOLOGY
Henry Chu  Yeongseon Jang  Janani Sampath
Carl Denard  Mark Orazem  Whitney Stoppel
Richard Dickinson  Fan Ren  Spyros Svoronos
Piyush Jain  Carlos Rinaldi-Ramos

TRANSPORT, MOLECULAR THERMODYNAMICS, AND ELECTROCHEMICAL ENGINEERING
Jason Butler  Anthony Ladd
Won Tae Choi  Joshua Moon
Henry Chu  Ranga Narayanan
Charles Hages  Mark Orazem
Dmitry Kopelevich  Juan Restrepo-Flórez

COMPLEX AND MULTIPHASE FLOW DYNAMICS
Jason Butler  Dmitry Kopelevich  Ranga Narayanan
Henry Chu  Anthony Ladd

ENERGY, ENVIRONMENT, AND SUSTAINABILITY
Won Tae Choi  David Hibbitts  Janani Sampath
Henry Chu  Peng Jiang  Sprygos Svoronos
Oscar Crisalle  Joshua Moon  Sergey Vasenkov
Helena Hagelin-Weaver  Mark Orazem  Jason Weaver
Charles Hages  Juan Restrepo-Flórez  Kirk Ziegler
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.
UF Department of Chemical Engineering — Research Spotlight:

Biomolecular Engineering, Cellular Engineering, and Synthetic Biology

Over $15M from NIH, NSF, and DOD to fund bio-related research in 2021–2022

Prof. Carlos Rinaldi-Ramos
We develop nanoparticles to track immunotherapies and to monitor disease progression in cancer and brain injuries.
- NIH R21 in 2022: $375k
- NIH R21 in 2022: $400k
- NIH R01 in 2022: $1.9M

Asst. Prof. Whitney Stoppel
We leverage insect diversity to create natural materials for healthcare applications through environmental and genetic regulation of proteins to guide polymer function.
- NIH R35 in 2022: $1.8M
- DoD CDMRP in 2021: $304k

Asst. Prof. Carl Denard
We reprogram enzymes to catalyze post-translational modifications to improve biomedicine, biotechnology, and gain fundamental insights.
- NIH R21 in 2022: $405k
- NIH R35 in 2022: $1.8M

Asst. Prof. Yeongseon Jang
We create bioinspired materials that serve as synthetic platforms which mimic sophisticated living functions for biomedical applications.
- NSF CAREER in 2021: $409k
- NSF MCB in 2021: $651k

Asst. Prof. Piyush Jain
We discover and engineer gene editing tools (like CRISPR) to improve the detection and treatment of diseases.
- NIH R21 in 2021: $419k
- NIH R21 in 2022: $419k
- NIH R35 in 2022: $1.8M

Prof. Mark Orazem
We use models and impedance spectroscopy to study electrochemistry of neural stimulation electrodes used to treat common degenerative diseases.
- NIH U01 in 2022: $4.4M
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

**Marisa Pacheco**  
*REU 2019*  
*NSF Graduate Research Program (NSF GRFP) Fellowship Recipient*  
Stoppel Lab

**Elizabeth Aikman**  
*NSF Graduate Research Program (NSF GRFP) Fellowship Recipient*  
Stoppel Lab

**Andrew Simonson**  
*REU 2021*  
*NSF Graduate Research Program (NSF GRFP) Fellowship Recipient*  
1st Year PhD Student
Successful support during your PhD can lead to many outcomes

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

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<tr>
<th>2021-2022 Excellence in PhD Research</th>
<th>2021-2022 Excellence in Leadership and Service</th>
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<tbody>
<tr>
<td>• Alexander Hoffman</td>
<td>• Alexander Jess</td>
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<td>• Julie Jameson</td>
<td>• Aniruddha Kulkarni</td>
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<td>• Sitong Liu</td>
<td>• Ambar Velazquez</td>
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<td>• Long Nguyen</td>
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<td>• Marisa Pacheco</td>
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<td>• Xinyi Xia</td>
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<td>• Chen You</td>
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<th>2021-2022 Ray W. Fahien Graduate Teaching Award in Chemical Engineering</th>
<th>2022-2023 PhD Peer Mentoring Award</th>
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<td>• Hayden Good</td>
<td>• Marisa Pacheco</td>
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<td>• Igin Ignatius</td>
<td>• Jackson Powers</td>
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<td>• Hansel Montalvo</td>
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Successful support during your PhD can lead to many outcomes

Strong Publications and Publication Records

Long T. Nguyen
PhD Candidate
Jain Lab
Successful support during your PhD can lead to many outcomes

Strong Publications and Publication Records

**ECS Transactions**

**Ga⁺-Focused Ion Beam Damage in n-type Ga₂O₃ and Its Recovery after Annealing Treatment**

Xinyi Xia¹, Nahid Al-Mamun², Waryobta Daud³, Fan Ren¹, Aman Haque⁴ and Stephen J. Pearton¹

© 2022 ECS - The Electrochemical Society

*Citation: Xinyi Xia et al. 2022 ECS Trans. 109 3*

**Journal of Vacuum Science & Technology A**

**Ga⁺-focused ion beam damage in n-type Ga₂O₃**

Xinyi Xia¹, Nahid Al-Mamun², Daud Waryobta³, Fan Ren¹, Aman Haque⁴, and S. J. Pearton¹

*Published 2 September 2022 © 2022 The Electrochemical Society ("ECS"), Published on behalf of ECS by IOP Publishing Limited*

**ECS Journal of Solid State Science and Technology**

**Radiation Damage in the Ultra-Wide Bandgap Semiconductor Ga₂O₃**

Xinyi Xia¹, Jian-Sian Li¹, Rihfu Sharma², Fan Ren¹, Md Abu Jafar Rase³, Sergel Stepantoff⁴, Nahid Al-Mamun², Aman Haque⁴, Douglas E. Wolfe⁵, Sushrut Modak⁶, Leonid Chemyak⁷, Mark E. Lew⁸, Ani Khachatryan⁴ and S. J. Pearton¹

*Published 2 September 2022 © 2022 The Electrochemical Society ("ECS"), Published on behalf of ECS by IOP Publishing Limited*

**Journal of Physics D: Applied Physics**

**Thermal stability of band offsets of NiO/GaN**

Xinyi Xia¹, Jian-Sian Li¹, Chao-Ching Chiang¹, Timothy Jinsoo Yoo¹, Fan Ren¹, Honggyu Kim² and S. J. Pearton¹

*Published 14 July 2022 © 2022 IOP Publishing Ltd*

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**Xinyi Xia**
PhD Candidate
2nd Year Student
Ren Lab
Research from the department is published in a variety of academic journals, highlighting the efforts of the research teams!

**Electrochemical impedance spectroscopy**

Shanghao Wang, Jianbo Zhang, Gumaima Gharbi, Vincent Vivier, Ming Gao & Mark E. Grazem

**Alkane Activation and Oxidation on Late-Transition-Metal Oxides: Challenges and Opportunities**

Rachel Martin, Minkyu Kim, Aravind Asthagiri, and Jason F. Weaver

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

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

**Contrasting Arene, Alkene, Diene, and Formaldehyde Hydrogenation in H-ZSM-5, H-SSZ-13, and H-SAPO-34 Frameworks during MTO**

Mykela DeLuca, Christina Janes, and David Hibbitts
PhD Students from UF CHe are employed across the globe!
Chemical Engineering Buildings and Facilities

**Chemical Engineering Building**
- Houses most faculty offices and some research labs
- 3-story unit operations laboratory
- Conference rooms
- Copy room
- Classrooms
- Faculty and student mailboxes
- PhD student office spaces

**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
- Academic advising suite
- CHE Administration offices*
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
- Piyush Jain
- Carl Denard
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/
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 obtaining application fee waivers and detailed Application Preparation Information can be found on [our ChE PhD FAQs Page](#)
Application Requirements

Fall 2023 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/
Application Components

**Personal statement (~2 pages)**

- This is where you communicate your goals and motivation for pursuing a PhD degree.
- Share with us why UF would be a great place for you to achieve your goals.
- Explain to us your personal drive and motivations for your own career path and how getting a PhD will put you on a path toward your goals.
- Describe how you have overcome challenges or persevered (if applicable).
- Tell us about your previous research or industry experiences and the influence these have had on your decision to pursue a PhD.
- Comment on the types of research or topics that interest you (see our ChE Viewbook).
  - Identify faculty members at UF that meet these goals (if applicable).
- Comment on your leadership or outreach experiences and how they shaped you as a chemical engineer.
- Comment on your experiences in scientific communication.

ChE PhD FAQs Page
Opportunities for English Language Proficiency:

Online: https://global.fiu.edu/for-students/english-language-institute/
At UF: https://eli.ufl.edu/
Other Florida Schools:
https://www.fscj.edu/academics/english-language-programs/english-language-institute-(eli)
https://cies.fsu.edu/

Information on English Language Requirements for PhD Applications:
https://admissions.ufl.edu/apply/graduate/international

Remember, that while we require the TOEFL or something similar, we do NOT require any type of GRE.
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.
Biomolecular and Cellular Engineering for Human Health

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
- Cell – biomaterial interactions
- Protein vesicle engineering
- Simulations of cell mechanics
- Enzyme engineering
- CRISPR Cas engineering
- Modeling of lipid membranes
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.

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.
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

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

Holistic energy materials research
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).
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.
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
UF CAMPUS LIFE
The Florida Museum

Curtis M. Phillips Center for Performing Arts

Lake Wauburg
Intramural and Club Sports

Gymnastics

Rock Climbing

Surf

Golf

Kick Boxing

Soccer

Lacrosse

Surf