Oportunidades de Projetos



A [Rice University](http://www.rice.edu/), é uma universidade privada localizada em Houston, Texas, considerada uma das melhores do EUA. Possui forte atuação em todas as áreas do conhecimento e, através da parceria com a Agência USP de Inovação, apresenta possibilidades de orientação de alunos da graduação através da Bolsa Empreendedorismo nas áreas descritas abaixo.

Para contato com as áreas de interesse, exclusivamente por e-mail para Mayra Onuchic (mho1@rice.edu), Program Manager do [Brasil@Rice](http://brazil.rice.edu/) Office, com o assunto Bolsa Empreendedorismo, citando a área de interesse.

**1. Adrienne Simões Correa**

***Assistant Professor Biosciences***

Department of Biosciences

Number of students =1 or 2

Possible area of research:

Microbial and molecular ecology of coral reefs, mangroves and salt marsh ecosystems.

**2. Alida Metcalf**

 ***Professor of History***

Department of History

Number of students =1 or 2 (background in History, Architecture or Urban Studies)

The imagineRio project at Rice University is an illustrated diachronic atlas of the history of Rio de Janeiro developed by Professors Farés el-Dahdah and Alida Metcalf. The platform enhances a time-sensitive digital map of the city with historical visual documents, such as maps, plans, and views of the city. Students interested in working with historical maps, urban plans, and iconography of the city--in the form of photographs, paintings, drawings--may use imagineRio to further their own research. Topics of interest are: urban life; slavery; city planning; family life; environmental change; economic development, etc. Students who work with imagineRio will learn basic GIS skills in ArcMap Pro, as well as how to work with the image databases ArtStor. Students will learn how to georeference historical maps and how to geocode visual documents.

**3. Anatoly Kolomeisky**

***Professor, Chemistry, Chemical & Biomolecular Engineering, Associate Chair for Graduate Studies***

[Chemistry](https://search.rice.edu/people/department/chemistry)

Number of students = 1

Possible research areas:

* Understanding mechanism of collective behavior of motor proteins
* Dynamics of protein-DNA interactions
* Multi-particle non-equilibrium phenomena

**4. Andre Droxler**

***Professor, Earth Sciences***

Earth Sciences

Number of students = 1

Possible research areas:

Uniquely productive Microbial (reef) carbonate oil reservoirs have been discovered offshore Brazil in the past decade and, therefore, our research in Central Texas has triggered interests from oil and gas companies involved in the offshore Brazil exploration.

**5. Andrea Balestero**

***Assistant Professor Anthropology***

Department of Anthropology

Number of students =1 or 2

My work looks at the different ways water is understood by Latin American government officials, activists, and everyday citizens.  I am particularly interested in spaces where the law, economics and techno-science are so fused that they appear as one another. I am currently involved in a project that examines the politics of aquifers and the clashes between community, scientific, and legal understandings of underground water. I would be interested in hosting students interested in water, science and technology studies, and/or the politics of water.

**6. Daniel Domingues da Silva**

***Assistant Professor of History***

Department of History

Number of students =up to 2 students

Possible Area of Research:

Selected candidates will join the African and African Diaspora workshop of the Department of History to help develop a number of research projects on the history of Africa and the transatlantic slave trade. They will gain hands-on experience in history research by participating of nearly every step of a project in the field, including writing grant applications, collecting data from primary sources, analyzing research data, and reporting research results in the form of publications, presentations, posters, websites, etc.

**7. Erez Lieberman Aiden**

***Assistant Professor, Department of Genetics - Baylor College of Medicine***

***Adjunct Assistant Professor of Computer Science –Rice University***

Number of students = up to 3

Possible research areas:

How genome folds inside the nucleus of a cell. The students can explore computationally and experimentally the special structure of the genome and understand how genome structure is essential for gene expression and cell differentiation.

**8 Farès el-Dahdah**

***Professor of the Humanities and***

***Director of the Humanities Research Center***

Number of students = up to 2

Possible research areas:

Students from USP are invited to work on the "imagineRio Project,"  an online atlas that illustrates the social and urban evolution of Rio de Janeiro over the entire history of the city, as it existed and as it was often imagined [click [here](http://hrc.rice.edu/imagineRio/) for more info…]. Applicants should have experience working with geospatial technologies (e.g., ArcGIS) or 3D modeling software (e.g., CityEngine).

**9. Francisco M. Vargas**

***Assistant Professor, Chemical & Biomolecular Engineering***

[Chemical & Biomolecular Engineering](https://search.rice.edu/people/department/chemical%20%26amp%3B%20biomolecular%20engineering)

Number of students = up to 2

Possible research areas:

Asphaltenes constitute the heaviest fraction of the crude oil, which can deposit during oil production, damage oil reservoirs, and clog wellbores and surface facilities. This can cause excessive downtime and high cleaning costs of the affected areas.

There are several heavy oil reservoirs in Brazil with very high asphaltene contents. Understanding the behavior of asphaltenes in these heavy crude oils is necessary for the oil production as well as the process of the crude oil in the downstream refinery.

Our research work contributes to have a better understanding of the mechanisms by which asphaltenes precipitate and deposit and to develop better mitigation strategies and modeling tools to anticipate and prevent this problem.

 **10. JoséNelson Onuchic**

***Harry C. & Olga K. Wiess Professor of Physics, Co-Director: Center for Theoretical Biological Physics, Professor of Chemistry + BioSciences***

[Physics and Astronomy](https://search.rice.edu/people/department/physics%20and%20astronomy)

Number of students = up to 2

Possible research area:

Theoretical physics has an increasingly essential role to play in understanding the set of interwoven complex phenomena that constitute living systems. The Center for Theoretical Biological Physics (CTBP) has long had a critical role in creating this new reality.  CTBP vision is that we can combine our increasingly sophisticated understanding of biomolecule-based information processing in cells and tissues with recently developed concepts of self-organization by active materials to create a new paradigm of living systems as smart matter.

**11. Matteo Pasquali**

**A. J. Hartsook Professor, Professor, Chemistry and Materials Science & NanoEngineering, Department Chair, Chemistry**

Department of [Chemical & Biomolecular Engineering](https://search.rice.edu/people/department/chemical%20%26amp%3B%20biomolecular%20engineering)

Possible research areas:

- rheology and soft phases of carbon nanotubes
- fiber spinning and processing of carbon nanotubes
- liquid crystals of nanotubes
- doping and properties of carbon nanotube conductors

**12. Pedro Alvarez**

***George R. Brown Professor, Professor of Materials Science and NanoEngineering; Civil & Environmental Engineering***

Number of students = up to 2

Possible research areas:

* Nanotechnology-enabled water treatment
* Remediation of sites contaminated with hazardous materials

**13. Randy Hulet**

***Fayez Sarofim Professor of Physics***

[Physics and Astronomy](https://search.rice.edu/people/department/physics%20and%20astronomy)

Number of students = 1

Possible research areas:

We study atoms cooled to the ultra-low temperature regime of a few nano-Kelvin.  We have two main thrusts:  1) strongly correlated fermion physics and 2) matter wave solitons of attractively-interacting bosons.  In the first area, we emulate an electronic material using optical lattices to study high-temperature superconductors.  In the second area, we confine a Bose-Einstein condensate to 1 dimension to better understand the nonlinear dynamics of solitons.

**14. Rebecca Richards-Kortun**

***Malcolm Gillis University Professor, Prof of Bioengineering, Prof of Elec & Comp Engr, Special Adviser to the Provost, Director of Rice 360: Institute for Global Health Technology***

[Bioengineering](https://search.rice.edu/people/department/bioengineering)

Number of students = up to 2

Possible research area:

**Early cancer detection:**  To improve early detection and prevention of cancer, we are developing a new generation of high-performance, low-cost, optical imaging technologies.  These technologies enable in vivo imaging of tissue with subcellular resolution, allowing immediate diagnostic evaluation at the point of care.  We work with clinical collaborators to translate these technologies to clinical settings in the United States and elsewhere in the world (including Brazil) for early diagnosis of oral cancer, esophageal cancer, and cervical cancer.

 **Point-of-care diagnostics:**  We are developing molecular specific contrast agents, optical micro-fluidic chips, and rapid diagnostic tests to improve point-of-care detection of infectious diseases in low-resource settings.  Applications include tests for tuberculosis, malaria, HPV, sickle cell anemia, and sepsis, as well as tests to evaluate complete blood count, hemoglobin, and bilirubin levels.

**15. Scott Egan**

***Assistant Professor of Ecology & Evolutionary Biology***

Department of Biosciences

Number of students =1 or 2

Possible research areas:

The Egan lab is broadly interested in addressing important questions in ecology, evolution, and conservation biology. To address these questions, we use a multidisciplinary approach that integrates population genetics and genomics, natural history, behavioral observations, and manipulative field experiments. In addition, we collaborate with other scientists from across the science spectrum to address these questions in creative and new ways. (See our website for specific projects.) One major theme of the lab is studying the processes that promote or constrain the evolution of new biological species. Our work aims to: (1) understand the role of adaptation via natural selection in the speciation process, and (2) explore genomic architecture that mediates the evolution of new species. We also work on more applied genetic interdisciplinary research that harnesses genetic variation to address societal challenges, such as the rapid environmental detection of rare or invasive species. Egan lab website: <https://sites.google.com/site/scottpegan/>.