

Aerospace Engineering & Engineering Mechanics

Aerospace Engineering & Engineering Mechanics

Name:	Tan Bui
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Will accept these majors:	ASE
Website:	http://users.ices.utexas.edu/~tanbui/



Research areas and interests:

Parallel Computing, Numerical Analysis, Scientific Computing, Reduced- order modelling

Minimum or preferred skills you seek in a student:

Well-trained in matlab and mathematics. Love programming to solve mathematical problems.

List preferred classes the students should have taken:

All undergrad math classes, programming classes, and engineering computation

Description of 'sample' projects for prospective participants.

"See me for details."

Aerospace Engineering & Engineering Mechanics

Name:	Rui Huang
Title:	Professor
Email:	ruihuang@mail.utexas.edu
Will accept these majors:	ASE, BME, ME
Website:	http://www.ae.utexas.edu/faculty/faculty-directory/huang



Research areas and interests:

Mechanics of materials, theoretical and numerical analysis

Minimum or preferred skills you seek in a student:

Calculus, numerical methods, Matlab

List preferred classes the students should have taken:

EM 319

Description of 'sample' projects for prospective participants.

Buckling of thin films, adhesive and frictional interactions of 2D materials, mechanics of soft materials

Aerospace Engineering & Engineering Mechanics

Name:	Moriba Jah
Title:	Associate Professor
Email:	moriba@utexas.edu
Will accept these majors:	ASE
Website:	http://www.ae.utexas.edu/faculty/faculty-directory/rodin



Research areas and interests:

Astrodynamics, Orbit Determination, Spacecraft Navigation, Space Traffic Management, Space Situational Awareness, Space Surveillance and Tracking, Orbital Debris, Space Objectification

Minimum or preferred skills you seek in a student:

Matlab, Python, Data Analysis

List preferred classes the students should have taken:

Physics, Calculus, Classical Mechanics, Differential Equations, Linear Algebra

Description of 'sample' projects for prospective participants.

Space Traffic Management, Space Object Characterization and Identification, Multi-Object Tracking, Multi-Source Information Fusion

Aerospace Engineering & Engineering Mechanics

Name:	Gregory Rodin
Title:	Professor
Email:	gjr@ices.utexas.edu
Will accept these majors:	ASE,BME,CE,CHE,ME,PEN/PGE
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Research areas and interests:

Simulations of solids fluids and structures

Minimum or preferred skills you seek in a student:

Matlab or Mathematica

List preferred classes the students should have taken:

Completed em306 and em319

Description of 'sample' projects for prospective participants.

Simulations of random networks

Biomedical Engineering

Biomedical Engineering

Name:	Thomas Milner
Title:	Professor
Email:	terra.laser@gmail.com
Will accept these majors:	BME,CHE,ECE,ME,PEN/PGE
Website:	https://www.bme.utexas.edu/about-us/faculty-directory/milne



Research areas and interests:

Biomedical Optics for imaging and surgery

Minimum or preferred skills you seek in a student:

programming experience and interest in optics

List preferred classes the students should have taken:

Basic programming, physics

Description of 'sample' projects for prospective participants.

development of an image guided surgical device, build and test instrumentation for pre-clinical and clinical studies

Biomedical Engineering

Name:	Mia K Markey
Title:	Professor
Email:	mia.markey@utexas.edu
Will accept these majors:	ARE, ASE, BME, CE, CHE, ECE, ME, PEN/PGE
Website:	http://www.bme.utexas.edu/about-us/faculty-directory/mar



Research areas and interests:

Develop decision support systems for clinical decision making and scientific discovery.

Minimum or preferred skills you seek in a student:

Programming experience (any language) and enthusiasm to learn new languages/tools

List preferred classes the students should have taken:

N/A

Description of 'sample' projects for prospective participants.

Computation; signal processing, machine learning, and/or statistical methods, and data collection.

Chemical Engineering

Chemical Engineering

Name:	Roger Bonnecaze
Title:	Professor
Email:	rtb@che.utexas.edu
Will accept these majors:	CHE,ME,PEN/PGE
Website:	http://che.utexas.edu/faculty-staff/faculty-directory/bonnecaze



Research areas and interests:

Modeling and simulation of complex fluids and nanomanufacturing processes.

Minimum or preferred skills you seek in a student:

Basic understanding of MATLAB and Excel.

List preferred classes the students should have taken:

Completed M 427J (or K); fluid mechanics or transport (ChE 353 or 319);

Description of 'sample' projects for prospective participants.

Surface energies for surfactant-driven wettability alteration; Simulation of Marangoni-driven lithography, and dry-transfer of grapheme.

Civil, Architectural & Environmental Engineering

Civil, Architectural & Environmental Engineering

Name:	Richard Corsi
Title:	Professor & Department Chair
Email:	corsi@mail.utexas.edu
Will accept these majors:	ARE, CE
Website:	http://www.cae.utexas.edu/faculty/directory/corsi



Research areas and interests:

Indoor air quality

Minimum or preferred skills you seek in a student:

Ability to use a spreadsheet for data analysis

List preferred classes the students should have taken:

CE311k; CE341 or ARE346N would be good, but not required.

Description of 'sample' projects for prospective participants.

Design/testing of portable air purifiers; Analysis of indoor air quality in campus or K-12 classrooms; ozone reactions with indoor materials.

Civil, Architectural & Environmental Engineering

Name:	Trevor Hrynynk
Title:	Assistant Professor
Email:	thrynynk@utexas.edu
Will accept these majors:	ARE, CE
Website:	http://www.cae.utexas.edu/faculty/directory/hrynynk



Research areas and interests:

Development of innovative and practical techniques for assessing reinforced concrete structures.

Minimum or preferred skills you seek in a student:

Experience in MS-Word, MS-Powerpoint, and MS-Excel

List preferred classes the students should have taken:

EM 306

Description of 'sample' projects for prospective participants.

Reinforced concrete slab finite element modeling validation studies.

Civil, Architectural & Environmental Engineering

Name:	Maria Juenger
Title:	Professor
Email:	mjuenger@mail.utexas.edu
Will accept these majors:	ARE, CE
Website:	http://www.cae.utexas.edu/faculty/directory/juenger



Research areas and interests:

Materials science of cement and concrete.

Minimum or preferred skills you seek in a student:

Ability to have time to commute to the Pickle campus. Not afraid to get dirty in the lab.

List preferred classes the students should have taken:

Intro to chemistry and lab. Also useful to have had materials course (but not required).

Description of 'sample' projects for prospective participants.

Developing new test methods and qualifying new materials for use.

Civil, Architectural & Environmental Engineering

Name:	Fernanda Leite
Title:	Associate Professor
Email:	fernanda.leite@utexas.edu
Will accept these majors:	ARE,CE
Website:	http://www.cae.utexas.edu/faculty/directory/leite



Research areas and interests:

Project Management; Building Information Technology; Construction Safety

Minimum or preferred skills you seek in a student:

Revit Modeling

List preferred classes the students should have taken:

ARE320K and ARE 323k

Description of 'sample' projects for prospective participants.

Living BIM- Automating building information model upkeep

Civil, Architectural & Environmental Engineering

Name:	Lance Manuel
Title:	Professor
Email:	lmanuel@mail.utexas.edu
Will accept these majors:	ARE,ASE,CE,ME
Website:	http://www.cae.utexas.edu/faculty/directory/manuel



Research areas and interests:

wind energy, wave energy, structural dynamics, uncertainty quantification

Minimum or preferred skills you seek in a student:

Programming; probability and statistics; prefer knowledge of Matlab, Python, R.

List preferred classes the students should have taken:

Applied probability/statistics

Description of 'sample' projects for prospective participants.

Extreme/fatigue loads on wind turbines, wave energy devices

Electrical & Computer Engineering

Electrical & Computer Engineering

Name:	Seth Bank
Title:	Associate Professor
Email:	sbank@ece.utexas.edu
Will accept these majors:	CHE, ECE, ME
Website:	www.ece.utexas.edu/people/faculty/seth-bank



Research areas and interests:

Semiconductors, nanostructures, lasers, photodetectors, transistors.

Minimum or preferred skills you seek in a student:

None, project will be consistent with student background.

List preferred classes the students should have taken:

Not necessary, but beneficial depending on student standing: Electromagnetics, EE339, EE440.

Description of 'sample' projects for prospective participants.

Build a laser testing setup; characterize the optical properties of nanomaterials; fabrication of nanomembranes.

Electrical & Computer Engineering

Name:	Robert Heath
Title:	Cullen Trust Endowed Professor
Email:	rheath@utexas.edu
Will accept these majors:	ASE, CE, ECE
Website:	http://www.ece.utexas.edu/people/faculty/robert-heath



Research areas and interests:

Wireless communication, communication and sensing in cars, aerial vehicles, radar

Minimum or preferred skills you seek in a student:

Knowledge of LabVIEW or Matlab is useful
Good mathematical skills and programming ability is required

List preferred classes the students should have taken:

EE 313 (or equivalent course on signal processing), EE 35K (or equivalent course on probability)

Description of 'sample' projects for prospective participants.

CAR-STOP; data collection using communication and radar, and establishing high performance communication links

Electrical & Computer Engineering

Name:	Emanuel Tuctuc
Title:	Associate Professor
Email:	etuctuc@mer.utexas.edu
Will accept these majors:	ECE
Website:	http://www.ece.utexas.edu/people/faculty/emanuel-tutuc



Research areas and interests:

Nanoelectronics, solid-state devices

Minimum or preferred skills you seek in a student:

Enthusiasm, passion, patience

List preferred classes the students should have taken:

Modern Physics

Description of 'sample' projects for prospective participants.

Characterization of novel materials and devices

Electrical & Computer Engineering

Name:	Edward Yu
Title:	Professor
Email:	ety@ece.utexas.edu
Will accept these majors:	CHE, ECE, ME
Website:	http://www.ece.utexas.edu/people/faculty/edward-yu



Research areas and interests:

solar energy, solar cells, solar fuel generation, nanoscale imaging techniques

Minimum or preferred skills you seek in a student:

familiarity with LabView and/or Matlab would be very helpful.

List preferred classes the students should have taken:

EE 302, EE 306, EE 319K; introductory math and physics courses

Description of 'sample' projects for prospective participants.

Computational modeling, Analysis of large data sets, Design and fabrication of nanostructured, Materials processing.

Mechanical Engineering

Mechanical Engineering

Name:	Michael Cullinan
Title:	Assistant Professor
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Will accept these majors:	CHE, ECE, ME
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Research areas and interests:

Nanomanufacturing, Precision Machine Design

Minimum or preferred skills you seek in a student:

Solidworks, Labview

List preferred classes the students should have taken:

Machine Elements, Mechatronics

Description of 'sample' projects for prospective participants.

Microscale Additive Manufacturing, Graphene Manufacturing, MEMS Design

Mechanical Engineering

Name:	Sheldon Landsberger
Title:	Professor
Email:	s.landsberger@mail.utexas.edu
Will accept these majors:	CE, ME, PEN/PGE
Website:	http://www.me.utexas.edu/faculty/faculty-directory/landsberger



Research areas and interests:

Environmental analysis; materials damage using neutrons.

Minimum or preferred skills you seek in a student:

Entering 3rd year student, min. 3.2 GPA in ME, PEN/PGE, CE. Must have 3-4 hour blocks to work.

List preferred classes the students should have taken:

N/A

Description of 'sample' projects for prospective participants.

Oil separation from water; trace elements in Lake Austin; material characterization

Mechanical Engineering

Name:	James Sulzer
Title:	Assistant Professor
Email:	james.sulzer@austin.utexas.edu
Will accept these majors:	ARE, ASE, BME, CE, CHE, ECE, ME, PEN/PGE
Website:	http://www.me.utexas.edu/faculty/faculty-directory/sulzer



Research areas and interests:

Rehabilitation Engineering, Biomechanics, Neuroscience, Robotics

Minimum or preferred skills you seek in a student:

matlab preferred, depending on project, willingness to conduct experiments and work together with others

List preferred classes the students should have taken:

No classes specifically required, but may depend on project.

Description of 'sample' projects for prospective participants.

Recording stroke therapy using inertial measurement units

Mechanical Engineering

Name:	Eric Taleff
Title:	Professor
Email:	taleff@utexas.edu
Will accept these majors:	ME
Website:	http://www.me.utexas.edu/faculty/faculty-directory/taleff



Research areas and interests:

Metals and alloys for structural applications.

Minimum or preferred skills you seek in a student:

Basic computer skills.

List preferred classes the students should have taken:

ME 334 and ME 134L lecture and lab courses.

Description of 'sample' projects for prospective participants.

Mechanical testing and microstructural characterization of metals and alloys.

Mechanical Engineering

Name:	Michael Webber
Title:	Professor
Email:	webber@mail.utexas.edu
Will accept these majors:	ARE, ASE, BME, CE, CHE, ECE, ME, PEN/PGE
Website:	http://www.me.utexas.edu/faculty/faculty-directory/webber



Research areas and interests:

Energy Technology and Policy, Energy water nexus, energy food nexus.

Minimum or preferred skills you seek in a student:

Leadership and organizational skills desired, programming with Python and Matlab

List preferred classes the students should have taken:

Thermodynamics, and Energy Technology & Policy

Description of 'sample' projects for prospective participants.

Go to webberenergygroup.com

Other Potential Faculty Members

These professors also participate in working with the TREX program

Department of Aerospace Engineering and Engineering Mechanics

Name	Email
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Department of Civil, Architectural and Environmental Engineering

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