New MS and PhD Graduate Student Orientation
August 16, 2018

Presenters:
Dr. Manish Kumar, Graduate Director (manish.kumar@uc.edu)
Dr. Milind Jog, Assoc. Dept. Head (milind.jog@uc.edu)
Dr. Jay Kim, Department Head (jay.kim@uc.edu)
Graduate Studies – Research Thrust Areas

**Intelligent Manufacturing** (Dr. Anand, Dr. Murali)

**Thermal and Fluid Systems/Energy/Nuclear Engineering** (Dr. Banerjee, Dr. Jog)

**Solid Mechanics and Nano/Bio Mechanics** (Dr. Tabiei)

**Structural Dynamics, Acoustics** (Dr. Kim)

**Dynamics and Control, Robotics** (Dr. Kumar)

(Faculty listed in parenthesis are tentative advising/administration contacts in each area.)
Presentation Outline

• Recent Updates
• Registration, Program of Study, Administrative Details
• ME Graduate Degree Requirements
  – MS
  – PhD
  – Direct PhD
• Graduate Courses
• Important Links
Recent Updates

• Master of Science (MS) degree with UGS (University Graduate Scholarship or GIA/GAS) is thesis only.

• Master of Engineering (MEng) program (non-thesis) is administered separately; contact Eugene Rutz (E-mail: eugene.rutz@uc.edu) if you are in this program.
Registration and Program of Study

• Have your schedule approved by your advisor.
• Register at onestop.uc.edu
• Register for 15-18 credit hours (UGS recipients):
  – Typically three classroom courses (9 credit hours)
  – Research/Thesis or Dissertation (minimum 5 credit hours), plus 1 hour Graduate Seminar
• Do not exceed 18 credits at any time.
• Minimum 3.0 GPA must be maintained.
• Courses outside of CEAS must be approved.
More on Advising

• Most students are assigned a temporary advisor.

• MS students should aim to identify a permanent, thesis advisor and a thesis topic, no later than Spring, 2019.

• Coursework should be planned appropriately. Students needing assistance should contact their temporary advisor, and/or Dr. Kumar, for advice.

• A Program of Study form should be approved and followed; any changes must be approved. This is subsequently checked as a condition of graduation. The form is available here: http://ceas.uc.edu/Graduate_Studies/CurrentStudents/GraduateSchoolForms.html

• When appropriate, a thesis advisor outside of the department is possible; in this case, the student must retain an academic advisor from the ME program.
Research Credits

- MS students should register for MECH-9015 *Research/Thesis*. Direct-admit PhD students should also take MECH 9015 during the first two years, unless advised otherwise.

- Incoming PhD students (who already have earned the MS degree) should register for MECH-9015 *Research/Thesis* until passing the PhD Fundamentals Exam. After that, PhD students should register for *Dissertation* (MECH-9030).

- Research/Thesis and Dissertation may be graded with in-progress grades “SP” or “UP”; final grade to be assigned later.
UGS and Registration Policies

• Full-time MS students should normally finish classroom coursework no later than December of the second year of study. UGS awards for the MS will normally be limited to 3 semesters. UGS for PhD students will typically be limited to 6 semesters based on availability of funds. Summer UGS support is not offered.

• Some MS students may seek to complete all credit hour requirements at the end of the first year of study (i.e., Spring, 2019). This is generally possible, but it requires a minimum of 16 credit hours each semester (Fall and Spring), since MECH 9022 Graduate Seminar does not carry degree credit.
UGS and Registration Policies (cont.)

• You must reapply for renewal of the UGS award. Watch your e-mail for this notice in April or May, 2019.

• Credit hour limit: **No eligibility for UGA or UGS beyond 173 credit hours**, or approximately five (5) years of full-time study.

• Students with at least 100 total credit hours should monitor their total credits and report to their advisor prior to each fall semester.

• US citizens with previous or current federal financial aid may also be affected . . .
UGS and Registration Policies (cont.)

• US CITIZENS WITH CURRENT OR PREVIOUS FEDERAL FINANCIAL AID: Student loan repayment must normally begin after a six (6) month grace period following your last full-time term.

• 173 credit hour limit = 5.5 years maximum full time.

• US CITIZENS APPLYING FOR CURRENT STUDENT LOANS: Duration of loan eligibility for graduate study will be limited to nominal time-to-degree limits set by the college. For info., contact Student Financial Aid.
Other Registration Policies

• International students must normally register for at least one (1) credit hour per term (except summer) upon completion of credit hour requirements for the degree. (See Reduced Credit Hour Load.)

• **US Citizens and residents: one credit hour per year to maintain active student status.** Students who are on campus and using university facilities may be required to register for one credit hour per term.

• **Reinstatement required if status lapses.**

• **Time-to-degree limits also apply.**
Other Matters Affecting International Students

• Reduced Credit Hour Load: Permits an international student to register at less than full-time. The student must have completed all credit hour requirements for the degree at the end of the term prior to the request and be working on a thesis or dissertation.
Other Matters Affecting International Students

• Curricular Practical Training (CPT): Permits off-campus employment for a period of up to six (6) months.
  – The job assignment must be an internship and must be integral to a thesis or dissertation. Your thesis/dissertation advisor must approve.
  – Students planning CPT are required to meet with Dr. Kumar before interviewing. Graduate director approval also required.
  – CPT status expires on the day you pass your defense.
Other Matters Affecting International Students

• Optional Practical Training (OPT): Allows full-time regular employment following completion of all credit hour requirements.

• Either pre-completion or post-completion OPT may be applied for upon completion of your coursework. Consult with ISSO on which option is best for you.

• 90 day application processing time. CPT cannot be applied for, renewed or extended once an OPT application is pending.

• Employment must be in a mechanical engineering position, or equivalent.

• 12-month initial duration; extension available if employed by an e-verify employer.
Financial Aid Matters

- Full-time students are considered for all forms of aid from department and college sources (UGA/TA and RA) at the time of admission. The review process for UGA/TA awards in subsequent semesters is ongoing.

- Research assistantship (RA) awards are made by individual faculty, usually from their grant funds which they have raised from outside agencies. Acceptance of an RA position from a faculty member normally implies a commitment to complete a thesis or dissertation with that faculty. With acceptance of RA support, a subsequent advisor change is not normally permitted.
Health Insurance Award

- Full-time students with qualifying appointments may be eligible for the Graduate Assistant/Fellow Health Insurance Award.

- Visit this link to apply:
  
  http://grad.uc.edu/student-life/awards/gshi.html#awardA

- Application deadline: Sept. 6, 2018
Graduation Information

• You must apply for graduation by posted deadlines in order to graduate. This information is on-line at: http://grad.uc.edu/

• You must give a public defense your thesis or dissertation in front of your advisory/examining committee, and the following forms must be signed by your advisor and/or the committee:
  – Final Program of Study
  – Oral Exam form
  – Committee Approval form
Graduation Information

• 3.0/4.0 GPA required for graduation. (B average.)

• Semester and/or cumulative GPA below 3.0 leads to probation. Student is subject to dismissal if this deficiency persists at or beyond two semesters.

• NO GRADE REPLACEMENT AVAILABLE. Graduate credit courses may not be repeated for grade replacement. All grades will average.

• Incomplete course grades (I) convert to a grade of F (I/F) after 12 months and cannot be changed.
E-mail and Canopy (Blackboard)

- Ensure that personal data is current at onestop.uc.edu
- Verify your UC 6+2 e-mail address; of the form:
  
  kumarmu@mail.uc.edu

- Verify Canopy account at: canopy.uc.edu

- All departmental and university-level correspondence will be handled via e-mail.

- Default mailing lists are maintained at: listserv.uc.edu
  
  CEAS-ME-MS (MS students)
  CEAS-ME-PHDD (PhD students)
ME Graduate Seminar - Administration

- Seminar Schedule: [http://www.min.uc.edu/me/academics/department-seminar](http://www.min.uc.edu/me/academics/department-seminar)

The seminar will meet 7-10 times per semester. Seminar announcements will normally be sent in advance via e-mail, as well as being posted on the course Canopy site.

- Time: F 11:15 a.m. – 12:10 p.m.

- No degree credit; it is a registration requirement only.

- Grading is attendance-based. Missing more than 50% of the speakers will lead to a grade of UP or I which must be remedied in order to graduate. Contact Dr. Jog, the seminar director, in the event of excused absence.

- Selected seminars may have required attendance by all; any such events will be announced in advance.
ME Graduate Seminar – Administration (cont.)

• In the event of a semester-long class conflict, do not register; submit a seminar waiver form, available here: www.min.uc.edu/me/academics/grad/forms

• The seminar may occasionally meet at alternate times, in some cases to accommodate a joint seminar meeting with another CEAS program. In all such cases, the attendance policy will be announced.

• ME MS and PhD students are required to register for the seminar as long as they are registered full time and receiving a full UGS. Students registered full time for longer than two years per degree (MS or PhD) or three years overall, may apply for a waiver.
ME MS Degree – Credit Hour Requirements

Total 30 Credit Hours (Semester system):

Thesis Option:

- 12 Research/Thesis (MECH-9015) credits
- 18 classroom course credits, comprised of:
  - Minimum 12 credits MECH, or approved substitute
  - Minimum 3 math credits, or approved substitute
  - 3 credits approved elective, or additional MECH course
- Obtain permission before registering for MECH-9015 Research/Thesis.

1. More information on approved course substitutions will be available online.
ME PhD Degree Requirements

- Total 60 semester credit hours required beyond MS (MS degree required), equivalent of at least 90 total graduate credit hours including MS.
- Classroom courses: minimum 18 credit hours.
- Research/Dissertation: minimum 42 credit hours.
- PhD Fundamentals Exam (see next slide). First attempt required by Spring, 2019. Must pass in two attempts.
- PhD Candidacy Exam (Dissertation proposal).
- Dissertation Defense.
ME PhD Fundamentals Exam

Must pass three areas out of nine in two attempts:

- Fundamental Dynamics/Vibrations
- Fluid Mechanics
- Thermodynamics
- Manufacturing Processes
- Nuclear Engineering
- Strength of Materials
- Heat Transfer
- Engineering Statistics
- Measurement/Control

• Sign up for MECH-9031 (PhD Fundamentals Exam). First attempt required by Spring, 2019; must pass in second attempt (if needed) by Fall, 2019. Subjects passed on first attempt are not repeated.

• No exceptions to timing for part-time or non-traditional students.

• Contact Dr. Kumar (manish.kumar@uc.edu) to ensure that you are a member of the PhD Exam Blackboard organization.

• Can only attempt five areas.

• Two-year grace period for direct-admit PhD students . . .
Direct-Admit ME PhD Degree Requirements

• Students in this category are admitted to the PhD program with a bachelor’s degree only. MS degree completion is required while in the program, as a prerequisite to PhD completion.

• Students must complete all credit hour requirements for both the MS and PhD degrees.

• Contact CEAS Graduate Studies Office for instructions when you are ready to defend the MS Thesis.

• PhD Fundamentals Exam Timing: Two-year grace period:
  – First attempt by Spring 2021
  – Must pass by Fall 2021
Other Rules and Degree Requirements

For more details see the ME Graduate Program Student Guide:

www.min.uc.edu/me/academics/grad/mechanical/guide

Required forms may be found at:

www.ceas.uc.edu/Graduate_Studies/CurrentStudents/GraduateSchoolForms.html
# 2017-18 Graduate Courses: Solid Mechanics and Dynamics

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Elasticity I (MECH-7012)</td>
<td>Fracture Mechanics (MECH-7055)</td>
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<tr>
<td>Smart Structures (MECH-6013)</td>
<td>Nano Materials (MTEN-6021)</td>
</tr>
<tr>
<td>*Applied FFT (MECH-6060)</td>
<td>Experimental Vibration (MECH-6062)</td>
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<tr>
<td>Acoustics (MECH-6066)</td>
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<tr>
<td>Material Selection (MECH-7005)</td>
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<tr>
<td>Rotordynamics (MECH-7067)</td>
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<tr>
<td>Modeling Materials (MECH-6081)</td>
<td>Rotating System Vib. (MECH-6063)</td>
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<tr>
<td>Nondestructive Test. (AEEM-7027)</td>
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<tr>
<td>*Math Methods (MECH-7011)</td>
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<tr>
<td>Physical Prop. Solids (MTEN-6010L)</td>
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<tr>
<td>Mech. Behavior Mat. (MTEN-6097)</td>
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* denotes customary math substitution for MS degree  
** offered as a special topic

(courses may be subject to change throughout the year)
## 2018-19 Graduate Courses: Thermal-Fluids/Energy

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Viscous Flow &amp; Heat Transfer (EGFD-7041)**</td>
<td>Convection Heat Trans. (MECH-7091)</td>
</tr>
<tr>
<td>Modeling and Simulation of Multi-Physics System (MECH-6022)</td>
<td>Exp. Tech. in Fluid Mech. (MECH-6045)</td>
</tr>
<tr>
<td>Combustion (AEEM-6011)**</td>
<td>Gas Turbine Combustion (AEEM-6012)</td>
</tr>
<tr>
<td>*Numerical Methods in Aerospace Fluid Mech. (EGFD-7051)</td>
<td>CFD (EGFD-6037)</td>
</tr>
<tr>
<td>HVAC Design I (MECH-6097)**</td>
<td>HVAC Design II (MECH-6098)</td>
</tr>
<tr>
<td>Thermoelectric Energy Conv. (MECH-7023)</td>
<td>IC Engines (MECH-6096)</td>
</tr>
<tr>
<td>Bioheat Transfer (MECH-7095)</td>
<td>Momentum and Energy Transfer with CFD Applications in Biosystems (MECH 6043)</td>
</tr>
<tr>
<td>Compressible Flow &amp; Thermo. (AEEM-6041)</td>
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<tr>
<td>Intro. to Nuclear Engineering (MECH-6003)</td>
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<tr>
<td>Modeling and Simulation of Building Energy Systems (AE-6030)</td>
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<tr>
<td>Biofluid Mechanics (MECH6046)***</td>
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</tr>
</tbody>
</table>

- denotes customary math substitution for MS degree; ** denotes prerequisite course, *** taught alternate years
# 2017-18 Graduate Courses: Design and Manufacturing

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>Intro. to Robotics (MECH-6031)</td>
<td>Robot Control (MECH-6032)</td>
</tr>
<tr>
<td>Occupational Safety (MECH-6050)</td>
<td>System Safety (MECH-6052)</td>
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<tr>
<td>Machine Learning (MECH-6038)</td>
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</tr>
<tr>
<td>Production Planning &amp; Control (MECH-6075)</td>
<td>Supply Chain Modeling (MECH-6076)</td>
</tr>
<tr>
<td>Advanced DFM (MECH-6071)</td>
<td>Monte Carlo Meth. (MECH-6004)</td>
</tr>
<tr>
<td>*Reliability Engineering (MECH-7002)</td>
<td>*Design Optimization (MECH-6012)</td>
</tr>
<tr>
<td>Intelligent Systems Theory (MECH-6035)</td>
<td>Intelligent Systems Theory (MECH-6035)</td>
</tr>
</tbody>
</table>

*denotes customary math substitution for MS degree.
Notes on Course Substitutions:

- Selected courses from AEEM, CVE, EECE, EGFD, and MTEN are generally approved for substitution as MECH.
- Selected courses from MECH and certain other programs are generally approved for math credit.
- Courses on this list do not require a petition; advisor approval of the Program of Study is sufficient.
- The complete list for Fall, 2017, will be posted online shortly.
- Other course substitutions are possible on an ad-hoc basis; petition to the Graduate Director is required.
Research Areas

The list is incomplete. For detailed information, please visit MME website.
Thrust Area: Intelligent Manufacturing
**PROFILE**

- Full time UC Faculty since 1990
- Prof. of Mechanical Engineering
- Director of *Siemens PLM Technology Center*
- Director of *Center for Global Design and Manufacturing*
- Assoc Editor, ASME Trans. Journal of Manufac. Engineering & Science
- Graduated 9 PhDs and 66 M.S. students
- Current students: 5 PhDs & 14 M.S

**SELECT PROJECT FOCUS AREAS & ASSOCIATED INDUSTRY INTERACTIONS**

<table>
<thead>
<tr>
<th>Project Focus Areas</th>
<th>Industries/Agencies</th>
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<tbody>
<tr>
<td>Computational Tools, DFAM, Top Opt. &amp; Modelling of Additive Manufacturing</td>
<td>GE Power and Water, GE Aviation, GE GRC, Honeywell, DMDII, TechSolve, UIUC, OFRN, UDRI</td>
</tr>
<tr>
<td>Intelligent Design, Design for Low Cost (DFLC), Machine Design Standards, Assembly Innovation, Agile Manufacturing</td>
<td>P&amp;G Baby Care, P&amp;G Family Care</td>
</tr>
<tr>
<td>Factory Physics, Plant Floor Simulation, Plant Layout, Intelligent Plant Automation</td>
<td>Ford Motor Co., Stanley Tools, Alltech, Select Tool &amp; Die, CCHMC &amp; Kroger Pharmacy</td>
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<tr>
<td>Computer Vision/Machine Learning, Quality Control, Smart Manufacturing, IIoT</td>
<td>Lexmark, National Science Foundation, DMDII, Raytheon, Faurecia, Matdan, ITI</td>
</tr>
<tr>
<td>Subtractive Manufacturing, Smart Machining, Setup time reduction</td>
<td>General Tool &amp; Die, Agiltech, MAC Tools, Trinity Industries National Science Foundation</td>
</tr>
<tr>
<td>Advanced Manufacturing Training</td>
<td>US Dept. of Labor, Various Industries</td>
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</table>
Thrust Area: Intelligent Manufacturing

- Faculty Member Name: Dr. Michael Alexander-Ramos
- Lab’s Name and Website: Integrated Vehicle Design Laboratory (https://ceas.uc.edu/integrated-vehicle-design-laboratory.html)
- Key Research Areas:
  - Multidisciplinary Design Optimization of Automotive Vehicle
  - Combined Multidisciplinary Design & Control Optimization of Automotive Vehicles

- Micro and Nano Manufacturing Laboratory: http://milkyway.mie.uc.edu/ucman
- Prof. Murali Sundaram
- Multi-functional, multi-scale, multi-material processing technologies, micro and nano machining processes
IMS Center Research

Data Acquisition

Signal Processing

Health Indicator Extraction & Selection

Visualization

Performance Prediction

Health Assessment

Near-Zero Breakdown Products & Systems
Our New Center: Industrial AI

Develop and Deploy Industrial AI Algorithms Systematically and Rapidly

- **Resilient Factory**
  - Data quality assessment and improvement; Adaptive working regime separation; Dynamic machine learning algorithms; Similarity-based Techniques; Cloud-based and edge-computing platforms; Genetic Fuzzy AI; Optimization algorithms; UAV’s
  - **Industry partnership**: machine tools, wind turbine, manufacturing, transportation, health care

- **Worry-free Transportation**
  - Joint production and maintenance scheduling; Fault prognosis with hybrid approaches; Quality control for multistage mfg. systems with Stream of Variation analysis; AI-based bottleneck prediction; Sensor fusion techniques; Operations research & decision making
  - **Industry partnership**: Automobile, health care, battery, logistics, factory automation, manufacturing

- **Predictive Energy Systems**
  - Joint time-freq. analysis methods; Process-oriented data compression & management; Bayesian statistics & estimation; Similarity-based time-series prediction; Rehabilitation robotics; Advanced automatic control; Operations research & decision making
  - **Industry partnership**: Semiconductors, human performance, wearable sensors, industrial software, instrumentation

- **Smart Human & Health Performance**
  - Data Technology
    - Sensors, Machine Communication, Data Quality, Working Regime Identification
  - Analytic Technology
    - Machine Learning, Clustering, Classification, Regression, Similarity
  - Platform Technology
    - Cloud-based, Embedded, FPGA, Edge-computing, GPU
  - Operation Technology
    - Decision Support, Optimization, Scheduling, Risk management
Thrust Area: Thermal and Fluid Systems/Energy/Nuclear Engineering
Transport in Engineering in Medicine Lab – Dr. Rupak Banerjee (http://milkyway.mie.uc.edu/rbanerje)

**coronary diagnostics**

<table>
<thead>
<tr>
<th>PhD</th>
<th>MS</th>
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<tbody>
<tr>
<td>S. Peelukhana</td>
<td>G. D’Souza</td>
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<tr>
<td>K. Kolli</td>
<td>B. Konala</td>
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<tr>
<td>A. Sinha Roy</td>
<td>K. Ashtekar</td>
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**congenital heart disease**

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<tbody>
<tr>
<td>G. D’Souza</td>
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<td>N. Lee</td>
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**peripheral vascular disease**

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<tr>
<td>A. Paul</td>
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**hemodialysis vascular dysfunction**

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<td>E. Rajabi</td>
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**high intensity focused ultrasound**

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<td>S. Devarakonda</td>
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<td>S. Dasgupta</td>
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<td>P. Hariharan</td>
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**human whole body heat transfer**

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<thead>
<tr>
<th>MS</th>
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<tbody>
<tr>
<td>S. Zachariah</td>
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<tr>
<td>R. Kalathil</td>
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**ocular drug delivery**

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<td>J. Park</td>
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**magneto-electro hydrodynamics**

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<tr>
<td>S. Miller</td>
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electro-hydrodynamics

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<td>M. Al-Rjoub</td>
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oxygen transport in vasculature

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<td>O. Kwon</td>
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medical devices

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<tbody>
<tr>
<td>N. Sharma</td>
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macro-fluidics and heat transfer

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<tr>
<th>MS</th>
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</thead>
<tbody>
<tr>
<td>M. Karve</td>
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<tr>
<td>A. Mhaisekar</td>
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Transport in Engineering in Medicine Lab – Dr. Rupak Banerjee (http://milkyway.mie.uc.edu/rbanerje )
- Thermal processing & phase change heat transfer
- Interfacial phenomena
- Sprays, coatings & particulate flow
- Fuel cells, energetics & sustainability
- Micro-scale thermal devices & sensors
- Heat transfer enhancement & compact exchangers
- Computational flow, heat, & mass transfer
Convective Heat Transfer Lab

• Faculty member name: Mike Kazmierczak
• Lab’s name and website: Convective Heat Transfer Lab - 416 Old Chemistry (http://www.research.uc.edu/expertprofile.aspx?epersonID=kazmiem)
• Key research areas: Thermal Energy Storage, Heat Conduction & Convective Heat Transfer
Dr. Sarah Watzman’s Lab

- Study materials that convert heat to electricity (thermoelectrics) through solid-state processes, specifically looking at magnetism. Thermomagnetic transport in topological materials, including Dirac and Weyl semimetals.
Thrust Area: Solid Mechanics and Nano/Bio Mechanics

Faculty Name: Kumar Vemaganti
Lab: Vemaganti Research Group, vemaganti.com
Key areas: Computational solid mechanics, uncertainty quantification, soft tissue modeling, friction, FEA, multiscale modeling
CEAS Nanoworld Laboratories
MARK J. SCHULZ, PH.D., P.E., PROFESSOR; CO-DIRECTOR OF NANOWORLD LABORATORIES, UNIVERSITY OF CINCINNATI, COLLEGE OF ENGINEERING AND APPLIED SCIENCE, DEPARTMENT OF MECHANICAL & MATERIALS ENGINEERING, 498 RHODES HALL, CINCINNATI, OH 45221-0072, PH: (513)556-4132; E: MARK.J.SCHULZ@UC.EDU, WEBSITE: HTTP://WWW.MIN.UC.EDU/NANOWORLDSMART

- CEAS Nanoworld Laboratories, directed by Dr. Vesselin Shanov and Dr. Mark Schulz, are five labs that perform interdisciplinary research and teaching. Research of Dr. Schulz and students in the areas of smart structures (structures and devices that respond to their environment to improve their performance) and nanotechnology (the study of materials and devices that have nanoscale components or features). Current research includes:

Carbon Nanotube Sheet and Yarn Synthesis
- Carbon nanotube (CNT) nanofabric and yarn manufacturing
- CNT Hybrid Materials (Carbon Metals) with nanoparticles inside

Engineering Applications of Carbon Nanotube Fabric and Yarn
- Multifunctional composites with high electrical conductivity that resist delamination/cracking, self-monitor damage, and cure out of autoclave.
- Carbon wire for electric motors and transformers
- Soft magnetic composite core for electric machines
- Firefighter garments for flame resistance and heat spreading
- Water filtering using CNT hybrid fabric

Smart Medical Devices (at different stages of prototype development)
- Smart biodegradable Mg stents that electrically dissolve on command
- Smart Chest Tube that is steerable with vision
- Smart Articulating Scalpel that is miniaturized
- Milli-robot to deliver nanoparticles for cancer and other therapies
Thrust Area: Structure Dynamics and Acoustics

Faculty member name: Yongfeng Xu

Lab’s name and website: Structural Health Assessment and Monitoring Laboratory
https://sites.google.com/site/yxuyongfeng/

Key research areas: Structural dynamics and vibrations, Modal analysis, Structural health monitoring, Laser Doppler vibrometry, Digital image correlation, Digital signal processing
Thrust Area: Dynamics and Control, Robotics
CDS Lab and UAV MASTER Lab

Faculty: Manish Kumar (www.ceas.uc.edu/cds)

• Over 2000 sq. ft. (Indoor Flight Test facility) with 12 camera motion tracking system, over 20 multi-rotor and fixed wing, in-house developed multi-UAV C2 platform called FlyMASTER, 5 FAA certified pilots

Current Projects

UAVs for ODOT’s applications (with Art Helmicki)

SIERRA - UAVs for wildfire monitoring

Indoor applications: Winner of AAVC 2014-15, DHS First Responder project

UTM and multi-UAV operations
UC Center for Robotics Research

- Janet Dong, PhD, 6-5305, janet.dong@uc.edu
- https://ceas.uc.edu/robotics.html, Baldwin 545
- Key research areas: Intelligent grounded vehicle, Autonomous vehicle, industrial robots applications, manufacturing automations and integrations. Below are sample projects: Laser marking cell, Resister assembly cell, BattleBot, Litter collection bot
Key Links:

• CEAS Graduate Studies Forms Page: ceas.uc.edu/Graduate_Studies/CurrentStudents.html
  – Program of Study
  – Oral Exam Form

• Departmental Forms Page: www.min.uc.edu/me/academics/grad/forms
  – Seminar Waiver
  – Request for Information (petition form)

• Faculty Web Pages: www.min.uc.edu/me/people
If you have questions

Academics – Your advisor

Registration – Barbara Carter (665 Baldwin)

Graduate Studies Committee

Dr. Kumar – All areas

Chair of GSC – Dr. Kumar

Department Head – Dr. Kim