

***2006-2007 Annual Report***  
***Department of Chemical Engineering***  
***University of Rhode Island***

***Prepared by:***

***Arijit Bose, Chair***  
***Department of Chemical Engineering***  
***University of Rhode Island***  
***206 Crawford Hall***  
***Kingston, RI 02881***

*Department of Chemical Engineering  
2006-2007 Annual Report*

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**HIGHLIGHTS:**

I am pleased to provide you with this summary of accomplishments in our department over the last year. We have had many exciting changes, let me outline them.

Professor Geoffrey Bothun joined our faculty as an Assistant Professor in July, 2006. Geoff works in the area of bionanotechnology, and, has already had a huge impact on our program. He has received highly competitive funds from NSF and ACS-PRF, has four graduate students, two undergraduates, and has taken over UC Advising as well as becoming the AIChE Student Chapter advisor. He is also setting up a new course in Bionanotechnology, to be offered next spring. Watch out for another star faculty member from our department! Mary Silvia joined our department in December 2006 as an administrative assistant. She has gone through the painful tasks of getting trained on Peoplesoft, and understanding the ever pressing needs of each of our faculty staff and students. We look forward to many years of productive work from her.

Our faculty presented seminars at a range of universities, and were strongly represented at National Meetings (AIChE, ACS, and MRS). New research grants to the department rose to a total \$1,875,000.00, an all time record. Not only is this the highest amount per faculty, but it is higher (by a quite bit) in total than any other department in the College (including some that are twice as large as us). Ashish Jha, Ph.D. student in our department was awarded a URI Graduate Fellowship for 2006-2007, one of 6 to be awarded in the university.

Our undergraduate enrollments are showing a sharp upward trend. The sophomore class has 40 students freshman class has 34 and counting), and we graduated one of our smallest senior classes in May. We also did a good job of holding on to our freshmen as they moved to their sophomore year, a traditional point of student loss. Our current undergraduate strength is at 110, with a few more additions expected over the next few months as we get transfers from other colleges and the undecided engineers determine their majors. We believe that the addition of the Biology track (offered starting Fall 2005) to our curriculum has helped both the quality of our incoming students as well as our numbers and a new Pharmaceutical Engineering track starting in Fall 2007, is also attracting several students. The current price of oil, while hurting our wallets, actually helps the job market for chemical engineers. After many years, the large oil companies are actually recruiting again!

The department saw an unprecedented number of its undergraduates get summer internships in industry. Companies that hired include Amgen, Teknor Apex, Toray Plastics, and Millennium Pharmaceuticals as well as a wide range of smaller firms. All of the feedback we have received from these companies have been excellent, and we are indeed proud to be able to provide this high level of education to our students. Lilia Bravewolf graduated with a 4.0, thus the highest possible grade, from our department this spring. She is at Princeton for graduate work. All of our graduating senior class is employed.

The Department received several donations, in cash and kind from a wide range of supporters. Paul McGarty provided funds through Altana for the new Pharmaceutical Engineering track. Andrew Clapham established the David Shilling Memorial endowment in Chemical Engineering. Bob Andren sent us a huge amount of equipment through his contacts in Amgen in Thousand Oaks. Support from Pfizer has been critical for the AIChE Student Chapter, and for providing support for our rather unique program that brings in high school students to do research with faculty over the summer. Amgen provided support for our seminar program, allowing us to bring in a host of highly reputed individuals from other



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institutions to our department. This program has significantly aided the visibility of our department, while providing our graduate students and faculty the opportunity to hear about cutting edge research.

The department benefited from the support of several alumni during the past fiscal year, and we are deeply grateful for your generosity. If you did not designate a specific cause, your funds were deposited into Chemical Engineering endowment. We are building that up quickly, and will be using the funds to upgrade experiments in our undergraduate laboratory.

The department had its ABET review last fall. I am happy to report that we did well, and we are again fully accredited!!

I wish all of you a very pleasant year ahead. We are very excited about our progress in the department and look forward to your support. I feel energized about what is happening and I know you will when you stop by. Please come along at any time, we will be happy to show you what we have been up to.

Respectfully submitted,



Arijit Bose  
Department Chair



FACULTY AND STAFF:

Department Chair:  
Arijit Bose

Professors:  
Stanley Barnett  
Richard Brown  
Otto J. Gregory  
Harold Knickle  
Angelo Lucia

Associate Professors:  
Donald Gray  
Michael L. Greenfield  
Mercedes Rivero-Hudec

Assistant Professor  
Geoffrey Bothun

Research Professor  
Everett Crisman

Associate Research Professor:  
Eugene Park

*Administrative Staff:*  
Mary Silvia  
Lisa Murray (1/3 time)

Technical Staff:  
Robert Ansay  
Robert D'Ambrosca (1/2 time)

Emeritus Professor:  
Vincent Rose

**Faculty and Staff Appointments, Promotions and Changes:**

Mary Silvia was hired in December, 2006 as our Fiscal Clerk/Department Secretary. We welcome Mary to our Department and to the University.



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**Undergraduate and Graduate Student Achievements:  
Department of Chemical Engineering  
2006-2007 Awards**

PRESIDENT'S AWARD FOR STUDENT EXCELLENCE	<i>Lilia V. BraveWolf</i>
NELSON C. WHITE AWARD	<i>Dennis Petrarca</i>
AMERICAN CHEMICAL SOCIETY (RI Section) OUTSTANDING CHEMISTRY STUDENT AWARD	<i>Nathaniel S. Hansen</i>
AMERICAN INSTITUTE OF CHEMISTS FOUNDATION OUTSTANDING ACHIEVEMENT AWARD Undergraduate Graduate	<i>Bennett W. Henry Liqun Zhang</i>
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS MINORITY SCHOLARSHIP AWARD	<i>Tolulope O. Adenodi</i>
AIChE (Boston section) OUTSTANDING STUDENT AWARD (GUPPIE OF THE YEAR)	<i>Bennett W. Henry</i>
A. RALPH THOMPSON SCHOLARSHIP AWARD	<i>Salwa M. Salloum</i>
DAVID J. CHRONLEY CREATIVITY AWARD	<i>Evan K. Wujcik Nathaniel S. Hansen</i>
VICTOR J. BAXT SCHOLARSHIP	<i>Tolulope O. Adenodi</i>
COLLEGE OF ENGINEERING AMBASSADOR	<i>Bennett W. Henry</i>
AICHE/DONALD F. OTHMER SOPHOMORE ACADEMIC EXCELLENCE AWARD	<i>Adam L. Hanks</i>
VINCENT & ESTELLE E. MURPHY SCHOLARSHIP	<i>Robert T. Ervolino Adam L. Hanks</i>
JERRY M. & EVELYN L. RHOADS MEMORIAL SCHOLARSHIP	<i>Lilia V. BraveWolf Nathaniel S. Hansen Derek D. Li James R. Lospaluto Bradley R. McCallum Adam R. Moison Qian Q. Ni</i>



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NARRAGANSETT BAY COMMISSION SCHOLARSHIP

CHARLES PAGELLA SCHOLARSHIP IN ENGINEERING

*Salwa M. Salloum*

ON SEMICONDUCTOR SCHOLARSHIP

*Matthew W. Klaas*

CHEMICAL ENGINEERING FRESHMAN SCHOLARSHIP

*James R. Lospaluto  
Robert T. Ervolino*

JOSEPH L. CAMPANELLA SCHOLARSHIP

*Evan K. Wujcik*

LEONARD & ELENA LANNI FAMILY SCHOLARSHIP

*Tolulope O. Adenodi*

TORAY PLASTICS AMERICA SCHOLARSHIP

*Brian W. Bonk  
Amy E. Gibson  
Bennett W. Henry  
(Continuing)  
Sara Manteiga  
Dennis Petrarca  
(Continuing)  
Alex Pytka*

PETER M. CARLEY MEMORIAL SCHOLARSHIP

*Brian E. Elias*

ROSE FAMILY ENDOWMENT SCHOLARSHIP

*Qian Q. Ni  
Melissa B. Williams*

Congratulations and best wishes to all of the award winners!



## FACULTY ACCOMPLISHMENTS:

### {tc \l3 "FACULTY PUBLICATIONS}Publications:

Dr. Stanley Barnett

- Boving, T.B., S.M.Barnett, G. Perez, W.J Blanford and J.E. McCray, Remediation with Cyclodextrin: Recovery of the Remedial Agent by Membrane Filtration, *Remediation Journal* 17, (in print), 2007

Dr. Arijit Bose

- Yan, Q.; Purkayastha, A.; Kim, T.; Kroger, R.; Bose, A.; Ramanath, G. "Synthesis and assembly of monodisperse high-coercivity silica-capped FePt nanomagnets of tunable size, composition, and thermal stability from microemulsions," *Advanced Materials (Weinheim, Germany)* 2006, *18*, 2569-2573.
- Lee, J.-H.; Agarwal, V.; Bose, A.; Payne, G. F.; Raghavan, S. R. "Transition from Unilamellar to Bilamellar Vesicles Induced by an Amphiphilic Biopolymer," *Physical Review Letters* 2006, *96*, 048102/048101-048102/048104.
- Lee, J.; Bose, A.; Tripathi, A. "Rapid Exploration of Phase Behavior in Surfactant Systems Using Flow in Microchannels," *Langmuir* 2006, *22*, 11412-11419.
- Jha, A. K.; Bose, A.; Downey, J. P. "Removal of As(V) and Cr(VI) ions from aqueous solution using a continuous, hybrid field-gradient magnetic separation device," *Separation Science and Technology* 2006, *41*, 3297-3312.
- A. Basak Kayitmazer, Himadri B. Bohidar, Kevin M. Mattison‡, Arijit Bose, Jayashri Sarkar, Akihito Hashidzume&, Paul S. Russo, Werner Jaeger, and Paul L. Dubin "Mesophase Separation and Probe Dynamics in Protein-Polyelectrolyte Coacervates", *Soft Matter*, 8, 1064-1076 (2007).

Dr. Richard Brown

- Wayne C. Tucker and Maria G. Medeiros, A Non Chromate Conversion Coating Process for Corrosion Protection of AL2024 Aluminum Alloys in a Marine Environment, Naval Undersea Warfare Centre Report.
- Richard Brown and Dharma Maddala, Proc. of Royal Institute of Naval Architects Advanced Marine and Materials and Coatings, p. 71. .
- S.C. Yang, R. Brown, J. Sinko, *European Coating Journal*, (2005) Invited paper, in print.

Dr. Michael L. Greenfield

- Peters, C.A.; Ellwood, K.R.; Srivastava, Y; Nichols, M.E.; Greenfield, M.L. "Ultraviolet Light Absorber Mobility in Crosslinked Coatings: Experiments and Modeling," *Prog. Org. Coat.*, 2007, *58*, 272-281.
- Zhang, L. and Greenfield, M.L.; "Molecular Orientation in Model Asphalts using Molecular Simulation," *Energy Fuels*, 2007, *21*, 1102-1111.
- Zhang, L. and Greenfield, M.L.; "Analyzing Properties of Model Asphalts using Molecular Simulation," *Energy Fuels*, 2007, *21*, 1712-1716.



*Dr. Harold Knickle*

- Journal of Power Engineering, Secondary current density distribution analysis of an aluminum–air cell In Press, Corrected Proof, Available online 12 June 2006, Shaohua Yang, Weiqian Yang, Gongquan Sun and Harold Knickle.
- Electrochemical Society Transactions, "Dynamic System Simulation for a Hydrogen Storage Feed to a Solid Oxide Fuel Cell" Harold Knickle, Ke Song. Paper submitted, June 06, 2006

*Dr. Angelo Lucia*

- Lucia, A. Amale, and R. Taylor, Energy Efficient Hybrid Separation Processes, Ind. & Eng. Chem. Res., 45, 8319 (2006).
- Lucia, A. Amale, and R. Taylor, Synthesis, Design and Retrofitting of Energy Efficient Separation Processes, Distillation-Absorption 2006, E. Sorenson, Ed., Inst. Chem. Engr. 63 (2006).
- A. Lucia and R. Taylor, The Geometry of Separation Boundaries: II. Mathematical Formalism, AIChE J., currently available on-line.
- M. Bellows and A. Lucia, The Geometry of Separation Boundaries: Four Component Mixtures, AIChE J. currently available on-line.

*Dr. Mercedes A. Rivero-Hudec*

- G.F. Boudreaux-Bartels, B. Silver, L. Harlow, J. Peckham, M.A. Rivero-Hudec and K. Wishner.
- "A Model for Hiring and Retaining Top Female Engineering Faculty". *Proceedings 2007 ASEE New England Regional Conference*, pp. 514-533.

***Presentations:***

*Stanley M. Barnett*

- Barnett, S.M., Undergraduate Chemical Engineering Curriculum: Biology track, Northeast Region ASEE Conference, Kingston, RI, April 21, 2007
- Barnett, S.M and B.L.Deboef, Carbon Dioxide: An Underutilized Resource, New England Green Chemistry Consortium Conference, Amherst, MA, May 17, 2007.

*Dr. Arijit Bose*

- Microstructure Evolution and Materials Synthesis in a Mixed-surfactant Mesophase, Department of Chemical Engineering, Ohio State University, September (2006).
- Microstructure Evolution and Materials Synthesis in a Mixed-surfactant Mesophase, Department of Chemical Engineering, University of Florida, September (2006).
- Microstructure Evolution and Materials Synthesis in a Mixed-surfactant Mesophase, Department of Chemical Engineering, Tufts University, October (2006).
- Single-Step Synthesis of Catalyst Support Nanostructured Materials – Honda America, November (2006).
- Microstructure Evolution and Materials Synthesis in a Mixed-surfactant Mesophase, Department of Materials Science, University of Connecticut, April (2007).



- The Role of Confinement on the Evolution of Surfactant Mesophases, Ashish Jha, Jinkee Lee, Anubhav Tripathi, Arijit Bose, AIChE Annual Meeting, San Francisco, November 2006.
- Highly Ordered Nanoporous Titania Synthesis, Evan K. Wujcik, Jayashri Sarkar, Arijit Bose, AIChE Annual Meeting, San Francisco, November 2006.
- Single-Step Synthesis of Metal/Porous Support Nanocomposite Materials in Mixed Surfactant Mesophase, Jayashri Sarkar, Vijay T. John, G. Ramanath, Arijit Bose, AIChE Annual Meeting, San Francisco, November 2006.
- Single-Step Synthesis of Metal/Porous Support Nanocomposite Materials in Mixed Surfactant Mesophase, Sarkar, J.; Bose, A.; Brooks, C. J.; Ramanath, G.; John, V. T, MRS Meeting, Boston, December (2006).
- Sarkar, J.; Bose, A.; Brooks, C. J.; Ramanath, G.; John, V. T. "Single-step synthesis of highly ordered metal/porous support nanocomposite catalyst materials in mixed surfactant mesophase," 233rd ACS National Meeting, Chicago, March, 2007.

*Dr. Geoffrey D. Bothun*

- Bothun, G.D (*invited*). Discovery Corps Postdoctoral Fellowship: Developing an innovative program for undergraduate research and education, Special NSF symposium on "Bridging Research and Service: The Discovery Corps Experience," ACS annual spring meeting, Chicago, IL (March 2007).
- Bothun, G.D (*invited*). Life after EXPERT: Bothun lab at the University of Rhode Island, EXPERT seminar, Mechanical and Chemical Engineering, NC A&T (March 2007).
- Bothun, G.D., Uitenham, L.C., DeSimone, J.M., Baucom, E.I., Taylor, D.K. A Multidisciplinary Undergraduate Research and Development Program to Enhance Education and Diversity in Science and Engineering, AIChE annual, San Francisco, CA (Nov 2006).
- Bothun, G.D., Ilias, S., Morehead, V, Peay, K. Mesoporous Ceramic Membranes for Non-Aqueous Separations: Surface Modification and Solvent Permeability, AIChE annual, San Francisco, CA (Nov 2006).
- Garner, P.L., Prempeh, G., Williamson, L.N., Roberts, K.L., Bothun, G.D. Supercritical Carbon Dioxide-Based Cleaning and Sterilization of E. Coli and S. Aureus Biofilms from Stainless Steel Substrates, AIChE annual, San Francisco, CA (Nov 2006).
- Morehead, V., Bothun, G.D. Organic solvent permeation behavior in mesoporous ceramic membranes, AIChE annual, San Francisco, CA (Nov 2006).
- Levy, T., Bothun, G.D. Lipase stability in non-aqueous solvents examined by UV-vis spectroscopy, AIChE annual, San Francisco, CA (Nov 2006).
- Bothun, G.D (*invited*). Biomolecular interactions at compressed and supercritical fluid interfaces, Chemical Engineering seminar, Brown University (Oct 2006).

*E.E. Crisman*

- Free space measured loss comparison of single- and double-ring resonators for negative index media, J. S. Derov, B. Turchinets, J. Dean, E. E. Crisman and A. Drehman presented at the 2007 IEEE APS International Symposium on Antennas and Propagation in Honolulu, Hawaii, USA , June 10-15 (2007)
- Measured polarization rotation loss in negative index meta materials J. S. Derov, B. Turchinets, E.E. Crisman, D. Hanna and A. Drehman, presented at the March meeting of the American Physical Society, Baltimore, MD, March 13-17 (2006)



- The concept and some applications of negative refractive index materials, E.E. Crisman, J. S. Derov, B. Turchinets, S. Best and A. Drehman, presented at the University of Rhode Island, Dept. of Chemical Engineering, Seminar Series, November 2 (2006)

*Dr. Michael L. Greenfield*

- Greenfield, M.L. "Modeling for Nanoengineering: Molecular Simulation of Asphalt-like Materials," NSF Workshop on Nanomodification of Cementitious Materials, Gainesville, FL, August 2006 (invited).
- Greenfield, M.L. "Testing Models of Asphalt System Modification using Molecular Simulation," Rhode Island Transportation Forum, November 2006 (invited).
- Greenfield, M.L.; Srivastava, Y. "Ultraviolet Absorber Function in Polymers: Multiscale Simulation Starting at the Molecular Level," AIChE Annual Meeting, San Francisco, CA, November 2006.
- Hobbs, M.L.; Greenfield, M.L. "Development of an OPLS-aa Style Forcefield for Polythiophenes," AIChE Annual Meeting, San Francisco, CA, November 2006.
- Zhang, L.; Greenfield, M.L. "Viscosity of Model Asphalt Mixture Systems," AIChE Annual Meeting, San Francisco, CA, November 2006.
- Zhang, L.; Greenfield, M.L. "Analyzing Properties of Model Asphalts using Molecular Simulation," poster at Transportation Research Board, Washington, DC, January 2007.
  
- Greenfield, M.L. "Simulating Asphaltene and Chain Dynamics in Polymer Modified Model Asphalts," presented at the Global U-8 International Symposium on Advanced Technologies, l'Université de Le Havre, France, June 2007.
  
- Greenfield, M.L. "Molecular Simulation of Multicomponent Model Asphalts," presented at the Institut Français du Pétrole, Rueil-Mailmaison, France, June 2007.

*Dr. Harold Knickle*

- "Increasing the Recruitment of STEM Minorities at URI by the LSAMP Program", New England ASEE Meeting, URI, April 21, 2007 with Charles Watson
- "Using Laboratory Experiences to Increase Interest of High School Students in Stem Programs at URI", URI, April 21, 2007 with Leon Thiem
- "Steady State Energy Behavior for a Coupled Solid Oxide Fuel Cell and Metal Hydride Bed Source". ECS Chicago 2007, Ke Song and Harold. Knickle
- "Important Control Variables for a Coupled SOFC-MHB System" ECS Chicago 2007, Harold. Knickle and Ke Song
- "Dynamic System Simulation for a Hydrogen Storage Feed to a Solid Oxide Fuel Cell," ECS Meeting Denver 2006 Harold Knickle, Ke Song,
- "Metal Hydrogen Storage Feed to a Solid Oxide Fuel Cell: System Dynamics" ECS Meeting Denver 2006 Harold Knickle, Ke Song,

*Dr. Angelo Lucia*



- Synthesis, Design and Retrofitting of Energy Efficient Separation Processes, with A. Amale, R. Taylor, Distillation-Absorption 2006, London, UK, September 2006.
- A Geometric Terrain Methodology for Global Optimization, Tennessee Tech University, October 2006.
- A New Approach to Energy Efficient Process Design, with A. Amale, R. Taylor, AIChE Annual Meeting, San Francisco, CA, November 2006.
- Multiscale Optimization in Molecular Modeling, with R. Gattupalli, AIChE Annual Meeting, San Francisco, CA, November 2006.
- Parameter Estimation Using a Terrain Methodology, with D. Visco, S. Saravanan, AIChE Annual Meeting, San Francisco, CA, November 2006.
- Resource-Efficient Chemical Process Design, with A. Amale, R. Taylor, Dupont, Wilmington, DE, March 2007.
- A Fresh Look at Underwood's Method, with A. Amale, AIChE Spring Meeting, Houston, TX, April 2007.

**Patents:**

*Dr. Richard Brown*

- Chromate Free Method for Surface Etching of Aluminum and Aluminum

*E.E. Crisman*

- "Optical Strain Gage Compatible with Fiber Optic Systems" U. S. Patent #7,002,673 (21 February 2006).
- "System for Converting Infrared Images to Visible Images" Patent filed, (February, 2006)

**Faculty Research Areas**

*Dr. Stanley Barnett*

Research Interests:

- Membrane Separations
- Biological Engineering
- Alternative Energy Programs

Education Centers:

- R.I. Center for Pollution Prevention (Green Chemistry and Engineering programs)
- Innovative Energy Collaborative

*Dr. Arijit Bose*

Research Interests:

- Interfacial and Colloidal Engineering; Nanostructured materials

*Dr. Geoffrey D. Bothun*

Research Interests:

- Bionanotechnology



- Colloidal and interfacial science
- Ceramic membrane separations
- Nanoscale fluid mechanics

*Dr. Richard Brown*

Research Interests:

- Degradation of Materials by Erosion, Corrosion, and Fatigue
- Electron Microscopy of Materials

Education Center:

- Corrosion and Surfaces Laboratory

*Dr. Everett Crisman*

Research Interests:

- Giant magneto resistance devices
- Carbon nano-tubes for superconducting Applications
- 'Left handed' meta- materials for communications
- Ferro- and pyroelectric thin films for infrared and microwave imaging
- Optical and high temperature strain gages
- wide bandgap semiconductor device development
- The application of AFM, STM and SIMS to forensic science investigations.

Partnership:

- Co-Director, University of Rhode Island Forensic Science Partnership

*Dr. Donald Gray*

Research Interests:

- Closed Loop Recycling Systems
- Metal Vapor Degreasing Systems
- Alternative Cleaning Solvents
- Vacuum Technology

*Dr. Michael L. Greenfield*

Research Interests:

- Polymers and polymer additives
- Molecular simulation, thermodynamics, statistical mechanics
- Diffusion in polymers
- Fluid and asphalt physical properties and fluid design
- Molecular tribology

*Dr. Harold Knickle*

Research Interests:

- Aluminum-air battery design and evaluation

*Dr. Angelo Lucia*

Research Interests:



- Process Modeling
- Synthesis and Simulation
- Nonlinear Analysis
- Numerical Methods

Education Center:

- Process Engineering Laboratory

*Dr. Eugene Park*

Research Interests:

- Pollution Prevention/Cleaner Production
- Membrane Separation

Education Center:

- R.I. Center for Pollution Prevention

*Dr. Mercedes Rivero-Hudec*

Research Interests:

- Aquatic Microorganisms
- Heavy Metals
- Biorrosion and Fouling

Education Center:

- Biochemical Engineering Laboratory

*Dr. Vincent Rose*

Research Interests:

- Pollution Control
- Energy Management
- Water Management

Education Center:

- Innovative Energy Collaborative

***Internal and External Service:***

Stanley M. Barnett

- University College Advisor, Chemical Engineering
- Admissions Committee, Engineering Representative
- Chemical Engineering Class Advisor
- Chemical Engineering Undergraduate Committee
- National Science Foundation Reviewer
- US Dept. of State Reviewer
- AIChE Journal Reviewer
- J. Membrane Science Reviewer
- Transactions on Nanotechnology Reviewer
- Biotechnology Progress Reviewer

*Dr. Arijit Bose*



- Department Chair
- Panel reviewer, NSF MRI, March 2007
- Advisor, National Institute of Materials Science, International Center for Young Scientists, Tsukuba, Japan.
- Associate Editor, IEEE Transactions in Nanotechnology
- Board of Editors, Journal of Surface Science and Technology.
- Reviewer for 11 NSF and 3 ACS-PRF proposals
- Reviewed manuscripts for Journal of Colloid and Interface Science, Langmuir, IEEE Transactions in Nanotechnology, Journal of Nanoscience and Nanotechnology.
- Member of thesis committees in Chemical Engineering, Mechanical Engineering, Chemistry and Pharmacy.
- Consulting: Cabot Corporation, Vitrimark Corporation, CPC, Inc.
- URI Provost Search Committee
- URI Director of Industrial Technology Transfer Search Committee

*Dr. Geoffrey D. Bothun*

- University College Advisor (*in training*), Department of Chemical Engineering
- Faculty Advisor, URI American Institute of Chemical Engineering student chapter
- URI Welcoming Day Department representative
- Department of Chemical Engineering Strategic Planning Committee
- Amgen High School Science Fair judge, Cranston, RI (March 2007)
- Peer-reviewer for *Transactions in Nanotechnology*, *Journal of Membrane Science*, and *Chemical Engineering Research and Design*
- Organized URI/Brown University student AIChE Local Paper Contest, sponsored by the professional RI AIChE chapter (March 2007)
- Scientific Advisory Board, *Regional Bioengineering and Biotechnology Conference*, University of Massachusetts Dartmouth; participants, URI, UM-D, and Brown University (Feb 2007).

*Dr. Richard Brown*

- College Search Committee for Assistant Dean of Research

*Dr. Donald Gray*

- Department of Chemical Engineering Undergraduate Committee
- AIChE Student Chapter Advisor

*Dr. Michael L. Greenfield*

- Chair of AIChE Area Thermodynamics and Transport Properties
- Chair of 1 session at the AIChE Annual Meeting
- Chair and member of Department of Chemical Engineering Graduate Committee
- Webmaster for Department of Chemical Engineering
- COE Representative on URI Transportation Center Advisory Committee
- Reviewer for 1 ACS-PRF proposal
- Reviewer of 9 manuscripts for Chemical Engineering Science, Energy Fuels, Fluid Phase Equilibria, Journal of Chemical Physics, Journal of Physical Chemistry B, Langmuir, Physica A, Polymer, SAE Congress



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- Thesis Committee, Chemistry, Mechanical Engineering, Pharmacy, Biomedical Engineering and Civil Engineering
- “Meet the University” volunteer

*Dr. Harold Knickle*

- Secretary Treasurer, New England Section of ASEE
- Board of Directors, Zone I and Planning Committee
- Judge for Best Paper at NE Annual Meeting, WPI
- Appointed ABET observer for Chemical Engineering
- Fall, Spring and Summer Academies for High School Students, NSF LSAMP Project
- Recruitment and Retention Activities, NSF LSAMP Project
- Foundations of Engineering Exam Review FE Exam
- Thermodynamics and Heat Transfer Sessions FE Exam
- Committee Member, Department of Chemical Engineering
- Training and Operation on Mettler Toledo RC! Automatic Lab Reactor, Successfully ran two sets of experiments.
- MACE Committee, University
- Key note speaker at both workshops, RI Atomic Energy Commission, and Nuclear Science Center
- Chair of Radiation Safety and Operations, Chair of Subcommittee for Radiation Safety
- Reviewer of chemical engineering applications for NDSEG, ASEE
- Reviewer, Journal of Power Engineering
- Reviewer, Chemistry of Materials

*Dr. Angelo Lucia*

- Member of Department of Chemical Engineering Graduate Committee
- Reviewed papers for AIChE Journal, Computers & Chemical Engineering, Industrial & Engineering Chemistry, Thermal Sciences
- Initiated high school summer internship program
- Served on three separate NSF proposal review panels

*Dr. Mercedes Rivero*

- Chair, Undergraduate Committee, Chemical Engineering
- Faculty Mentor, TA Workshop, Chemical Engineering
- Committee Member, Ms. Liqun Zhang’s oral comprehensive exam, Chemical Engineering
- Defense Chair, Mr. Pejman Hassanzadeh’s oral examination, Industrial Engineering
- Student Learning Improvement Assessment Advisory Committee (SLIAAC), Engineering Representative, URI
- Residence Appeals Committee, URI
- ADVANCE Leadership Team, URI
- Co-chair, Diversity in Engineering Session, 2007 ASEE New England Regional Conference, ASEE

*Dr. Vincent Rose*

- University Ombudsman



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- College of Engineering Academic Appeals Committee
- College of Engineering Diversity Committee
- RIDEM greenhouse gas taskforce-stakeholder
- RI Energy Office, Renewables Advisory Board
- Undergrad. Awards Dept. Selection Person
- Advisor, Tau Beta Pi Honor Society
- Chair, Rhode Island Atomic Energy Commission
- President, Kingston Water District Board of Commissioners
- Secretary, Kingston Fire District Board of Wardens
- Secretary, Save the Bay Board of Directors
- Vice President, Kingston Improvement Association
- Building Manager, Department of Chemical Engineering
- Assistant Treasurer, RI Section AICHE
- Academic Standards and Calendar Committee
- University EMS Committee
- Life Member, ASEE
- Registered Professional Engineer in Rhode Island
- Participated in the COE Parent Orientation
- Participated in the Meet the University Days
- Participated in the Centennial Scholar Day
- Participated in Open Day
- Participated in the 14000 round table
- President, Kingston Water Board of Commissioners
- Vice President, Kingston Fire District Board Wardens
- Asst. Treasurer, RI Chapter AICHe
- Secretary, Save the Bay Board



**RESEARCH FUNDING:**  
***External Research Funds Received by Faculty:***

*Dr. Stanley Barnett*

- Barnett, S.M., USEPA, NE Green Chemistry Consortium Participation, 2006-7, \$53950
- Barnett, S.M. and Park, E., USEPA, Technical Assistance Program, 2006-7, \$75,000

*Dr. Arijit Bose*

- Bose, Arijit, "Single-step Synthesis of Catalyst Nanocomposites, URITC, \$68,008.
- Bose, Arijit, "Single-step Synthesis of Catalyst Nanocomposites", Honda, \$50,000.
- Bose, Arijit, Transmission Electron Microscope for Nanomaterials Research and Education NSF \$636,979 (PI, 4 co-PIs).

*Dr. Geoffrey D. Bothun*

- NSF Faculty Development Award, \$100,000 (CHE-0715003, 5/1/07 – 4/30/08).
- ACS Petroleum Research Fund Type G Starter Grant, "Liquid transport mechanisms and surface interactions in nanoporous materials," \$40,000 (PRF# 45727-G9, 1/1/07 – 8/31/09).
- NIH Rhode Island IDEa Network of Biomedical Research Excellence, Pilot Study Grant, "Mechanistic study of the cellular membrane response to synthetic nanoparticles," \$10,000 (11/6/06 – 4/30/07).

*Dr. Richard Brown*

- Brown, Richard, "University of Rhode Island Transportation Center", RIDOT, \$70,091.

*Dr. Everett Crisman*

- IPA to Air Force Research Laboratory, Air Force Research Laboratory, *Development of Metamaterial for Negative Index Applications*, 28 July 2006 - 27 July 2007 (\$161,253.64)
- *Detection of Specific Gases by Metal Oxide Catalysis*, with O. J. Gregory, 1 May 2006 - 31 December 2007 (\$204,000.00)

*Dr. Harold Knickle*

- NATO, Networking Infrastructure with Kharkov Institute, \$18,000 continuing
- NSF Northeastern LSAMP Grant Phase II, with 4 other Universities starting in 2005, URI Share is \$66,000.00
- RI WATER RESOURCES Water Quality \$18,000
- DOE/RI Preliminary Design Landfill Gas Coupled with a SOFC \$24,000

*Dr. Angelo Lucia*

- Lucia, Angelo, "Understanding Wax Formation from a Molecular Perspective", NONPRO, \$80,000.
- Lucia, Angelo, "Summer Internships", URI Foundation, \$7,500.
- Lucia, Angelo, "BP Exploration Operating, Co. LTD, URI Foundation, \$20,000.



*Dr. Eugene Park*

- Park, Eugene and Barnett, Stanley M., “Pollution Prevention Technical Assistance to RI Industry”, EPA, \$75,000.

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**DEPARTMENT BUDGET AND FOUNDATION ACCOUNTS:**

*Summary of Department Budget:*

	2004-2005	2005-2006	2006-2007
Personnel	\$837,556.00	\$785,751.00	\$1,149,896.00
Operating	\$30,251.00	\$29,462.00	\$24,815.00
Capital/ABET	\$ 0.00	\$10,500.00	\$18,485.35
Travel	\$0.00	\$0.00	\$0.00
Faculty Development Funds	\$1,190.00	\$1,307.00	\$1,619.00
Overhead (Generated)	\$30,325.00	\$24,094.00	\$32,610.00
Release Time	\$0.00	\$0.00	\$0.00
<b>TOTAL</b>	<b>\$ 899,322.00</b>	<b>\$851,114.00</b>	<b>\$1,031,305.00</b>

*Foundation Accounts:*

NAME OF FOUNDATION ACCOUNT:	TOTAL ASSETS:
Department of Chemical Engineering Endowment*	\$49,973
Vin Rose Family Endowment Fund	\$35,358
Victor J. Baxt Endowed Chair of Polymer Engineering	\$952,189
David J. Chronley Fund in Chemical Engineering	\$13,056
Joseph Estrin Endowed Graduate Seminar Series	\$18,825
Chester H. Kirk Distinguished Professorship	\$500,007
Alan Corry Endowment	\$10,243
A. Ralph Thompson Award in Chemical Engineering	\$15,588
Nystrom Family Endowment in Chemical Engineering	\$40,376
Arlene & David E. Brook Chemical Engineering Endowment	\$25,810
David Shilling Memorial Endowment in Chemical Engineering	\$23,750
Total	\$1,666,353



**UNDERGRADUATE PROGRAM:**

*Undergraduate Enrollment*

The Department undergraduate enrollment over the past two years is summarized in the following table:

Chemical Engineering	2005-2006	2006-2007
Freshman*	24	37
Sophomores*	15	22
Juniors	4	15
Seniors	14	15
Totals	57	89

\*Enrollment figures for Freshmen and Sophomores are estimates and do not include undecided students.

\*\* Includes Chemical & Ocean Engineering Enrollment

*Undergraduate Courses Taught:*

**Fall 2006**

Course	Description	Instructor
ChE 212	Chemical Processes Calculations	Dr. Michael Greenfield
ChE 314	ChE Thermodynamics II	Dr. Otto Gregory
ChE 328	Industrial Plants	Dr. Vincent Rose
ChE 333	Engineering Materials	Dr. Richard Brown
ChE 345	ChE Laboratory	Dr. Donald Gray
ChE 347	Transfer Operations I	Dr. Stanley Barnett
ChE 349	Transfer Operations III	Dr. Geoffrey Bothun
ChE 351	Plant Design and Economics	Dr. Donald Gray
ChE 425	Process Dynamics and Control	Dr. Harold Knickle
ChE 491	Special Problems	Barnet, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec, Rose
ChE 492	Special Problems	Barnet, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec, Rose

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*Spring 2007*

Course	Description	Instructor
ChE 272	Introduction to ChE Calculations	Dr. Michael Greenfield
ChE 313	ChE Thermodynamics I	Dr. Angelo Lucia
ChE 332	Physical Metallurgy	Dr. Otto Gregory
ChE 346	Chemical Engineering Laboratory	Dr. Donald Gray, Dr. Harold Knickle
ChE 348	Transfer Operations II	Dr. Stanley Barnett
ChE 352	Plant Design and Economics	Dr. Donald Gray
ChE 464	Industrial Reaction Kinetics	Dr. Rivero-Hudec

ChE 491	Special Problems	Barnet, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec, Rose
ChE 492	Special Problems	Barnet, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec, Rose

*Undergraduate Students working on research projects:*

*Dr. Stanley Barnett*

- Samuel Matus '10
- Geof Hanson '10
- Megan R. Quiterio '09
- Melissa Williams '08
- Lee Kang '07

Student Posters

- S. Matus, Biological Fuel Cells, ACS Rhode Island Section Meeting, April 2007 ; and AIChE Rhode Island Section Meeting, March 2007
- M. Williams, Biological Fuel Cells, ACS Rhode Island Section Meeting, April 2007 ; and AIChE Rhode Island Section Meeting, March 2007

*Dr. Arijit Bose*

- Javier Jose, High School

*Dr. Geoffrey D. Bothun*

- Sean Marnane (senior, CHE)
- Rob DeLuca (junior, microbiology)
- Qian Ni (sophomore, CHE)

*Dr. Richard Brown*

- Robert Benevides
- Patrick Fuller
- David Keach,



*Dr. Michael Greenfield*

- Adam Hanks
- Ben Henry

*Dr. Angelo Lucia*

- Lilia Bravewolf
- Taylor Lichatz

Dr. Vincent Rose

- Trevor Altman, MCE, RIOWRR

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*College of Engineering*  
**Department of Chemical Engineering**

**Undergraduate Curriculum**

Chemical Engineering Curriculum, B.S. Degree

**Freshman, First Semester**

CHM 101 Gen. Chem Lec. I                    3  
CHM 102 Chem. Lab                            1

**Sophomore, First Semester**

CHE 212 Chem. Proc. Calc.                3  
CHM 291 or 227 Organic Chem.

**Junior, First Semester**

CHE 314 ChE Thermo. II                    3  
CHE 347 Transfer Operations I            3

**Senior, First Semester**

CHE 328 Industrial Plants                1  
CHE 345 Chem. Eng. Lab.                2  
CHE 349 Trans. Oper. III                2  
CHE 351 Plant Design & Econ.            3  
CHE 425 Process Dynamics & Control    3  
ELE 220 Passive/Active Circuits  
or approved Prof. Elective                3

**Freshman, Second Semester**

CHM 112 Gen. Chem                        3  
CHM 114 Chem. Lab                        1

**Sophomore, Second Semester**

CHE 272 Intro. ChE Calcs.                3  
CHE 313 ChE Thermo I                    3

**Junior, Second Semester**

CHE 348 Trans. Oper. II                    3  
CHE 464 Indus. React. Kinetics        3

**Senior, Second Semester**

CHE 346 Chem. Eng. Lab.                2  
CHE 352 Plant Design & Econ.            3



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or approved Prof. Elective	3
Approved Prof. Elective	3
<i>total: 17</i>	

**Total Credits 131/133**

***College of Engineering***  
**Department of Chemical Engineering**  
**Chemical and Ocean Engineering Program**

**Senior, First Semester**

CHE 328 Industrial Plants	1
CHE 349 Trans. Oper. II	2
CHE 351 Plant Design & Econ.	3
CHE 403 Intr. Ocean Procs. I	3
CHE 464 Indus. React. Kinetics	3
ELE 220 Passive/Active Circuits	
or approved Prof. Elective	3
Approved Prof. Elective (3)	3

*total: 18*

**Senior, Second Semester**

CHE 352 Plant Design & Econ.	3
CHE 404 Intro. Ocean Procs. II	3
CHE 534 Corrosion & Corrosion Control	3
OCE 311 Basic Costal Measurement	4
Gen. Ed. Requirements (2)	6

*total: 19*

**Total Credits 134/136**



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*College of Engineering*  
**Department of Chemical Engineering**  
**Biology Track in Chemical Engineering**

<b>Freshman, First Semester</b>		<b>Freshman, Second Semester</b>	
CHM 101 Gen. Chem Lec. I	3	CHM 112 Gen. Chem	3
CHM 102 Chem. Lab	1	CHM 114 Chem. Lab	1
EGR 105 Fundam. of Engr. I	1	EGR 106 Fundam. of Engr. II	2
MTH 141 Intro. Calc.	4	MTH 142 Interm. Calc.	4
PHY 203 Elem. Physics I	3	BIO 101 Principles Bio I	4
PHY 273 Elem. Phys. Lab. I	1	ECN 201 Econ. Prin. or	3
Gen. Ed. Requirement (1,2)	3	Gen. Ed. Requirement(2)	
<i>total: 16</i>		<i>total: 17</i>	

<b>Sophomore, First Semester</b>		<b>Sophomore, Second Semester</b>	
CHE 212 Chem. Proc. Calc.	3	CHE 272 Intro. ChE Calcs.	3
CHM 227 or 291 Organic Chem.	3 or 4	CHE 313 ChE Thermo I	3
MTH 243 Multivariable Calc.	3	CHE 332 Physical Metallurgy	3
Gen. Ed. Requirements (2)	6	BIO 341 Cell Biology	3
<i>total: 15 to 16</i>		MTH 244 Diff. Eq. or	3
		MTH 362 Adv. Eng. Math I	
		<i>total: 15</i>	

<b>Junior, First Semester</b>		<b>Junior, Second Semester</b>	
CHE 314 ChE Thermo. II	3	CHE 348 Trans. Oper. II	3
CHE 347 Transfer Operations I	3	CHE 464 Indus. React. Kinetics	3
BCH 311 Biochemistry	3	BIO 352 Genetics	3
PHY 204 Elem. Physics	3	MIC 211 Intro. Microbiology	4
PHY 274 Elem. Phys. Lab. II	1	Gen. Ed. Requirements (2)	6
Gen. Ed. Requirement (2)	3	<i>total: 19</i>	
<i>total: 16</i>			




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<b>Senior, First Semester</b>		<b>Senior, Second Semester</b>	
CHE 328 Industrial Plants	2	CHE 346 Chem. Eng. Lab.	2
CHE 345 Chem. Eng. Lab	2	CHE 352 Plant Design & Econ	3

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<b>Senior, First Semester</b>		<b>Senior, Second Semester</b>	
CHE 328 Industrial Plants	1	CHE 346 Chem. Eng. Lab.	2
CHE 345 Chem. Eng. Lab.	2	CHE 352 Plant Design & Econ.	3
CHE 349 Trans. Oper. III	2	BIO 437 Fundam. Molec. Bio.	3
CHE 351 Plant Design & Econ.	3	Approved Prof. Elective (3)	3
CHE 425 Process Dynamics & Control	3	Approved math elective	3
Approved Prof. Elective	3	Gen. Ed. Requirement (2)	3
Gen. Ed. Requirement (2)	3	<i>total: 17</i>	
<i>total: 17</i>			

**Total Credits 132**

**College of Engineering  
Department of Chemical Engineering**

**Pharmaceutical Track in Chemical Engineering**

<b>Freshman, First Semester</b>		<b>Freshman, Second Semester</b>	
CHM 101 Gen. Chem Lec. I	3	CHM 112 Gen. Chem	3
CHM 102 Chem. Lab	1	CHM 114 Chem. Lab	1
EGR 105 Fundam. of Engr. I	1	EGR 106 Fundam. of Engr. II	2
MTH 141 Intro. Calc.	4	MTH 142 Interm. Calc.	4
PHY 203 Elem. Physics I	3	BIO 101 Principles Bio I	4
PHY 273 Elem. Phys. Lab. I	1	ECN 201 Econ. Prin. or	3
Gen. Ed. Requirement (1,2)	3	Gen. Ed. Requirement(2)	
<i>total: 16</i>		<i>total: 17</i>	

<b>Sophomore, First Semester</b>		<b>Sophomore, Second Semester</b>	
CHE 212 Chem. Proc. Calc.	3	CHE 272 Intro. ChE Calcs.	3
CHM 227 or 291 Organic Chem.	3 or 4	CHE 313 ChE Thermo I	3
MTH 243 Multivariable Calc.	3	CHE 332 Physical Metallurgy	3
Gen. Ed. Requirements (2)	6	BCH 311 Biochemistry	3
<i>total: 15 to 16</i>		MTH 244 Diff. Eq. or	3
		MTH 362 Adv. Eng. Math I	
		Gen. Ed. Requirement (2)	3
		<i>total: 18</i>	

<b>Junior, First Semester</b>		<b>Junior, Second Semester</b>	
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BPS 301 Dosage Forms I	2	CHE 348 Trans. Oper. II	3
BPS 303 Dosage Forms II	2	CHE 464 Indus. React. Kinetics	3
BPS 305 Dosage Forms III	2	BIO 341 Cell Biology	3
CHE 314 ChE Thermo. II	3	MIC 211 Intro. Microbiology	4
CHE 347 Transfer Operations I	3	Gen. Ed. Requirement (2)	3
PHY 204 Elem. Physics	3		<i>total: 16</i>
PHY 274 Elem. Phys. Lab. II	1		
	<i>total: 16</i>		



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ChE Dual Degree Program:  
**GRADUATE PROGRAM:**

*Graduate Enrollment and Support:*

Graduate enrollment in the masters and doctoral programs is listed in the table below:

Graduate Enrollment:

	FULL-TIME	PART-TIME	INACTIVE
Masters	7	3	2
Doctoral	4	2	0
Total:	11	5	2

Graduate Support:

	2005-06
GRADUATE TEACHING ASSISTANTS	4
RESEARCH ASSISTANTS*	7

\* includes partially supported students



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***Graduate Courses Taught:***

***Fall 2006***

Courses	Description	Instructor
ChE 501	Graduate Seminar	Dr. Michael Greenfield
ChE 503	Dynamics of ChE Applications	Dr. Mercedes Rivero-Hudec
ChE 542	Advances in Interfacial Phenomena	Dr. Arijit Bose
ChE 574	Biochemical Engineering I	Dr. Stanley Barnett
ChE 591	Special Problems	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 592	Special Problems	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 599	Master's Thesis Research	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 691	Special Problems	Dr. Harold Knickle
ChE 600	Doctoral Dissertation	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec

***Spring 2007***



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Courses	Description	Instructor
ChE 502	Graduate Seminar	Dr. Angelo Lucia
ChE 530	Polymer Chemistry	Dr. Michael Greenfield
ChE 534	Corrosion and Corrosion Control	Dr. Richard Brown
ChE 539	Electron and Light Microscopy of Solids	Dr. Otto Gregory
ChE 541	Transport Phenomena	Dr. Arijit Bose
ChE 548	Separations for Biotechnology	Dr. Stanley Barnett
ChE 591	Special Problems	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 592	Special Problems	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 599	Master's Thesis Research	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 641	Transport Phenomena II	Dr. Harold Knickle
ChE 691	Special Problems	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec
ChE 699	Doctoral Dissertation	Barnett, Bose, Bothun, Brown, Gray, Greenfield, Gregory, Knickle, Lucia, Rivero-Hudec

*Graduate Student Advising:*

*Dr. Stanley Barnett*

- Hettenbach, Kevin, PhD
- Clements, Joshua, MS
- Jorgensen, Matthew, MS
- Wenskowicz, Barry, MS

*Dr. Arijit Bose*

- Jha, Ashish, M.S. and Ph.D.
- Sarkar, Jayashri, M.S. and Ph.D.
- Grid Truengsatitwong, M.S.

*Dr. Geoffrey D. Bothun*

- Yanjing Chen, Ph.D.



*Dr. Michael L. Greenfield*

- Cloutier, Joshua, M.S.
- Hobbs, Michael, M.S.
- Zhang, Liqun, Ph.D.

*Dr. Otto J. Gregory*

- Aboyoun, Tara, M.S. (part-time)
- Cummiskey, Christopher, M.S.

*Dr. Harold Knickle*

- PhD, Ke Song
- MS, Mathew Preiss

*Dr. Angelo Lucia*

- Amale, Amit, Ph.D.
- Gattupalli, Rajeswar, Ph.D.

*Dr. Mercedes Rivero-Hudec*

- Goglia, Diana, M.S.

**Master of Science Graduates:**

*Dr. Stanley Barnett*

- Jorgensen, Matthew

*Dr. Arijit Bose*

- Sarkar, Jayashri
- Jha, Ashish
- Grid Truengsatitwong (current)

*Dr. Otto Gregory*

- Busch, Eike

*Dr. Angelo Lucia*

- Gattupalli, Rajeswar

*Dr. Mercedes Rivero-Hudec*

- Goglia, Diana

**Doctorate Graduates:**

*Dr. Mercedes Rivero-Hudec*

- Cai, Hong





SPECIAL DEPARTMENT ACTIVITIES:

**Spring 2007 Seminars**

Refreshments will be provided by the J. Estrin Endowment Fund.

Date	Speaker	Topic
February 1	<u>Professor David Ford,</u> <u>Dept. of Chem. Engineering,</u> <u>University of Massachusetts</u>	<u>Organic-Inorganic Nanocomposite</u> <u>Membranes for Solubility-Based</u> <u>Separations</u>
March 1	<u>Professor Mark Stadtherr,</u> <u>Dept. of Chem. &amp; Biomolecular Eng.,</u> <u>University of Notre Dame</u>	Validated Solution of Initial Value Problems Using Interval Methods
March 29	<u>Professor Gareth McKinley,</u> <u>Dept. of Chem Engineering,</u> <u>MIT</u>	<u>Elasto-Capillary Thinning and the</u> <u>Breakup of Complex Fluids</u> (or why some things are stickier than others!)
April 5	<u>Dr. Brenda Little,</u> <u>Naval Research Laboratories,</u> <u>Stennis Space Center, U.S. Navy</u>	<u>Natural Seawater - When Does It</u> <u>Become Unnatural?</u>
April 12 <i>rescheduled</i>	<u>Professor Erik Ydstie,</u> <u>Dept. of Chem. Engineering,</u> <u>Carnegie Mellon University</u>	<u>Inventory and Flow Control in</u> <u>Complex Networks</u>
April 19	<u>Dr. Frank Csillag,</u> <u>VP of R &amp; D</u> <u>St. Gobain High Performance</u> <u>Materials</u>	R & D in High Performance Materials
May 10	<u>Professor Donald Visco,</u> <u>Dept. of Chem. Engineering,</u> <u>Tennessee Tech University</u>	<u>Solving Inverse Molecular Design</u> <u>Problems Using the Signature</u> <u>Molecular Descriptor</u>