



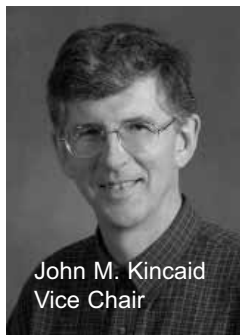
The Department of Mechanical Engineering/CEAS Summer Newsletter 2005



Fu-pen Chiang
Chair

Dear Mechanical Engineering Friends and Family:

The 2005 Academic Year ended with the Mechanical Engineering graduation on Friday, May 21st. Friends and family of our graduates gathered to share in the joy of their day. The students were treated to a DVD, created by Ann Berrios which featured pictures the students contributed (including their baby pictures). Many students won awards for their work on projects, contributions to the community and school spirit. The list of the recipients is in this newsletter. Finally, the students presented John Metzger with a plaque in recognition of his many years as their advisor and teacher. John is leaving the Department for a job with Bettis Atomic Power Laboratory in Pittsburgh. Dr. Attinger has accepted a position on the faculty of Columbia University's School of Engineering. We shall miss them!



John M. Kincaid
Vice Chair

This year, we had an influx of research money beginning with Daniel Attinger's NSF CAREER grant: "Bubble Dynamics in Microscale Geometries" (February 2005-January 2010). The DOE (Department of Energy) awarded a three-year Nuclear Energy Research grant entitled "Novel Processing of Unique Ceramic-Based Nuclear Fuels and Materials" in the amount of \$817,305 to PI, Dr. John D. Metzger. The co-PI's for the project are Professor Raman Singh and Professor Hui Zhang.

Two Mechanical Engineering student groups won URECA awards (Undergraduate Research Education and Creative Activities): Andrew D'Agostino, Jerry Ma and Travis Baldwin won for "Propulsion Design for A Model Airplane", and Mike Garardi and Greg Rossi won for their work on biodiesel fuel. Andrew, Jerry and Travis presented their project to Executives at ATK GASL and Fawad Durrani and Paul Guterman presented their senior project, "Climate Control for Computers in Extreme Environments" to AFCO Systems. Both AFCO and ATK GASL expressed interest in seeing more from our ME seniors in the years to come.



Jeff Ge, Undergrad
Program Director

We received the great news that Dr. Toshio Nakamura has been named ASME (American Association of Mechanical Engineers) Fellow. This is a well deserved accolade. Dr. Nakamura joins Dr. Jahangir Rastegar in this honor.

Congratulations to Dr. Raman Singh who, in the 2004-2005 academic year, was promoted to Associate Professor with tenure. Dr. Chad Korach, Ph.D. from Northwestern University, joined us in the Fall. Dr. Korach's expertise is in the field of Tribology. In fall, 2005, we will welcome two new faculty members, Dr. Yu (Joe) Zhou with expertise in Biomechanical Engineering (Ph.D. Johns Hopkins) and Dr. Goldie Nejat (Ph.D., University of Toronto), with expertise in robotics.

I hope you enjoy this newsletter. Look for future updates on our website.

Sincerely,
Fu-pen Chiang
SUNY Distinguished Professor and Chair



MaryAnn Caprari,
Graduate Program
Secretary
Patricia Brockbank
Department Secretary



Assistant to the
Chair
Ann Berrios
(newsletter editor)

Lin-Shu Wang,
Graduate Prog. Dir.



Ta Yung
Hsu, Director
of Laboratories



Senior Students Present Their Project To ATK GASL

Mechanical Engineering graduating seniors Andrew D'Agostino, Travis Baldwin and Jerry Ma presented their project "Jet Propulsion for a Model Airplane" to executives at GASL industries here on Long Island. Advisor to is project is John Metzger. The students answered questions and swapped stories with company executives on tests and design protocols. The students were given a tour of GASL's scaled physical component test stands (one of which tests the effects of jet wash on various materials in different configurations such as homogeneous material, laminate layers and composite materials). Company executives reported being very impressed with the group and expressed an interest in seeing what more senior projects in the years to come. This group won third place in the URECA (Undergraduate Research in Education and Creative Activities) Day celebration on campus, May 11, 2005.

Senior Students Present Their Project to AFCO Systems

Mechanical Engineering graduating seniors Fawad Durrani, Paul Guterman and Alex Alexrod presented their project, "Climate Control for Computers in Extreme Environments" (advisor, John Metzger) to executives at AFCO Systems in Farmingdale, NY. This company specializes in enclosures and racks for electronics that are climate and access controlled. Company executives were very impressed with the ME student projects. Company President, Michael Mallia, spent two hours with the group, offered suggestions and told them he would be willing to work with them to develop their idea further. He said he would like to work with a senior design group next year.

Collaborative Efforts Rewarded

Dr. John Metzger collaborated with Positronics Research, LLC of Santa Fe New Mexico on a proposal to the NASA Institute for Advanced Concepts entitled "Positron Propelled and Powered Space Transport Vehicle for Planetary Missions." The Phase 1 proposal was chosen one of 12 funded proposal from 158 submittals. Dr. Metzger is a consultant to the company. Positronics Research is headed up by Dr. Gerald Smith, Professor Emeritus and former Chair of the Department of Physics Penn State University. Positronics Research engineers devices for high-density storage of antimatter and devices that convert antimatter annihilation products to useful forms of energy. They have developed the world's largest (high-density) antimatter storage trap at their laboratory. Dr. Metzger, Prof. Smith and Mr. Kirby Meyer have a related patent pending entitled "Apparatus and Method for Positron Fueled Ramjet Operation."

NSF CAREER Grant

Dr. Daniel Attinger, Assistant Professor in the Department of Mechanical Engineering, received a CAREER grant from the National Science foundation. The title of the research project is "Bubble Dynamics in Microscale Geometries" This is a five-year, \$400,000 grant which began in January, 2005. He is currently the principal investigator of another NSF grant (jointly with Professor Jon Longtin of the Department) entitled "Coupling the High Resolution of Laser Measurements and Finite Elements Simulations to Understand Transport Phenomena during Microdroplet Deposition", \$259,795, 2/15/04-2/14/07. Dr. Attinger's CAREER award is the fifth CAREER award of the Department since 1998 which includes a PECASE award won by Dr. Jon Longtin. Other CAREER award winners are Drs. Hui Zhang, Lili Zheng and Robert Kukta.



New Grant for ME Professors

The DOE (Department of Energy) awarded a three-year Nuclear Energy Research grant entitled "Novel Processing of Unique Ceramic-Based Nuclear Fuels and Materials" in the amount of \$817,305 to PI, Dr. John D. Metzger. The co-PI's for the project are Professor Raman Singh and Professor Hui Zhang. The project collaborates with the Brookhaven National Laboratory. The BNL collaborators are Dr. Michael Todosow and Dr. Hans Ludewig.

ME Professors as Editors

Dr. Raman Singh has been invited to be an Associate Editor of *Experimental Mechanics*. Dr. Jeff Ge (Associate Professor), Associate Editor of ASME (American Society of Mechanical Engineers) *Journal of Mechanical Design*, Dr. Jahangir Rastegar (Associate Professor), Associate Editor of ASME *Journal of Mechanical Design* and the flagship publication of the Society for Experimental Mechanics and Dr. Fu-pen Chiang (Distinguished Professor and Chair) currently serves on the editorial board of the *International Journal of Optics and Lasers in Engineering* and *Mechanica Sinica*. Dr. Imin Kao (Associate Professor) just completed his term as Associate Editor of IEEE (Institute of Electrical and Electronics Engineers), *Transactions of Robotics and Automation*. This is in addition to Dr. Kao's tenure as *Associate Editor of the International Journal of Advanced Manufacturing*. Other past editorships include Dr. Fu-pen Chiang, SUNY Distinguished Professor and Chair, who served as the editor of the *International Journal of Optics and Lasers in Engineering* for eight years. Dr. Chiang was also an associate editor for *Experimental Mechanics*, the ASME *Journal of Engineering Materials and Technology* and guest editor (twice) for *Optical Engineering* published by SPIE - the International Society for Optical Engineering. Dr. Raman Singh (Associate Professor) was once a guest editor of the *International Journal of Optics and Lasers in Engineering*.



Tenure for Dr. Raman Singh

Dr. Raman Singh, popular professor of MEC 260 (Statics) and MEC 363 (Mechanics of Solids) has been promoted to Associate Professor with Tenure. Dr. Singh runs a very active Mechanics of Advanced Materials Laboratory. For more information on Dr. Singh's work, visit <http://mechanics.eng.sunysb.edu>

Dr. Toshio Nakamura becomes ASME Fellow

Dr. Toshio Nakamura has been named a Fellow of ASME, American Association of Mechanical Engineers.





Industrial Advisory Board Visits the Department of Mechanical Engineering

On April 13, 2005, the Industrial Advisory Board for the Department of Mechanical Engineering convened on the campus to hear student presentations, tour labs, talk to students and give advice on the ME program. Pictured above (from left) Mustansir Faizullahoy, Joseph Amaral and Frank Otto. At the end of the meeting, everyone gathered around this year's mini baja for a demonstration and photo shoot.



Meet Tenure Track Assistant Professor Dr. Chad Korach

Dr. Chad Korach received his Ph.D. from Northwestern University in 2004. His expertise is in the field of Tribology and he is currently working on a collaborative project with the Dental School pertaining to the mechanics of periodontal disease. Dr. Korach has taught undergraduate and graduate courses for the Department.

Meet Visiting Assistant Professor, Sheng Chang

Dr. Sheng Chang, who received his Ph.D. from the Department of Mechanical Engineering at the State University of New York at Stony Brook has been appointed Visiting Assistant Professor. Dr. Chang wrote his thesis under the direction of Dr. Fu-pen Chiang. Dr. Sheng Chang teaches MEC 262 Dynamics (among other courses) for the Department.



Mechanical Engineering Students Prepare for Mini Baja Competition in Ohio, June 15-June 20, 2005

Members of the Mini Baja Team pose with Dr. Fu-pen Chiang just prior to their leaving for Ohio. The students will participate in the competition for which they built a car around an engine supplied by the Society of Automotive Engineers. Advisor for the Team is Lin-Shu Wang. Graduate Student Advisor is Noah McTay. Many thanks to Third Generation Auto Parts for the excellent (and donated) paint job!



Mechanical Engineering Departmental Graduation, May 20, 2005

The Department of Mechanical Engineering celebrated the accomplishments of the Class of 2005 with a graduation ceremony to which family and friends were invited. In the above photos (from left) Fu-pen Chiang, Lili Zheng, Raksha Ghulati, Michael Girardi and Jerry Hom (recipients of Instrumental Design Awards); Fu-pen Chiang giving service award to Eric Lanstengel for his U.S. Marine Corps active duty service in Iraq; (from left) Fu-pen Chiang, Greg Koumoullas, John Metzger and Alexis Simeonidis after Alexis and Greg presented John an award for his teaching and dedication.



From left, Dean Lawrence Martin, Anurag Purwar, President Shirley Strum Kenny and Dr. Jeff Ge at awards ceremony for Excellence in Teaching by a Graduate Student

Right: Jeff Ge speaks about his student, Anurag Purwar at the Ceremony



Mechanical Engineering Graduate Student Anurag Purwar Receives Award

Anurag Purwar, Ph.D. student in Dr. Jeff Ge's laboratory receives an award from Dean Lawrence Martin and Dr. Shirley Strum Kenny for excellence in teaching by a graduate student. Mr. Purwar teaches undergraduate and graduate courses in computer modeling for the Department.



Stony Brook Handball Club wins “Club of the Month”

Steven Poon, former student assistant in the Department of Mechanical Engineering and current Applied Math Major, founded the Stony Brook Handball Club to bring together students who enjoy the sport and to re-establish its venue, the old handball courts, which were torn down to make room for much needed stadium parking. The students who enjoy handball had to use the Racquet Ball courts. This caused inevitable scheduling conflicts. No one was happy with the arrangement and Steven saw both a need and a way to fulfill it. He did so by forming a club and asking Assistant to the Chair, Ann Berrios, to be Club Advisor. Then Steven and Club members sought the assistance of a sympathetic administrator in a position to help, (Sue DiMonda of Campus Recreation), asked the advice of more established clubs (i.e.: The Vietnamese Club and China Blue), and, ultimately, petitioned the University to build the courts. Not only did Steven succeed in having the courts re-built, the University also agreed to restore and re-furbish the neighboring basketball courts. Steven proved that one student and a small band of followers can make a difference. Now, sixty miles east of New York City, Stony Brook students can enjoy a sport so vital to the fabric of neighborhood parks throughout the Metropolitan Area. The University is helping preserve and promote a sport analogous to the City itself. In recognition of this important contribution, the Handball Club was named “Club of the Month” for April, 2005. Congratulations!



Mechanical Engineering Students on Their Way to Becoming Professional Engineers (PE's)

For the past four years Dr. Metzger has been encouraging students to take the Fundamentals of Engineering (FE) Examination. The FE examination is the first step for students that wish to eventually become licensed Professional Engineers. MEC 495, Professional Engineering Seminar, is a one-hour, two-semester class that Dr. Metzger has been offering to help students prepare for the FE exam, as well as prepare to transition to the workplace as an engineer. Over the four years that this effort has been made the Department's students that have taken the FE exam have done well. This year eleven (11) students past the FE examination and are now officially considered Engineers in Training. With four years of experience, these students will be eligible to take the Professional Engineers examination and become licensed Professional Engineers.



Mechanical Engineering Graduation Awards 2005



PROJECT	AWARD	RECIPIENT	ADVISOR
Student Leadership	National Service	Eric Langstengel	
Student Leadership	ME Honor Society	Alexis Simeonidis	Jon Longtin
SPIR AWARD	Meritorious Service	Andrew D'Agostino	John Metzger
SPIR AWARD	Meritorious Service	Gregory Koumoullous	John Metzger
SPIR AWARD	Meritorious Service	Jerry Ma	John Metzger
Liquid Level Controller	Student choice instrument Des.	Vincent Ranieri	Lili Zheng
Liquid Level Controller	Student choice instrument Des	Paul D. Scholler	Lili Zheng
Liquid Level Controller	Student choice instrument Des	Derek D. Tynan	Lili Zheng
Undergrad Prog. Comm.	Dept. Service Award	Vincent Ranieri	Jeff Ge
Undergrad Prog. Comm.	Dept. Service Award	George Chan	Jeff Ge
Prop. Des. for Mod. Airplne.	Senior Design Award 1st place	Andrew D'Agostino	John Metzger
Prop. Des. for Mod. Airplne.	Senior Design Award 1st place	Travis Baldwin	John Metzger
Prop. Des. for Mod. Airplne.	Senior Design Award 1st place	Jerry Ma	John Metzger
Biodiesel Fuel Refinement	Senior Design Award 1st place	Michael Girardi	Jon Longtin
Biodiesel Fuel Refinement	Senior Design Award 1st place	Gregory Rossi	Jon Longtin
E-Z Jack	Senior Design Award 2nd place	Vincent Ranieri	Chad Korach
E-Z Jack	Senior Design Award 2nd place	Paul Scholler	Chad Korach
Bulk Material Transporter	Senior Design Award 3rd place	Dawit Aytenuw-Berhanu	Robert Kukta
Bulk Material Transporter	Senior Design Award 3rd place	Carlos A. Veliz	Robert Kukta
Bulk Material Transporter	Senior Design Award 3rd place	Raksha Ghulati	Robert Kukta
Fit. Eqpt. for Learning	APT Sen. Des. Awards 1st pl	Priscilla Chin	Jeff Ge
Fit. Eqpt. for Learning	APT Sen. Des. Awards 1st pl	Jesse Li	Jeff Ge
Fit. Eqpt. for Learning	APT Sen. Des. Awards 1st pl	Kelly Yuen	Jeff Ge
Cleaning Asst.	APT. Sen. Des. Awards 2nd pl	Un Chio	Raman Singh
Cleaning Asst.	APT. Sen. Des. Awards 2nd pl.	Greg Koumoulos	Raman Singh
Cleaning Asst.	APT. Sen. Des. Awards 2nd pl.	George Touloumis	Raman Singh
The Hill Asst. Wheelchair	APT Sen. Des. Awards 3rd pl.	George Chan	Michelle Nearon
The Hill Asst. Wheelchair	APT Sen. Des. Awards 3rd pl.	Roger Cheng	Michelle Nearon
The Hill Asst. Wheelchair	APT Sen. Des. Awards 3rd pl.	Ricky Venters	Michelle Nearon



Have a Great Summer!!