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FORGING NEW FRONTIERS IN ENGINEERING EDUCATION

SCHOOL OF ENGINEERING
university of connecticut

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PROFILES IN EXCELLENCE  
(January 2009)

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John E. Ayers
*University Teaching Fellow*
Associate Professor, Electrical & Computer Engineering

John E. Ayers was named a University of Connecticut Teaching Fellow by the Institute for Teaching & Learning in 1999. He was previously honored by the UConn School of Engineering, which presented him the Outstanding Teaching Faculty Award in 1999. The engineering teaching award, given traditionally to just one faculty member each year, recognizes excellence in undergraduate and graduate teaching, advising, and development of innovative teaching methodologies. He also received the Electrical & Computer Engineering best teacher award in 2003 and 2005. This award recognizes a member of the faculty chosen by undergraduate students in the electrical engineering professional society, the Institute of Electrical and Electronics Engineers (IEEE) and the electrical engineering honor society (Eta Kappa Nu).

Dr. Ayers joined UConn in 1990 after completing his Ph.D. at Rensselaer Polytechnic Institute the same year. His research interests include the growth and characterization of semiconductors for optoelectronic devices and the fabrication of integrated circuits.

Students characterize Dr. Ayers as a creative, effective teacher who makes himself accessible and infuses his instruction with enthusiasm. His teaching evaluations are among the highest in the department, and well above the average scores for both the School of Engineering and University faculty. Dr. Ayers has authored an undergraduate textbook: *Digital Integrated Circuits: Analysis & Design*, published in 2003. The book emphasizes fundamentals while providing examples from current design practice and computer analysis tools. It is among the four most popular textbooks on this subject and is used for junior- and senior-level courses around the world. Dr. Ayers has also written a research/graduate-level book, *Heteroepitaxy of Semiconductors: Theory, Growth, and Characterization*, published in early 2007, which draws from his research experience in the field of heteroepitaxy and is the basis for a new graduate course he is developing.

While serving as chair of the E&CE Curricula and Courses Committee, Dr. Ayers proposed a sweeping revision of the core courses in Electrical Engineering and Computer Engineering in response to student surveys and senior interviews. These changes, which are now in place, included the integration of core laboratory and lecture courses, and the creation of new freshmen engineering courses on computer analysis tools and microprocessors.

Dr. Ayers served as Associate Department Head of Electrical & Computer Engineering (ECE) from 1999 to 2006. He has served as the faculty advisor to the ECE undergraduate teams involved in design and construction of a fire-fighting robot that competed at the state level, and he has served as the faculty advisor and mentor to members of the UConn student chapter of IEEE. Through his active mentoring and advising duties, Dr. Ayers has expanded his teaching role to inspire students to be aware of professional issues and responsibilities, thereby helping them prepare for life after engineering school.
Keith Barker was named a University of Connecticut Teaching Fellow in 1994, and in 1990, he was presented the University of Connecticut Alumni Association Faculty Excellence Award in Teaching. He also received the John Fluke Co. award for Excellence in Laboratory Instruction in 1993.

Dr. Barker joined the faculty at the University of Connecticut in 1984 after teaching at the University of Sheffield, UK for many years. In the early 90’s he developed a web-based online delivery system that preceded the University’s adoption of the WebCT system, and he took part in several national programs for innovative computer science education. He is nationally known for his work in computer science accreditation.

Dr. Barker was appointed Director of the Institute for Teaching & Learning (ITL) in 1996 and Associate Vice Provost in the Division of Undergraduate Education and Instruction in 1999. The previously-named University Center for Instructional Media and Technology was absorbed into the Institute for Teaching and Learning.

As Director of the ITL, Dr. Barker wields considerable influence over instructional initiatives across the entire University. The Institute is dedicated to the support and advancement of best practices in teaching and learning at the University. ITL staff members work with individual faculty, teaching assistants, students, departments and the academic administration to create a culture that values teaching and learning, supports and rewards faculty for innovative teaching methodologies, encourages respect for different learning approaches. The ITL umbrella includes seminars and workshops to help faculty improve their instructional methods, the Early College Experience, high-tech classrooms including interactive Television (iTV) courses, the Learning Resource Center, University Writing Center, the Quantitative Center and other initiatives.

Dr. Barker was editor of Computer Science Education until 1997 when he passed the responsibility to other colleagues. His research interests include computer science education, curriculum development, web-based learning, and instructional design. He has been a recent Representative Director (2003-06) of the Computing Sciences Accreditation Board (CSAB), a regular commissioner and visitor for Computer Science accreditation, and member of the ABET/CS Executive Committee. Dr. Barker served as Interim Head of the Computer Science & Engineering Department from 1990-91 and as Department Head from 1991-96.

He was awarded his Ph.D. from Sheffield University, UK, in 1966.
John C. Bennett, Jr. was presented the University of Connecticut Alumni Association Excellence in Teaching Award in 1999, and the Outstanding Teaching Award of the New England Section of the American Society of Engineering Education in 1998. Dr. Bennett’s instructional prowess and reputation for excellence led to a Hartford Courant profile as one of the state’s great college professors (Northeast Magazine, “The Great Profs of Connecticut,” August 25, 2002). In 2006, he was honored with one of several Outreach Recognition Award presented by the University for his work in establishing a “PATHS to the Future: A Community of Learners” program to help urban students prepare for, and aspire to, a college education.

Dr. Bennett joined the faculty in 1980 following an 11-year career at the United Technologies Research Center (UTRC). He has a lengthy record of educational excellence and involvement in educational policy at UConn. In 1980, he was appointed the first Director of the First Year Experience program, an integrated introductory program – involving courses and seminars, online tools, clustered housing, mentoring and other tools – to help incoming freshmen effectively transition from high school to college.

In 1998 he was named Director of the Academic Experience, then a newly-formed unit within the Office of Undergraduate Education that seeks to enhance the undergraduate experience at the University and to foster student success. The Academic Experience program encompasses the First Year Experience, Academic Center for Exploratory Students (ACES), Center for Academic Programs (CAP), Center for Interdisciplinary Studies, and the High School Coop Program.

Dr. Bennett was named Director of the State of Connecticut Teaching and Learning Enhanced by Technology (TALENT) Program from 2000-04.

From 2004-06, he served the Department of Mechanical Engineering in the capacity of Associate Department Head, and he was appointed Associate Dean for Academic Affairs to the School of Engineering in 2006. Dr. Bennett has served on numerous committees at the University level, including the University Senate and Scholastic Standards Committee; the Advisory Committee on Carnegie/UConn “Teachers for a New Era Program”; and the Task Force on Teaching, Learning and Assessment. He was elected a Fellow (1995) and later Chief Technologist and a member of the Board of Directors (1999-04) of the Connecticut Academy for Education in Mathematics, Science and Technology.

Dr. Bennett’s research expertise lies in teaching pedagogy, problem-based and student-centered learning, teaming pedagogy and assessment, fluid mechanics, turbulence, instrumentation and turbulence modeling. He earned his Ph.D. in fluid mechanics at the Johns Hopkins University in 1976.
Doug Cooper has garnered numerous awards for teaching excellence during his academic career at the University of Connecticut. At the national level, in 2004 he was named the Carnegie Foundation Connecticut Professor of the Year, which honors individuals for their “extraordinary” dedication to undergraduate teaching. In 1997, the American Society for Engineering Education presented him the Outstanding Contribution to Engineering Education CACHE Award.

Within the University of Connecticut, his sustained contributions to teaching and learning earned him the honor of being named a University Teaching Fellow in 2003. The distinction is bestowed by the Institute for Teaching & Learning. In 2001 Dr. Cooper received a UConn Alumni Association Faculty Excellence Award in Teaching. He was presented the School of Engineering Outstanding Faculty Teaching Excellence Award in 1998, and he has garnered the Rogers Corporation Teaching Award on two occasions (2002, 1996) for instructional excellence as judged by senior Chemical Engineering students.

Dr. Cooper received his Ph.D. in chemical engineering from the University of Colorado, Boulder and joined the faculty at the University of Connecticut in 1985.

He teaches courses in numerical methods and process control, using Control Station® simulation software, which he pioneered. Control Station enables students to experience real-world process control challenges commonly found in manufacturing, and to manipulate different variables to achieve optimal performance. The program is used to train engineers at 150 schools and dozens of manufacturing sites around the world.

Dr. Cooper also developed a unique elective course in “engineering entrepreneurship,” in which students learn how to thrive in a corporate environment. Students select a hypothetical technical product or service and then develop a business plan describing how they will secure funding; patent the technology; manufacture it optimally; and price, market and distribute it.

He served as Head of the Chemical Engineering Department at UConn for nearly two years and as Director of Engineering Computing Services – which provides computing support to engineering faculty, staff and students – from 2001-'04. Early in his career, Dr. Cooper was a research engineer in the Process Control Department of Chevron Research Co.

He was elected to membership in the Connecticut Academy of Science and Engineering in 2004.
John DeWolf was named a University of Connecticut Teaching Fellow by the Institute for Teaching & Learning for the period 2006-07. During 2006, he also received the American Institute of Steel Construction Educator Career Enhancement Award. At the departmental level, he has received the C.R. Klewin Award for Excellence in Teaching an unprecedented four times (1995, 1999, 2000 and 2004) and is widely respected by students and faculty alike for his accessibility, fairness and commitment to excellence.

During his more than 30 years at the University of Connecticut, Dr. DeWolf has consistently received student evaluations that exceed the average rankings of peers in his department, School and University. Dr. DeWolf has authored or co-authored five books and served as co-author – with F.P. Beer and E.R. Johnston – of the widely acclaimed *Mechanics of Materials* (3rd edition). *Mechanics of Materials* is used by engineering students at Carnegie Mellon University, Georgia Institute of Technology, the University of Illinois, the University of Michigan, Purdue University, the University of Wisconsin and Roger Williams University. *Mechanics of Materials* is published by McGraw-Hill and has been translated into Chinese, Greek, Italian, Korean, Portuguese and Spanish. His research interests lie in bridge vibrations and monitoring systems, steel building frames, stability of structural systems, and finite element methods.

Dr. DeWolf has taught one of the University’s First Year Experience courses for freshman and sophomore students, “Cathedrals - Engineering and Construction,” which profiles how these lasting edifices were built without modern engineering principles. In teaching structures courses, he encourages students to consider the larger ramifications of how varying structural designs respond under different loads. “Students need to develop an understanding of how the overall structure behaves… If they can focus their thoughts on how the overall structural system behaves, they can then approach design by defining what is needed and then develop the details.” he stated. Dr. DeWolf also introduced writing as a key element in the senior-level Steel Design course. The idea behind this approach, he said, is to introduce students to real structures, have them look at how real structures work, and expand upon conventional assignments to include written components and short calculations involving the overall structural behavior.

At the University level, Dr. DeWolf chaired the University of Connecticut President’s Task Force on Substance Abuse (2003-04) charged with preparation of practical, workable recommendations for dealing with substance abuse at the University. In addition, he is a long-term member of the University Senate and currently Chair of the University Senate Executive Committee.

He is Associate Editor of *Structural Health Monitoring*, a journal covering structural health monitoring of aeronautical, mechanical, civil, electrical and other systems. In 2004, he was inducted into the Connecticut Academy of Distinguished Engineers (CASE).

Dr. DeWolf received his Ph.D. from Cornell University in 1973.
John D. Enderle

University Teaching Fellow
Director, Biomedical Engineering Program and
Professor, Electrical & Computer Engineering

John D. Enderle was selected a University of Connecticut Teaching Fellow by the Institute for Teaching & Learning in 1998. In receiving the award, he was lauded for his dedicated approach to teaching and his efforts in building the undergraduate Biomedical Engineering program. His initiatives have led to an increase in the number of faculty and students in the program, as well as the available funding. Dr. Enderle’s focus on the benefits of technology as pedagogical tool has transformed the program in a manner that allows students of all levels and faculty to work and learn together outside the traditional classroom environment.

As part of the U.S. Department of Education’s Research Center on Accessible Medical Instrumentation, Dr. Enderle oversees a national design competition open to senior engineering students across the U.S. To provide his senior design students greater design opportunities, he collaborates with Ohio University to have his students build apparatuses for people with disabilities living in a poor area of southeastern Ohio who are clients of an arts program known as Passionworks funded by the National Science Foundation. Dr. Enderle is also the Editor of the annual publication on NSF Senior Design Projects to Aid Persons with Disabilities carried out by universities throughout the United States. With Dr. Brooke Hallowell (as co-editor since 1997), he has edited NSF 17 books since 1989.

Dr. Enderle received his Ph.D. from Rensselaer Polytechnic University in 1980. He served as a senior staff member at PAR Technology Corporation, Rome, NY (1979-81) and then joined the Department of Electrical Engineering at North Dakota State University, Fargo (1981-94), where he also coordinated the Biomedical Engineering program. He was appointed a National Science Foundation program director for Biomedical Engineering & Research Aiding Persons with Disabilities Program from ’94-95. Dr. Enderle joined the faculty of the University of Connecticut in 1995.

Dr. Enderle co-authored the text, Introduction to Biomedical Engineering (first edition in 1999 and second edition in 2005, Academic Press), is Editor-in-Chief of IEEE EMB Magazine, BME Book Series Editor for Morgan and Claypool publishers, and he serves on the Editorial Board of the Academic Press Biomedical Engineering Book Series. In 2006, Dr. Enderle co-authored three short books on probability theory for biomedical engineers and authored a book on bioinstrumentation (Morgan and Claypool). He is a Fellow of the Institute of Electrical & Electronics Engineers (IEEE), the American Institute for Medical & Biological Engineering (AIMBE) and the Biomedical Engineering Society, and he was elected to membership in the Connecticut Academy of Science & Engineering (CASE) in 2003. Dr. Enderle serves as a member of the Accreditation Board for Engineering & Technology (ABET) Engineering Accreditation Commission. His current research interest involves characterizing the neurosensory control of the human visual and auditory system from the molecular to large system level.

In 2006, he received the American Association of University Professors (AAUP) excellence in service award. He previously was awarded the IEEE Engineering in Medicine and Biology Society’s service award (2004) and the Theo Pilkington Outstanding Educator Award from the American Association for Engineering Educators in 2006.
Kevin D. Murphy
Associate Department Head and
Associate Professor, Mechanical Engineering

Kevin D. Murphy has been a professor for 12 years, including 10 years at the University of Connecticut, since receiving his Ph.D. from Duke University in 1994. In that time he has taught a total of 15 different courses, including dynamics, vibrations, elasticity, acoustics, measurement techniques, and fracture mechanics, to name just a few.

For his efforts in the classroom, he has been presented with the AAUP Excellence Award in Teaching Promise (2000) and the Distinguished Teaching Award (1997); two School of Engineering teaching awards; and a citation for teaching excellence presented by the General Assembly and Senate of the State of Connecticut. He has also been awarded the Mechanical Engineering Outstanding Faculty Award, which recognizes excellence in teaching, research, and service.

His research deals mainly with nonlinear dynamics, vibrations, and elastic stability. Recently, he has embarked on research involving dynamic fracture mechanics and signal processing. These new directions have evolved from his work on dynamic de-cohesion in failed micro-electro-mechanical systems (MEMS) and on structural health monitoring, respectively. Dr. Murphy was awarded a National Science Foundation Early Career Development (CAREER) Award in 1996.

In addition to his teaching and research efforts, he has served as the Director of Graduate Studies for Mechanical Engineering and currently serves as the Associate Department Head.
**Faculty-authored or edited textbooks**

**Books Authored**

**Pamir Alpay**


**John E. Ayers**


**Yaakov Bar-Shalom**


**Carroll O. Bennett**


**Theodore L. Bergman**


**Zbigniew M. Bzymek**


**C. Barry Carter**


**Peter K. Cheo**

Douglas J. Cooper

D. Cooper, *Practical Process Control Using Control Station®,* Control Station LLP, 300 pgs., 2003.

Michael Cutlip


Anthony DeMaria

Steven Demurjian

Owen Devereux

John T. DeWolf


Eric Donkor

John Enderle


Amir Faghri


E. Russell Johnston, Jr.


Herbert Koenig

Lester Lipsky


Arthur J. McEvily

Laurent Michel


Robert B. Northrop


**Richard Parnas**


**Sanguthevar Rajasekaran**


**Kenneth Reifsnider**


**Nigel Sammes**


**Leon L. Shaw**


**Montgomery Shaw**


**Alexander A. Shvartsman**


**Roman Solecki**

R. Solecki, P. Jastrzebski and J. Szymkiewicz, Statics of Trusses (Polish), Arkady, Warsaw, Poland, 1960; 2nd Ed. (Polish), 1970.


R. Solecki and G. Rakowski, Curved Beams (Polish), Arkady, Warsaw, Poland, 1965.

R. Solecki and G. Rakowski, Curved Beams (German), Werner-Verlag, Duesseldorf, FRN, 1968.

**Donald W. Sundstrom**

**Mohammad Tehranipoor**

**Shengli Zhou**
BOOKS EDITED

Luke Achenie

Mehdi Anwar

Rajeev Bansal


Keith Barker

Yaakov Bar-Shalom


Steven Boggs


Arthur B. Bronwell

Zbigniew M. Bzymek

Jun-Hong Cui

Steven Demurjian


Eric Donkor
John Enderle


Faquir Jain

Bahram Javidi


Aggelos Kiayias

Robert Magnusson

Ramesh Malla

Ion I. Mandoiu


Harris L. Marcus


Thomas J. Peters

Sanguthevar Rajasekaran


Kenneth L. Reifsnider

Nigel Sammes


Alexander A. Shvartsman


Mohammad Tehranipoor
National-Level Accreditation

John Enderle
Member, Accreditation Board for Engineering & Technology/Engineering Accreditation Commission (ABET/EAC).

Program Evaluator, ABET/EAC Engineering Accreditation Commission for Bioengineering Programs.


Gerald Engel
Member, Accreditation Board for Engineering & Technology (ABET) Board of Directors.

Howard Epstein
Accreditation Visitor, Accreditation Board for Engineering & Technology (ABET) for Civil Engineering Programs.
**Education-based Initiatives**

**The da Vinci Project**

**Principal/Co-investigators:**
- Kazem Kazerounian, professor, Mechanical Engineering
- Robert Vieth

**Dates:** 1999-date

**Summary:**
The da Vinci Project was conceived and developed as a way to introduce core engineering concepts to Connecticut math and science teachers (grades 7-12), guidance counselors and administrators who, in turn, can integrate engineering into their regular course curricula. The da Vinci Project was developed expressly to help Connecticut post-elementary schools integrate elemental engineering into the classroom with the objective of inspiring more high school students to seek an engineering education.

Teachers spend one summer week on campus learning engineering fundamentals and developing practical curricula and exercises that will help them introduce students to engineering. They select one area of specialization from a menu of options and spend 3-1/2 intensive days engaged in learning more about this subject. Teachers can earn up to three (3) continuing education credits, and participants enjoy lab tours; seminars; and discussions with fellow teachers and professors on cutting edge topics in engineering, science and education.

**The Galileo Project**

**Principal/Co-investigators**
- Kazem Kazerounian, professor, Mechanical Engineering
- Marcelle Wood, Assistant Dean for Undergraduate Education
- Tom Anderson, now professor emeritus, Chemical Engineering
- Bob Vieth, former director of the da Vinci Project
- Tim Reagan, formerly with the Neag School of Education

**Dates:** 2002-2006

**Funding:** $1.5 million, National Science Foundation

**Summary:**
The Galileo Project was the product of a unique collaborative partnership involving the University of Connecticut School of Engineering and the Neag School of Education; the Greater Hartford Academy for Math and Science; and local school districts. The program aimed to:
- Introduce high school students and K-12 educators to core engineering concepts and problem-solving practices,
- Enrich the educational workforce with skilled technology-oriented teachers,
- Foster students who possess more diverse and practical technology skills, thereby enhancing their career options and contributions to society,
- Expose teachers to the challenges, rewards and opportunities implicit in engineering education and practice,
- Embed trained Galileo Fellows, engineering graduate students, in school classrooms to nurture engineering education at the pre-college level.

The Galileo Project trained approximately 10 graduate fellows yearly and involved 1,400 students primarily in grades 9-12. Each Galileo Fellow spent 8-12 hours weekly in the classrooms of participating schools/classes assisting teachers with development of engineering lesson plans and modules that use and teach engineering principles. The participating schools included Bloomfield High, Bolton High, Lyman Memorial High (Lebanon), Manchester High, Montville High, E.O. Smith High (Storrs), Somers High and Stafford Middle School.
NSF REU/Computer Science & Engineering

**Principal/Co-investigators:**
- Chun-Hsi Huang, associate professor, Computer Science & Engineering

**Dates:** 3/08 – 2/11

**Funding:** $285,000

**Summary:** BioGrid Initiatives for Interdisciplinary Research and Education

The NSF REU in the Computer Science & Engineering Department involves bringing 10 college students to campus each summer for eight weeks to engage in research involving Bio-Grid initiatives underway at the University of Connecticut. The initiatives aim to advance the application of modern computing infrastructure and information technology to research and practice in various life-science disciplines. Each student works closely with participating faculty and graduate students on one of several exciting research projects involving the application of modern computing infrastructure and information technology to research and practice in various life-science disciplines. Projects include: (i) Modern information infrastructure; (ii) Protein function studies; (iii) Genomic knowledge inference; (iv) Ethical and legal issues; and (v) Case studies: caBIG [cabig.nci.nih.gov](http://cabig.nci.nih.gov) and BIRN [www.nbirn.net](http://www.nbirn.net).

REU students also have the opportunity to participate in the annual international Bio-Grid Workshop, and each receives a $3,600 stipend plus coverage of expenses associated with housing and transportation, plus the opportunity to participate in workshops and discussion groups, weekend cultural and recreational events.

NSF REU/Chemical Engineering

**Principal/Co-investigators:**
- Joseph Helble, formerly professor and Department Head
- Can Erkey, formerly professor and Interim Department Head

**Dates:** 2/02 – 2/05

**Funding:** $200,000

**Summary:** Chemical Engineering at the Nanoscale

The NSF REU in the Chemical Engineering Department involved bringing 10 college students to campus each summer for 10 weeks, during which they were paired with a faculty member conducting research at the nanoscale. The research programs of participating faculty all retained an underlying theme: the need to control material processes and properties by manipulation of the small-scale architecture of a system, whether the objective was genetic engineering of enzymes or production of nanometer-scale ceramic powders. Participants received a $3,500 stipend plus coverage of expenses associated with housing and transportation. The program targeted students from small engineering colleges and liberal arts colleges with strong science programs, and students from chemical engineering programs nationwide. In particular, it targeted students attending Smith College and the University of Puerto Rico.

Participating REU students also enjoyed workshops, and discussion groups on the subject of ethics in science, which was administered by staff from the Scientific Freedom, Responsibility and Law Program of the American Association for the Advancement of Science. Other activities included plant tours and lectures by industrial scientists. Each summer program concluded with an REU research symposium held jointly with the university’s Chemistry and Polymer Science REU programs, at which students presented their work before their REU peers.
NSF REU/Electrical & Computer Engineering

Principal/Co-investigators:
   Eric Donkor, associate professor
   Robert Magnusson, former professor and former Department Head

Dates: 6/04 – 5/07
Funding: $286,000

Summary:
The NSF REU in the Electrical & Computer Engineering Department hosts summer and academic year (fall and spring) research programs for undergraduates with junior or senior standing. The summer program brings non-UConn college students to campus, while the academic-year portion focuses on UConn engineering students. The novel program affords undergraduates an opportunity to collaborate with faculty and graduate students in cutting-edge research in one of a variety of focal areas offered: nano-science and engineering, information science and engineering, biomedical engineering, VLSI design and fabrication, photonics and optics systems, manufacturing and control systems, sensors, quantum communication, fuel cell technology, and related areas.

Students also enjoy a rich developmental program that includes workshops and exercises on improving communications skills, and workshops on ethical issues in science and engineering. Summer participants receive a $3,400 stipend plus room and board on campus. Academic year participants receive a $1,470 stipend.

NSF ITR – Mechanical/Chemical/Computer Science & Engineering

Investigator/Co-investigators:
   Ranga Pitchumani, former professor and former Department Head, Mechanical Engineering
   Luke Achenie, former professor, Chemical, Materials & Biomolecular Engineering
   Eugene Santos, former associate professor, Computer Science & Engineering

Dates: 09/01 – 08/05
Funding: $409,000

Summary: Simulation and Optimization of Thermal Manufacturing of Materials Under Uncertainty: Application to Optical Fiber Drawing

The NSF ITR (Information Technologies Research) initiative involved bringing two top junior or senior students from E.O. Smith High School, Mansfield, CT into an intensive summer research program in which they collaborated on an interdisciplinary research project. Each ITR student spent one summer working hands-on with the project team, which comprised an engineering faculty member and graduate students. The research project involved optical fibers. The research objectives were to (1) to develop a physics-based process model for optimal manufacture of optical fibers, (2) to systematically account for the parameter uncertainty in the simulations so as to predict the product quality variability, and (3) to resolve the significant computational challenges arising from the large scale stochastic simulation of the manufacturing process.

Each student received a stipend and was expected to contribute toward the lab research, attend meetings and present findings both orally and in report form.
SCHOOL OF ENGINEERING AND DEPARTMENTAL TEACHING AWARDS

OUTSTANDING TEACHING FACULTY AWARD
School of Engineering

Entails a $2,000 cash award and a $5,000 grant for professional development per faculty member.

1998 Douglas Cooper (ChE)
1999 John Ayers (ECE)
2000 Eric Donkor (ECE)
2001 Reda Ammar (CSE)
2002 No Award
2003 Steve Demurjian (CSE)
   Nelly Abboud (CEE)
2004 Sanguthevar Rajasekaran (CSE)
2005 Krishna Pattipati (ECE)

DEPARTMENTAL TEACHING AWARDS
C.R. Klewin Award for Excellence in Teaching (Civil & Environmental Engineering)
1993 David Ahlfeld
1994 C. Roger Ferguson
1995 John T. DeWolf
1996 Gregory C. Frantz
1997 Kenneth R. Demars
1998 C. Roger Ferguson
1999 John T. DeWolf
   Nikolaos P. Nikolaidis
2000 John T. DeWolf
2001 Fred Ogden
2002 Christian Davis
2003 Kenneth R. Demars
2004 John T. DeWolf
2005 Britt A. Holmén
2006 Gregory C. Frantz
2007 Norman W. Garrick
   Howard I. Epstein
2008 John T. DeWolf

Electrical & Computer Engineering Outstanding Teaching Award
2000-01 Eric Donkor
2001-02 Rajeev Bansal
2002-03 Krishna Pattipati
2003-04 John E. Ayers
2004-05 John Enderle
2005-06 John E. Ayers
2006-07 John Chandy
2007-08 Robert Magnusson

Mechanical Engineering Outstanding Teaching Award
2006-07 Michael Renfro
2007-08 Kevin Murphy
Rogers Corporation Teaching Award (Chemical Engineering)
1996 Douglas Cooper
1997 Luke Achenie
1998 Jeffrey Koberstein
1999 Can Erkey
2000 Thomas K. Wood
2001 Can Erkey
2002 Douglas Cooper
2003 Patrick T. Mather
2004 Ranjan Srivastava
2005 Lei Zhu