DEPARTMENTAL HISTORY

Prior to 1986 - Service Department - Minimal Research

1986 - Chairman hired from Courant Institute

1990 - Foundation Chair hired

2001 - Leader in Mathematical Biology hired

1989 - B.S. Program in Applied Mathematics

1995 - Ph.D. Program in Mathematical Sciences

1999 - M.S. Program in Applied Statistics
EDITORSHIPS AND AWARDS

- 9 members serve on 16 editorial boards
- 2 members serve as Co-Editors-in-Chief
- G.A. Kriegsmann, Vice President of Publications, Society for Industrial and Applied Mathematics  
  Fellow, The Acoustical Society of America  
  Fellow, The Institute of Mathematics and Its Applications
- E. Michalopoulou, Fellow, The Acoustical Society of America
- R.M. Miura, Fellow, Royal Society of Canada
- D. Papageorgiou, Fellow, The Institute of Mathematics and Its Applications
RESEARCH GRANTS – CONTINUING

- National Science Foundation (10)
- National Institutes of Health (3)
- Whitaker Foundation (1)
- Office of Naval Research (1)
- Air Force Office of Scientific Research (1)
METRICS FOR SUCCESS

- Increase in funding
- Increase in publications and conference presentations
- Increase in domestic Ph.D. student enrollment
- Increase in Ph.D. productivity
- Placement of Ph.D. graduates in academia and industry
RESEARCH GRANTS FUNDED (2004-2005)

- National Science Foundation (8)
- NASA (1)
- Department of Energy (1)
- Council for International Exchange of Scholars (1)

Selected Highlights:

- NSF Major Research Instrumentation Grant
- NSF Undergraduate Biology and Mathematics Training Grant
- NSF Focused Research Group Grant
CONFERENCES, WORKSHOPS, AND SYMPOSIA--17
ORGANIZED BY DMS FACULTY (2004-2005)

Selected Highlights:

- Stewartson Memorial Lecture, University of East Anglia, Norwich, April 2004
- Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Banff, Canada, March 2005
- SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 2005
- Third MIT Conference on Computational Fluid and Solid Mechanics, June 2005
- Mathematical Problems from Industry, WPI, June 2005
- Third Pacific Rim Conference on Mathematics, Shanghai, China, August 2005
RESEARCH PUBLICATIONS AND PRESENTATIONS

- Goal: Increase publication and presentations record
- Publications: 55 articles 2003-2004
- Presentations: 101 conference presentations 2003-2004
Goals: Increase presentations and participation at conferences to over 30 during 2004-2005

24 presentations 2003-2004

S. Banerjee received the Laha Award to present his Master’s thesis at the 6th Bernoulli World Congress in Barcelona, Spain -- 2004

M. Hameed and D. Tseluiko selected to participate in the 20th Annual Workshop on Mathematical Problems in Industry -- 2004

A. Tin won the Executive Women of New Jersey Graduate Merit Award -- 2004

Y. Mileyko and L. Zhou won CSLA Graduate Student Awards -- 2004
PLACEMENT OF GRADUATE STUDENTS

- **Goal**: Continue to place our students in good Universities and in Industry

- **Academic Postdocs** (e.g., University of Michigan, Ann Arbor; University of Delaware; Case Western Reserve University; Boston University; University of Alberta)

- **Faculty Members** (e.g., University of Delaware; CUNY’s NY City College of Technology; Universidad de Oriente, Venezuela; William Paterson University; St. Peter’s College)

- **Government Labs and Industry** (Brookhaven National Lab, Sandia, Lucent, Prudential)

- Eleven out of twenty-eight Ph.D.s since 1997 are women
DOCTORAL PROGRAM

- **Goal:** Produce 5-7 Ph.D.s per year
- **Currently:** 3-5 Ph.D.s per year

**Ph.D. Student Body Demographics**

- **Goal:** Continue recruitment to increase the number of domestic Ph.D. students
- **Besides U.S. citizens and permanent residents, there are international students from many different countries including:** China, Croatia, Ecuador, Estonia, France, Italy, India, Japan, Korea, Pakistan, Russia, Ukraine
- **Eight out of thirty supported Ph.D. students are women**
UNDERGRADUATE PROGRAM ACTIVITIES

- Mathematical Science B.S. Majors -- 111, Minors - 169

- Recent new courses:
  - Introduction to Mathematical Biology (MATH 373)
  - Mathematical Finance II (MATH 347)
  - Stochastic Processes (MATH 477)

- Competed in Virginia Tech Regional Mathematics Competition, October 2004

- Plan to participate for the first time in William Lowell Putnam Competition, December 2004
UNDERGRADUATE ACTIVITIES (CONT’D)

- Goal: Increase Majors to 150, Minors to 200

- Goal: Courses to be developed:
  - Biostatistics
  - Introduction to Fluid Dynamics

- Goal: Integrated double major in mathematics and biology for Fall 2005

- Goal: NSF Undergraduate Biology and Mathematics Training Program started in Fall 2004. Train 4 to 6 students per year for the next 5 years
CONFERENCE ON FRONTIERS IN APPLIED AND COMPUTATIONAL MATHEMATICS
May 21-22, 2004

- Focus on Mathematical Biology, Mathematical Fluid Dynamics, Applied Mathematics and Applied Statistics
- Four Plenary Speakers (U. Chicago, SUNY Stony Brook, Caltech, NYU - Courant Institute)
- 39 Invited Speakers in 12 Minisymposia
- 53 Contributed Papers - Posters
- 150 Attendees
- Several speakers are members of the National Academy of Science, National Academy of Engineering, National Institute of Medicine, MacArthur Awardee, and National Science Medal Recipient
- Funded travel and local expenses for plenary speakers, graduate students and postdocs
CONFERENCE ON FRONTIERS IN APPLIED AND COMPUTATIONAL MATHEMATICS
May 13-15, 2005

- Focus on Mathematical Biology, Mathematical Fluid Dynamics, Applied Mathematics, and Applied Statistics

- Six Plenary Speakers

- Invited Speakers - 15 Minisymposia

- 200-250 Attendees

- Funding Source: Strategic Initiative

- Possible Additional Sources: National Science Foundation, Society for Mathematical Biology, Air Force Office of Scientific Research, Office of Naval Research
INITIATIVE HIRING

Goal: Hire Postdoc jointly with Mechanical Engineering Department, Spring 2005

Hire Postdoc during 2005-2006

Two Tenure-Track Faculty hired in Fall 2004

STUDENT FELLOWSHIPS

Graduate Presidential Initiative Scholars:

Christina Ambrosio
Dmitri Tseluiko
FUTURE M.S. AND PH.D. PROGRAMS
BI OSTATISTICS AND COMPUTATIONAL BIOLOGY

Biostatistics Program:
  Biostatistician hired in DMS
  Develop new graduate courses in Biostatistics

Computational Biology Program:
  Ten Mathematical Biologists in DMS
  Develop Computational Biology tracks in the M.S. and Ph.D. degrees, joint with the Division of Biological Sciences, which already offers B.S., B.A., M.S., and Ph.D. in Biology