



Norfolk, Virginia USA



# DEPARTMENT OF COMPUTER SCIENCE

<http://www.cs.odu.edu>

**21 FACULTY MEMBERS**

**8 Professors**

**(1 Eminent Scholar, Endowed Chair)**

**4 Associate Professors**

**3 Assistant Professors**

**6 Lecturers**

**3 Unfilled Positions**

**20 Adjunct/thesis Faculty**

**5 Adjunct courses/semester**

<http://www.cs.odu.edu>

**500+ undergraduate majors**

**207 graduate students**

**22 GTAs, 29 GRAs (54 Funded Students/F2006)**



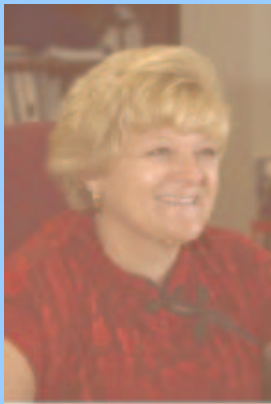
# Departmental Administration



Chair:  
*Kurt Maly*



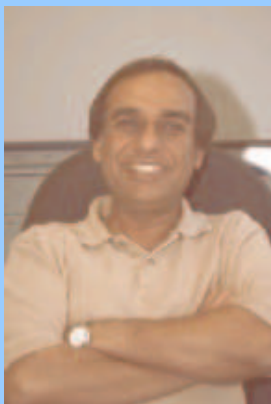
Assistant Chair:  
*Irwin Levinstein*



Assistant Chair &  
Chief Undergraduate  
Advisor:  
*Janet Brunelle*



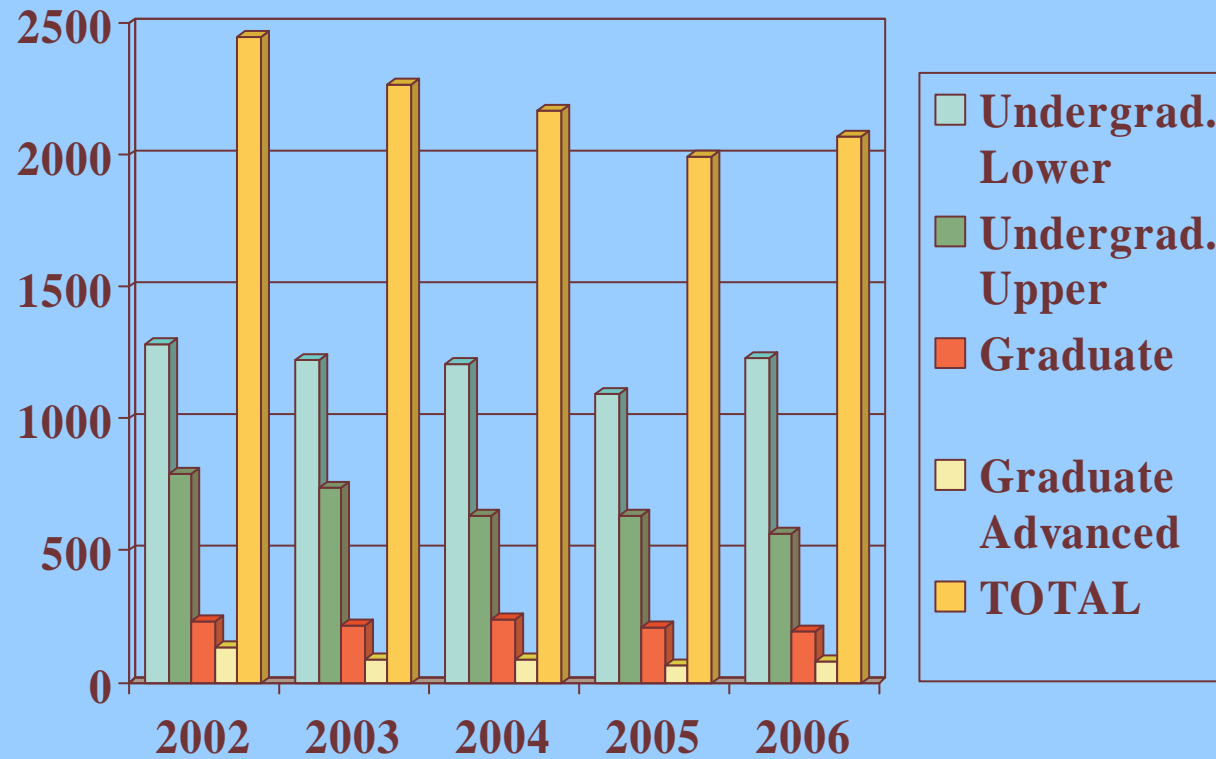
Graduate Program  
Director & Graduate  
Advisor:  
*Hussein Abdel Wahab*



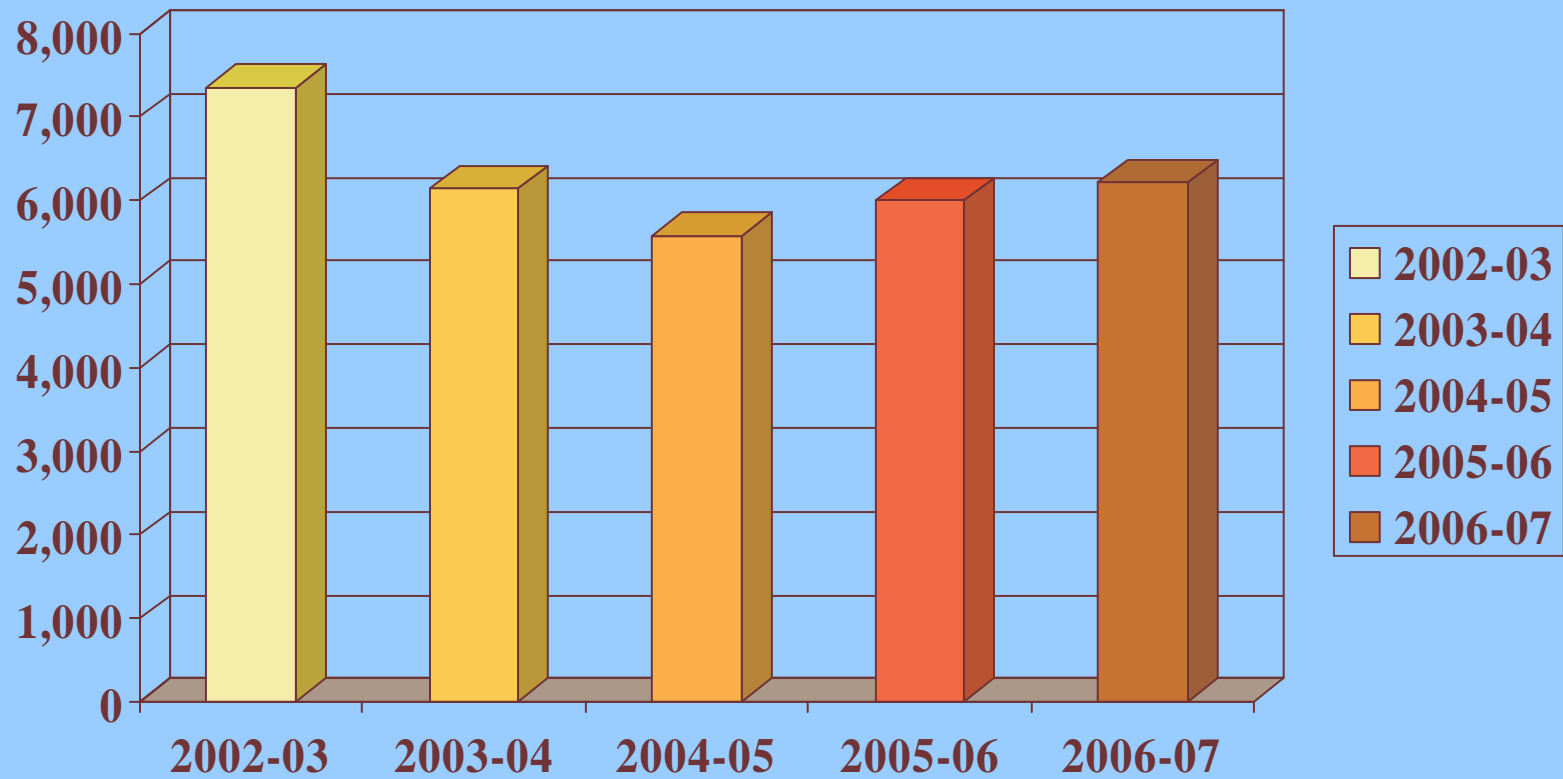
Director of Computer  
Resources:  
*Ajay Gupta*

# Enrollment Comparisons

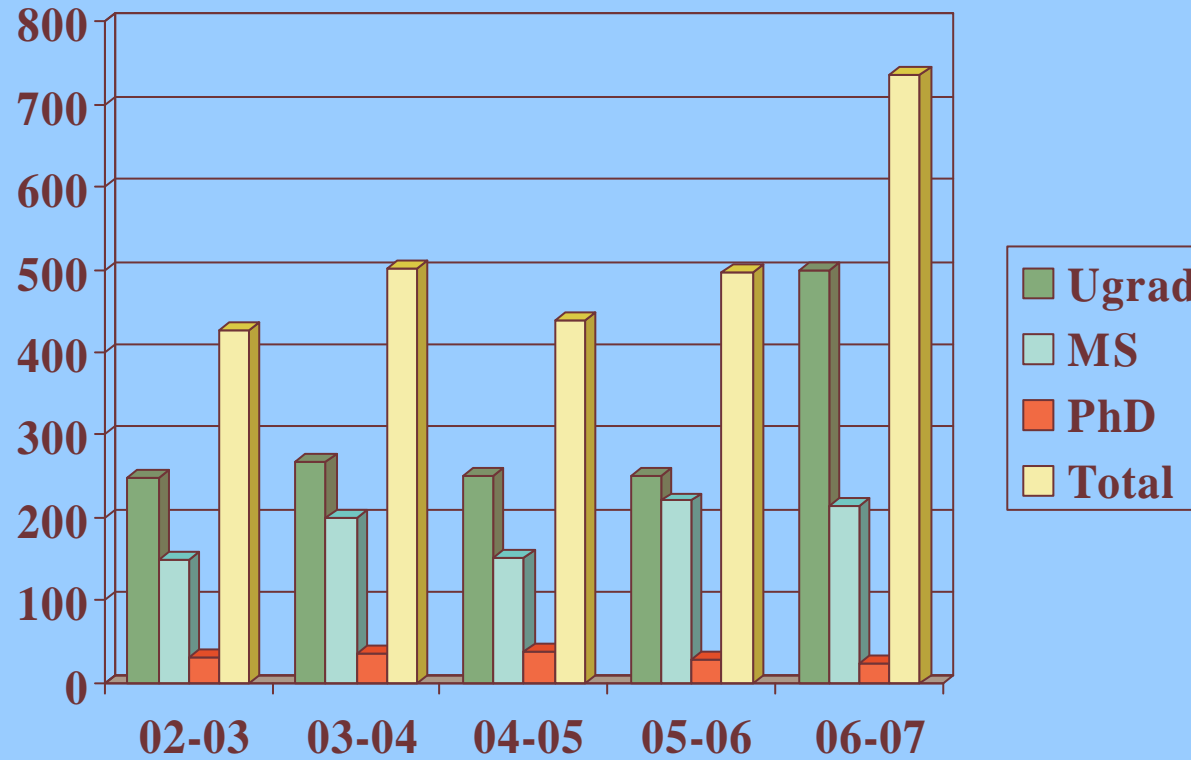
## Students/course - Fall



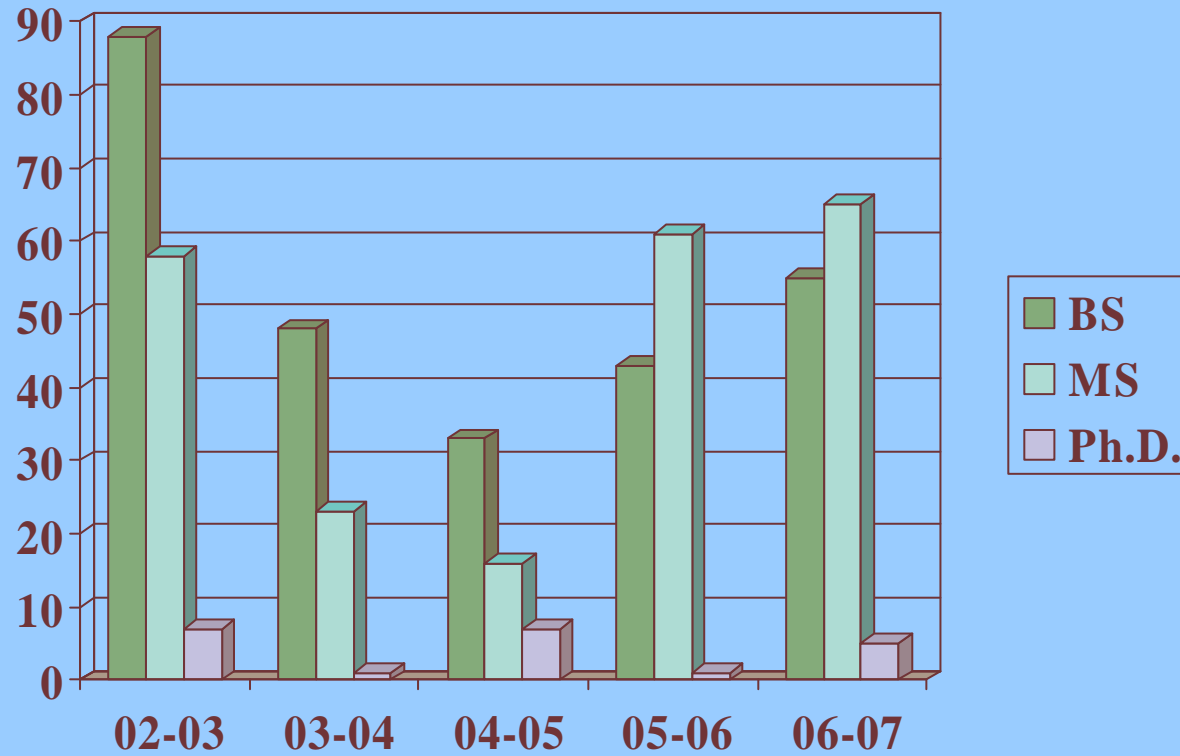
# SCH/Semester Students



# HEADCOUNT MAJORS

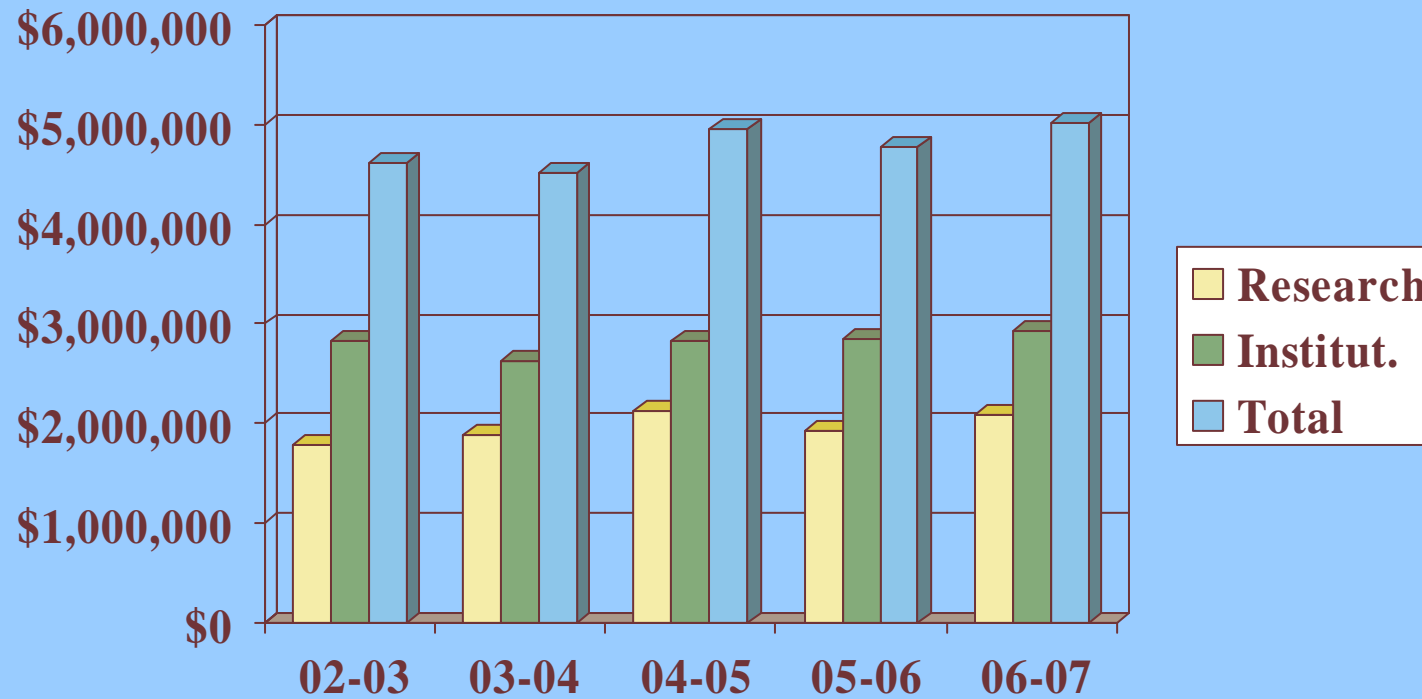


# GRADUATES



# Department Budget

Per Fiscal year (millions)





# Scholarly Contributions

Journal Articles & Conference Proceedings

92-142/year for Department

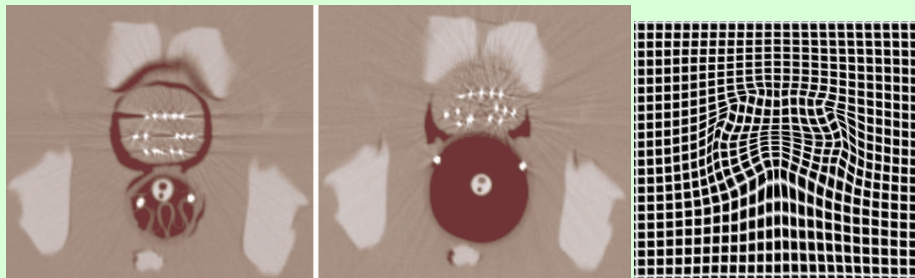
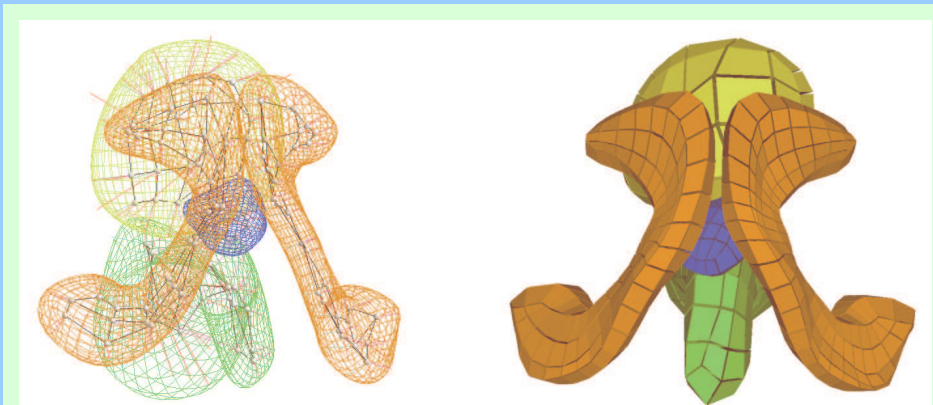


# Physically-Based Modeling & Visualization

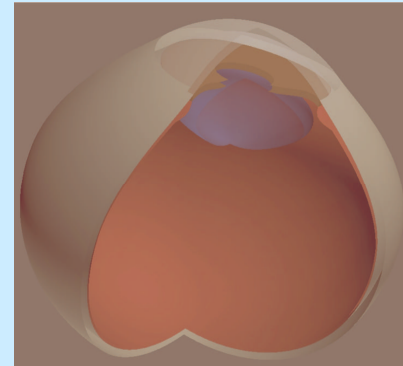
Dr. Jessica Crouch ([www.cs.odu.edu/~jrcrouch](http://www.cs.odu.edu/~jrcrouch))

## Research Emphasis:

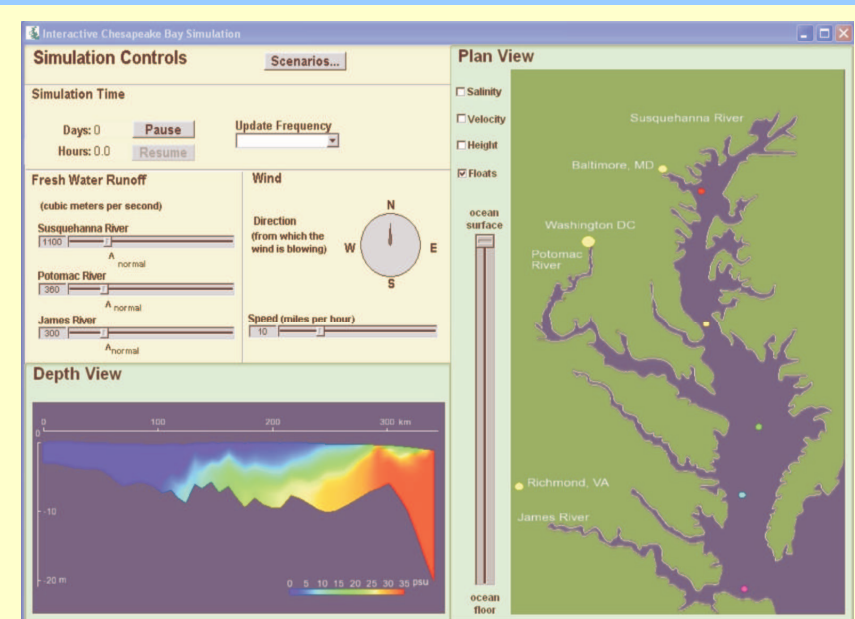
Algorithms for constructing, solving,  
& visualizing physically-based models



Application: Deformable prostate  
image registration



Application:  
Eye modeling  
& cataract  
surgery  
simulation



Application: Interactive ocean  
circulation simulation

# Networking

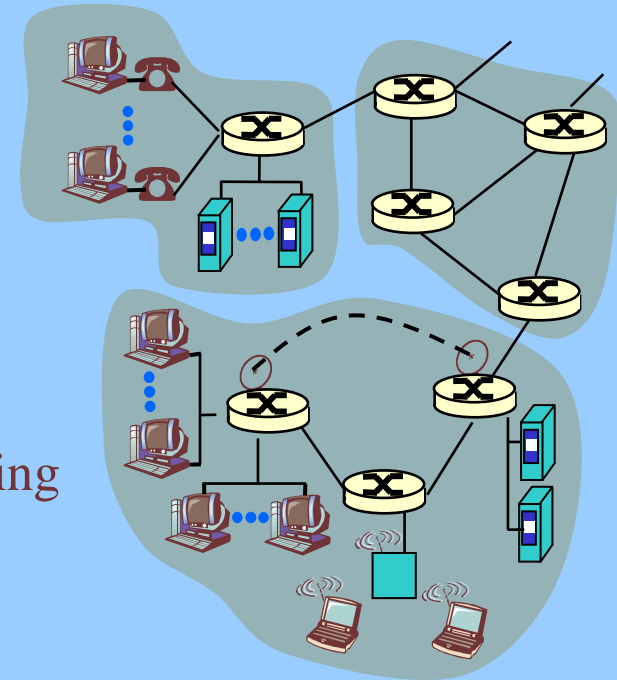
Michele Weigle - <http://www.cs.odu.edu/~mweigle/>

## Realistic Internet Simulation

enabling high-quality network research by simulating/emulating realistic Internet traffic for use in network testbeds and simulators

## High Speed TCP

enabling large scientific-data transfers by modifying TCP for use on high speed networks



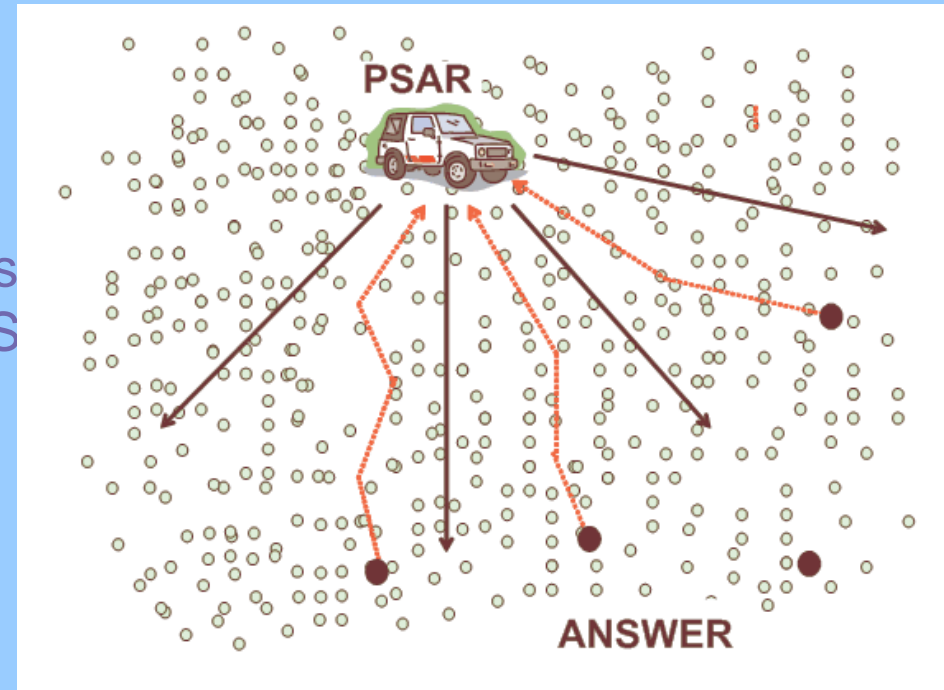
## Vehicular Networking

enabling in-vehicle notification of traffic congestion by designing protocols for vehicle-to-vehicle communication

# Wireless networks

## Autonomous sensor networks

An integrated multi-layer design methodology with cross-layer optimization for networking autonomous sensor systems will enable secure, QoS aware information services to in-situ mobile users



## Vehicular ad hoc networking

Design efficient protocols for vehicle-to-vehicle communication

S. Olariu - <http://www.cs.odu.edu/~olariu>

## Automated metadata extraction: funded by DTIC, NASA, GPO

Original document

### UNITED STATES TRADE DISPUTES IN PERU AND ECUADOR

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HEARING  
BEFORE THE  
SUBCOMMITTEE ON  
THE WESTERN HEMISPHERE  
OF THE  
COMMITTEE ON  
INTERNATIONAL RELATIONS  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED EIGHTH CONGRESS  
SECOND SESSION  
OCTOBER 6, 2004  
Serial No. 108-151

Printed for the use of the Committee on International Relations



Available via the World Wide Web: [http://www.house.gov/international\\_relations](http://www.house.gov/international_relations)

Extracted Metadata

The screenshot shows a web browser window with the address bar containing the URL: <http://128.82.7.208:9090/dtic/newdocs/LPseries/output.xml...>. The browser's address bar also shows a search engine (Google) and a search button. The main content area displays the following XML metadata:

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<paper>
  <metadata>
    <title>UNITED STATES TRADE DISPUTES IN PERU
    AND ECUADOR</title>
    <reporttype>HEARING BEFORE THE
    SUBCOMMITTEE ON THE WESTERN HEMISPHERE
    OF THE COMMITTEE ON INTERNATIONAL
    RELATIONS HOUSE OF
    REPRESENTATIVES</reporttype>
    <session>ONE HUNDRED EIGHTH CONGRESS
    SECOND SESSION</session>
    <date>OCTOBER 6, 2004</date>
    <serialno>Serial No. 108?151</serialno>
    <use>Printed for the use of the Committee on
    International Relations</use>
    <online>Available via the World Wide Web:
    http://www.house.gov/international?
    relations</online>
  </metadata>
</paper>
```

The browser's status bar at the bottom shows "Done" and "Internet".

<http://dlib.cs.odu.edu>

digital  
library  
research

Michael L. Nelson  
[www.cs.odu.edu/~mln/](http://www.cs.odu.edu/~mln/)



projects:

- alternative models of digital preservation
- self-preserving digital objects
- object / repository interaction (OAI-PMH, OAI-ORE)

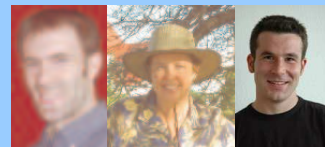
funding:

- PI or Co-PI on 9 grants, > \$2.3M USD since 2001
- NASA, NSF, Library of Congress, Andrew Mellon Foundation
- NSF Career Award 2007-2011

you will:

- publish in top conferences and travel to present your results
- collaborate with world renown DL researchers

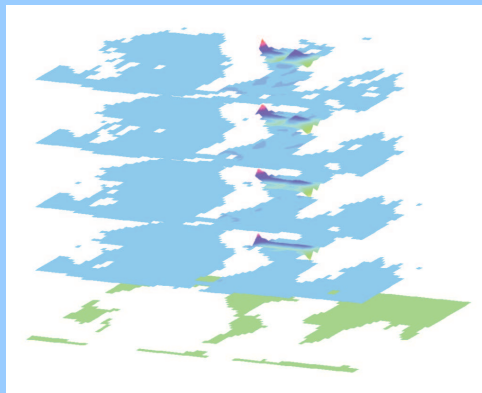
current phd  
students:



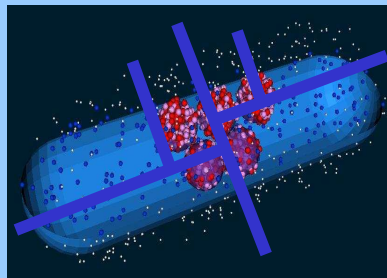
[www.cs.odu.edu/~{fmccown,jsmit,mklein}](http://www.cs.odu.edu/~{fmccown,jsmit,mklein})

# Computational Science (Alex Pothen)

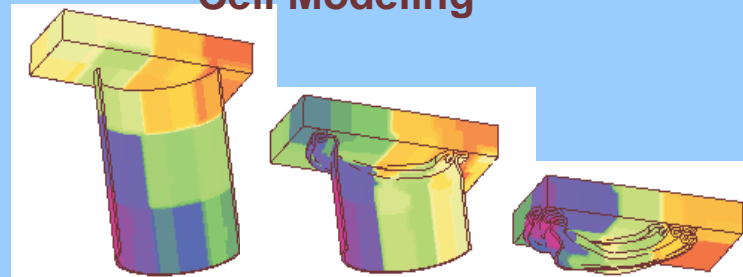
- Combinatorial Scientific Computing on Tera- and Peta-scale supercomputers (CSCAPES) Institute, \$7 Million for five years, Dept. of Energy.
- Collaborators: Sandia, Argonne National Labs, and two Universities.
- Parallelization toolkits, Automatic differentiation, compiler and run-time tools for enhancing performance, and parallel graph and matrix algorithms
- Students placed at Livermore, Argonne, Oak Ridge National Labs, and industries such as AT&T, Oracle, IBM; and at Penn State, Drexel, and similar Universities.
- Group includes two post-doctoral scientists, five PhD students, and undergraduates.



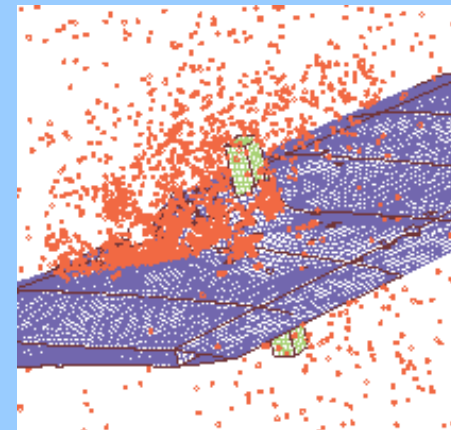
MIT Climate model



Cell Modeling



Crash simulations



Particle methods

The research is centered on understanding and modeling the physics of ocean turbulence and has theoretical and computational components. A major topic is the interaction of currents, wind driven surface waves, and turbulence. The theory uses a triple decomposition technique to derive equations for these components and their interactions and tensor representations of high-order correlations. The computational methods, Direct Numerical Simulation and Large Eddy Simulation, simulate the flows and permit direct computation of the statistical correlations. Much of our recent research is centered on understanding the dynamics of Langmuir turbulence.



# Ocean modeling

Chester Grosch

The research is centered on understanding and modeling the physics of ocean turbulence and has theoretical and computational components. A major topic is the interaction of currents, wind driven surface waves, and turbulence. The theory uses a triple decomposition technique to derive equations for these components and their interactions and tensor representations of high-order correlations. The computational methods, Direct Numerical Simulation and Large Eddy Simulation, simulate the flows and permit direct computation of the statistical correlations. Much of our recent research is centered on understanding the dynamics of Langmuir turbulence

- Research supported by the National Science Foundation