

An interdisciplinary  
graduate program in

Water: Systems, Science  
and Society

**WSSS**

*Water: Systems, Science and Society*  
*Interdisciplinary Certificate Program for Graduate Students*  
*Tufts University • Medford, Massachusetts • USA*



## Water: Systems, Science and Society

- A graduate education and research program
- About water and people

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## The 2010-2011 WSSS Faculty Steering Committee

*Professor Richard Vogel, Ph.D., Department of Civil and Environmental Engineering, School of Engineering (Director and Chair)*

*Professor Timothy Griffin, Ph.D., Agriculture, Food and Environment Program, Friedman School of Nutrition Science and Policy*

*Robert (Rusty) Russell, J.D., Lecturer, Department of Urban and Environmental Policy and Planning (UEP), School of Arts and Sciences*

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## The 2010-2011 WSSS Program Committee

*Antje Danielson*, Program Manager

*Heather Angstrom*, Program Coordinator

*Georgia Kayser*, Student Coordinator and Former WSSS Student,

## • WSSS Program Goals

- Provide a multidisciplinary background in water for graduate students coincident with their own graduate specialty
- Meet the growing global demand for interdisciplinary water experts
- Attend to some of the world's most pressing water problems including “water and sanitation” and “water and poverty”
- Serve as a model for integrated graduate education both within and outside Tufts
- Create a community of interdisciplinary water scholars
- Nurture and promote the wealth of water-related expertise at Tufts
- Encourage WSSS alumni to nurture future WSSS graduates

## Partnership of 6 Tufts Schools:

- Arts and Sciences
- Engineering
- Fletcher School of Law and Diplomacy
- Medical School
- Friedman School of Nutrition Science and Policy
- Veterinary Medicine

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# WSSS Participating Faculty Advisors



*Department of Civil and Environmental Engineering, School of Engineering*

Linda Abriola, Steve Chapra, Wayne Chudyk, John Durant, David Gute  
Shafiqul Islam, Steve Levine, Kurt Pennell, Andrew Ramsburg, Rich Vo

*Department of Biology, School of Arts & Sciences*

Michael Reed

*Department of Chemistry, School of Arts & Sciences*

Jonathan Kenny

*Department of Urban and Environmental Policy and Planning, School of Arts & Sciences*

Julian Agyeman, Sheldon Krinsky, Scott Horsley, Barbara Parmenter, Rusty Russell,  
Mary Davis

*Department of Political Science, School of Arts & Sciences*

Kent Portney

*Department of Economics, School of Arts & Sciences*

Gib Metcalf, Jeff Zabel

*Department of Geology, School of Arts & Sciences*

Grant Garven, Jack Ridge

*Friedman School of Nutrition Science and Policy*

Timothy Griffin, Beatrice Rogers, Peter Walker

*Cummings School of Veterinary Medicine*

Mark Pokras, Acacia Warren,

*Fletcher School of Law and Diplomacy*

William Moomaw, Astier Almedom

*Department of Public Health & Family Medicine, School of Medicine*

Jeffrey Griffiths, Elena Naumova, Siobhan M Morbhan

# WSSS External Advisory Committee



*Upmanu Lall*, Ph.D., Columbia University

*George Pinder*, Ph.D., University of Vermont

*Perry McCarty*, Sc.D., Stanford University

*Peter Rogers*, Ph.D., Harvard University

*Rita Colwell*, Ph.D., University of Maryland and Johns Hopkins  
University

*Chris Field*, Ph.D., Carnegie Institution of Washington

*Ray Powell*, DVM, Former Land Commissioner, New Mexico

*John Foster*, CEE '52, Former CEO of Malcolm Pirnie Co

*Jonathan Curtis*, E69, EG72, AG 05, Former President and CEO of  
CDM Federal Programs

## Announcements

- **NSF Funded IGERT (interdisciplinary graduate education and research traineeship) in *Water and Diplomacy***
- **New Lecturers in IWRM (integrated water resources management) – Dr. Annette Huber-Lee and Dr. Eric Kemp-Benedict**
- **Paul Kirshen, founder of the WSSS program, is BACK!**
- **This years practicum will be on the Mystic River Watershed**
- **Stay tuned for further information**

# WSSS Student Advisory Committee 2010-2011

*Jack Melcher*, Urban & Environmental Policy & Planning

*Ellen Tyler and Sarah Coleman*, Friedman School of Nutrition Science & Policy

*Brian Thomas*, Civil & Environmental Engineering

*John Parker and Laura Kuhl*, Fletcher School of Law and Diplomacy

*Shonda Gaylord*, Cummings School of Veterinary Medicine

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# WSSS PhD/MS/MA Program Components

- Take 3 Core Courses in 3 of 4 of areas:
  - Economics and Systems Analysis
  - The Science and Technology of Water
  - Biological Aspects of Water, Health and Nutrition
  - Water Resource Policy and Planning
- Plan Annual Water Symposium
- Attend weekly meetings
- Choose Track R or P:
  - Track P: Practicum/Internship
  - Track R: Research Paper and Conference Presentation

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# WSSS Program Components – Weekly Meetings

**Activities and goals for the weekly meetings will include (in no particular order):**

1. Orientation of new WSSS students
2. Fostering participation of returning WSSS students
3. Cultivating involvement of Tufts faculty and other water colleagues
4. Planning annual WSSS symposium and practicum
5. Research presentations by WSSS students, faculty, and other water colleagues
6. Coordinating and planning individual interdisciplinary WSSS research projects
7. Building leadership, public speaking, teaching, research proposal development, project management, and budgeting skills, and promoting the ethical conduct of research.

Meeting dates, locations, and topics will be posted on the WSSS web site ([www.tufts.edu/water](http://www.tufts.edu/water)) and distributed via email.

# The WSSS Milieu

**What can WSSS accomplish for you in addition to your already existing graduate program requirements?**

1. Provide a supportive and nurturing environment to explore your interests relating to water
2. WSSS should not feel like ‘another requirement’ or ‘more work’ (instead, it should engage, excite and empower you)
3. Provide a flexible environment to enable you to accomplish unique and creative goals (i.e. water competition, water symposium)
4. Joining WSSS should expose you to a much more diverse community of water scholars than if you do not join WSSS
5. WSSS is organized by the ‘program team’ but is run by YOU (all activities are your activities, except a few boring lectures)
6. WSSS will be fun and will make you laugh
7. Am I wrong? If so, please advise us.

**Water:**

**SYSTEMS, SCIENCE, AND SOCIETY**

# Interdisciplinary WSSS Research Agenda

- Water Management in a Changing Environment: Hydromorphology and Climate Change
- Water and Public Health
- Watershed Management
- Water Pollution and Remediation Science
- Water, Agriculture, Food, and Livelihood Security
- Water and National and International Security

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### School of Arts and Sciences

|                   |                                    |
|-------------------|------------------------------------|
| Rusty Russell     | Environmental Law                  |
| Grant Garven      | Groundwater                        |
| Jack Ridge        | Geomorphology                      |
| Jonathan Kenny    | Characterization of organics       |
| Frank Ackerman    | Environmental Economics            |
| Lawrence Bacow    | Environmental Economics & Policy   |
| Scott Horsley     | Water Resources Policy/Planning    |
| Sheldon Krimsky   | Environmental Policy & Ethics      |
| Ann Rappaport     | Environmental Science & Management |
| Michael Reed      | Ecology, Conservation              |
| Albert Robbat     | Analytical Instrumentation         |
| Barbara Parmenter | Environmental Planning and GIS     |
| David Walt        | Sensors & Pathogen Detection       |
| Jon Witten        | Land Use Planning                  |

### School of Engineering

|                 |                                             |
|-----------------|---------------------------------------------|
| Richard Vogel   | Hydrology, Water Resource Systems           |
| Linda Abriola   | Groundwater Pollution/Remediation           |
| Steven Chapra   | Water Quality, Mathematical Modeling        |
| John Durant     | Environmental Fate & Transport              |
| David Gute      | Epidemiology & Public Health                |
| David Kaplan    | Environmental Microbiology                  |
| Andrew Ramsburg | Groundwater Pollution/Remediation           |
| Kurt Pennell    | Groundwater Pollution/Remediation           |
| Shafiq Islam    | Remote Sensing, Hydrometeorology, Hydrology |
| Wayne Chudyk    | Environmental Chemistry and Engineering     |

### Fletcher School of Law and Diplomacy

|                 |                                              |
|-----------------|----------------------------------------------|
| William Moomaw* | Environmental Policy & Negotiations          |
| Leila Fawaz     | Interstate Disputes in the Middle East       |
| Astier Almedom  | Humanitarian Policy and Global Public Health |

### Medical School

|                   |                                      |
|-------------------|--------------------------------------|
| Jeffrey Griffiths | Water-born Disease                   |
| Elena Naumova     | Public Health, Mathematical Modeling |
| Siobhan Mor       | Public Health, Waterborne Disease    |

### Veterinary School

|                |                             |
|----------------|-----------------------------|
| Christine Jost | Ecosystem Health Assessment |
| Saul Tzipori   | Waterborne Pathogens        |
| Mark Pokras    | Ecology & Disease           |

### Friedman School of Nutrition Science and Policy

|                 |                                   |
|-----------------|-----------------------------------|
| Patrick Webb    | Household Water Security          |
| Beatrice Rogers | Economics/Food Policy             |
| Peter Walker    | Natural Disaster Relief           |
| Tim Griffin     | Agriculture, Food and Environment |

**Thank you.  
Questions ?  
Comments ?**

**Water:**  
**SYSTEMS, SCIENCE, AND SOCIETY**

School Coordinator