ADMISSIONS

The Global Master’s program in Infrastructure Systems (GMIS) is a competitive graduate program geared towards students who have demonstrated excellence in their prior studies and work life. Admission into the GMIS requires an undergraduate degree in engineering, management, economics, or public policy related disciplines with some quantitative background. Students seeking admission into the GMIS must submit the following documentation as part of the application process:

- Application for Admission
- Two (2) Letters of Recommendation
- Official College Transcripts from all schools attended
- GRE or GMAT scores
- TOEFL Scores of 550 or higher are required for all International students

Application materials can be found on the Office of Graduate Admissions website at www.stevens.edu/graduate.

Applications for Admission must be received by the Office of Graduate Admissions no later than:

June 1, 2009 for International Students, and August 1, 2009 for U.S. Citizens and Permanent Residents.

Interested candidates can complete a pre-application form on the program website to determine their eligibility into the GMIS program.

FINANCIAL AID AND GRADUATE ASSISTANTSHIPS

Students usually cover their tuition, fees and living expenses through Federal loans (for U.S. citizens and permanent residents), private loans, employer tuition support programs, scholarships from their governments or organizations, and/or family sources. The GMIS program offers a limited number of graduate research assistantships reserved for students with outstanding academic credentials who intend to pursue the Ph.D. program in Enterprise Systems/Infrastructure Management, Policy and Governance. Competitive scores on the GRE and an outstanding record of prior studies is a prerequisite for graduate assistantships.

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Teaching/Research Interests</th>
<th>Background</th>
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</thead>
<tbody>
<tr>
<td>Dr. Ali Mostashari</td>
<td>Complex Infrastructure Systems, Transportation, Smart Power Grids, Network Systems Modeling</td>
<td>Ph.D. in Engineering Systems/MIT</td>
</tr>
<tr>
<td>(Chair/Program Director)</td>
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<tr>
<td>Dr. John Farr</td>
<td>Infrastructure Economics and Planning</td>
<td>Ph.D. in Civil Engineering/University of Michigan</td>
</tr>
<tr>
<td>Dr. Roshanak Nilchiani</td>
<td>Infrastructure Resilience</td>
<td>Ph.D. in Space Systems/MIT</td>
</tr>
<tr>
<td>Dr. Brian Sauser</td>
<td>Management of Extended Infrastructure Systems and Enterprises</td>
<td>Ph.D. in Engineering Management/Stevens</td>
</tr>
<tr>
<td>Dr. Mo Mansouri</td>
<td>Infrastructure Enterprise Governance</td>
<td>Ph.D. in Engineering Management/George Washington University</td>
</tr>
<tr>
<td>Dr. Rosta Farzan</td>
<td>Information Systems and Social Network Infrastructure</td>
<td>Ph.D. in Computer Science/University of Pittsburgh</td>
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<tr>
<td>Dr. Thomas Lechler</td>
<td>Infrastructure Leadership</td>
<td>Ph.D. in Business Administration/University of Karlsruhe</td>
</tr>
<tr>
<td>Dr. Jose Ramirez Marquez</td>
<td>Infrastructure Network Reliability</td>
<td>Ph.D. in Operations Research/Rutgers University</td>
</tr>
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</table>

Infrastructure systems are key enablers of the economic growth and sustainability of nations and regions. Increasingly, traditional approaches to isolated infrastructure planning and management are facing challenges in the form of the interdependencies of infrastructure systems, the changing nature of infrastructure investment and the increasing realization of the challenges faced in building resilient and sustainable infrastructure systems. The Global Master of Science Program in Infrastructure Systems (GMIS) is designed to provide professionals with an interest in the design, management and decision-making for Infrastructure Systems with the ability to tackle complex issues facing infrastructure systems in the 21st century. Designed as a global program, this program will draw on students from diverse countries and backgrounds to provide a truly global educational experience. In addition to taking courses on infrastructure systems design and management, graduate students will be exposed to courses on systems thinking, leadership, complex project management and engineering economics. Students also have the option of doing an internship with a New York/New Jersey Metropolitan Area infrastructure-related organization during the summer semester.

Important Dates: Applications for Admission must be received by the Office of Graduate Admissions no later than: June 1, 2009 for International Students, and August 1, 2009 for U.S. Citizens and Permanent Residents.

For additional program information, and/or to apply for admission, please visit our website at www.stevens.edu/Infrastructure, or contact:

Dr. Ali Mostashari, Program Director, Infrastructure Systems Graduate Program
E-mail: ali.mostashari@stevens.edu
## Core Courses

- ES 890  Introduction to Infrastructure Systems
- ES 891  Advanced Topics in Infrastructure Systems
- ES 864  Systems Thinking
- ES 881  Dynamic Modeling of Systems and Enterprises
- EM 612  Project Management of Complex Systems
- or MGT 612  Human Side of Project Leadership
- EM 600  Engineering Economics and Cost Analysis
- or EM 620  Engineering Cost Management

## Electives

Students will also take two elective courses (with 6 credit ES 900 thesis option) or three elective courses (with 3 credit ES 800 Master's Project option) from one of the following concentration areas, based on their interest and with approval of their advisor. Courses beyond the current list can be substituted with the approval of the advisor.

### Program Concentrations:

#### Master of Science in Infrastructure

- **Systems/Maritime Systems**
  - CM 508  Transportation Engineering
  - EM 605  Elements of Operations Research
  - EN 587  Environmental Law & Mgmt
  - EM 810  Special Topics in Enterprise Systems
- **Systems/Energy Systems**
  - EM 503  Power Plant Engineering
  - EM 605  Elements of Operations Research
  - EN 587  Environmental Law & Mgmt
  - EM 810  Special Topics in Enterprise Systems
- **Master of Science in Infrastructure**
- **Systems/Telecommunications**
  - EM 601  Principles of Applied Telecommunication Technologies
  - EM 612  Regulation and Policy in the Telecomm Industry

#### Master of Science in Infrastructure

- **Systems/Networked Information Systems**
  - NIS 560  Intro Networked Info Systems
  - NIS 654  Design & Analysis of Network Systems
  - NIS 670  Information Networks I
- **Master of Science in Infrastructure**

#### Master of Science in Infrastructure

- **Systems/Governance and Management**
  - EM 605  Elements of Operations Research
  - EM 611  Simulation and Modeling
  - EM 625  Fundamentals of Systems Engineering
- **Master of Science in Infrastructure**

#### Program Concentrations:

- **Master of Science in Infrastructure**
  - Systems/Maritime Systems
  - Systems/Energy Systems
  - Systems/Telecommunications

### Graduate Certificate in Infrastructure Management

Students can obtain a Graduate Certificate in Infrastructure Management by taking ES 690 and ES 691 and two of the remaining four core courses of the GMIS program. These four courses provide the backbone for approaching infrastructure systems from a top-level management and decision-making perspective. This certificate is relevant for professionals who wish to complement existing knowledge, skills and experience in one of the infrastructure areas that constitute the focus of the program.

After completion of the certificate, participants will have the knowledge and skills necessary to
- effectively manage complex infrastructure projects,
- analyze the economic and financial aspects of infrastructure development and operation,
- analyze and design different types of networked infrastructure systems from a systems and network perspective,
- build in flexibility and resilience into infrastructure systems in the face of natural and man-made disasters, and
- develop insights into infrastructure governance issues and public-private partnerships.

Admission criteria for the Graduate Certificate are the same as for the Master’s program. Credits earned in the Graduate Certificate program, can be applied toward the Global Master’s Degree in Infrastructure Systems.

### Research Opportunities

The School of Systems and Enterprises at Stevens is engaged in a variety of research projects dealing with different aspects of Infrastructure Systems.

- **The Center for Complex Adaptive Sociotechnological Systems (COMPASS)** is a premier research center focused on complex engineered systems analysis and design. Its infrastructure research focuses on infrastructure resilience and sustainability for transportation and energy infrastructure. Researchers at COMPASS are also engaged in research on Smart Power Grids and transportation network resilience and security. In addition, new research projects deal with assessing the necessary systems and technologies for transitioning into a hydrogen economy. To learn more about COMPASS, please visit www.socio-technical.org.

- **The National Center for Secure and Resilient Maritime Systems (CSR)** is a Center of Excellence in Maritime and Port security and resilience studies and conducts research on various aspects of maritime infrastructure resilience in the face of natural and man-made disasters. To learn more about the CSR, please visit www.stevens.edu/csr.

- **The Systems Engineering Research Center (SERC)** is the largest Systems Engineering research center in the United States and the World and supports projects that are critical to a better understanding of complex engineered systems, including infrastructure systems. To learn more about the SERC, please visit www.sercuarc.org.

### About the School of Systems and Enterprises at Stevens Institute of Technology

The School of Systems and Enterprises (SSE) is the largest provider of Systems Engineering education and research to the U.S. federal government and defense related industries worldwide. Utilizing an Open Academic Model, the School emphasizes global partnerships with industry and government, and academia, to provide highly relevant and rigorous degree programs. The SSE brings together faculty who are industry experts and practitioners, researchers, and academics, with students who are committed to learning, in a dynamic, diverse and engaged community. SSE faculty share their real world experience, and leverage industry research, to keep students informed, challenged and engaged.