

Department of Engineering and Public Policy

Douglas C. Sicker, Head
Deanna H. Matthews, Associate Department Head for Undergraduate Affairs
Office: Baker Hall 129
<http://www.cmu.edu/epp>

The Department of Engineering and Public Policy (EPP) is a unique department that works on problems at the interface between technology and society. Society is largely responsible for setting the goals and framing the problems that engineers and scientists work on. However, technologies designed by engineers and scientists profoundly change the societies in which they operate. Technology has enabled a healthier, richer, and more productive society. At the same time, technology has contributed to the creation of many of the more serious problems our society faces.

Technology can help us build a happier, freer, and more fulfilling life, while maintaining risks and undesirable impacts at acceptable levels. But that does not happen automatically. It takes careful hard work by people who understand both technology and the society in which they live. In order to do their jobs responsibly and well in today's world, engineers and scientists must develop an understanding of the interface between technology and society and a command of the skills necessary to work at that interface. The undergraduate degree programs of the Department of Engineering and Public Policy (EPP) have been designed to allow undergraduate students at Carnegie Mellon University to add this important dimension to their traditional engineering or science education. EPP additional major graduates, for the most part, will enter traditional engineering or science careers, but will carry with them a set of insights and skills that will help them to better deal with issues in technology and policy, and better exercise their ethical and social obligations as practicing professionals.

Overview of the Undergraduate Programs in EPP

The undergraduate additional major programs in EPP combine the strong foundation in mathematics and physical sciences, and the development of engineering or science skills with a rigorous preparation in the analysis of social and political problems. The curriculum includes subject matter which is not part of traditional technical or social science curricula, but which contains elements of each. Students complete courses in four core areas: economics, statistics, decision-making, and communication. Breadth is achieved through EPP Technology-Policy elective courses. Finally, students apply their skills in a project preparatory course and two interdisciplinary problem-solving projects. Problem areas for these projects are chosen from local, state, and national situations, and include such topics as climate change, energy systems, technological innovation, telecommunication issues, computer security and privacy, risk analysis and communication, among others. Students from several CMU colleges enroll in these projects courses exposing EPP additional majors to working in truly interdisciplinary situations. Examples of past project course topics (<http://www.cmu.edu/epp/prospective/undergraduate/epp-project-courses>) and final reports are available.

Additional Major in Engineering and Public Policy

The EPP department offers an additional major in Engineering and Public Policy (EPP) with each of the five traditional engineering departments in the engineering college. The engineering additional major leads to a fully accredited engineering degree that prepares students for traditional technical careers. EPP additional major engineers are not educated to be a different kind of engineer. Rather, their education is intended to enable them to be better, more socially responsible engineers in the traditional technical fields.

Additional Major in Science, Technology, and Public Policy

The EPP department offers an additional major in Science, Technology and Public Policy (STPP) for students outside of the engineering college who are earning a B.S. degree. This includes students in the Mellon College of Science, the School of Computer Science, Tepper School of Business, and select majors in the Dietrich College. Similar to the additional major in Engineering and Public Policy, the additional major in Science, Technology and Public Policy is meant to broaden the perspectives on a student's primary major and provide additional skills for future careers.

Minor in Technology and Policy

The department also offers a minor in Technology and Policy for non-engineering majors. The Technology and Policy minor exposes students to issues at the interface of science, technology, and society, and how interdisciplinary approaches are needed to solve complex problems.

Career Options with EPP Additional Majors

Students who select one of the EPP additional majors graduate with a regular accredited engineering degree or complete science degree, and thus have all of the

options for traditional technical careers as their single major classmates. A large portion of our additional major students pursue traditional technical careers after graduation in areas such as product development, consulting, project management, etc.

The advantage of the additional major is the added set of skills and perspectives, which allow a graduate of the program to improve the quality, sensitivity, and social responsiveness of their work, and the work of their colleagues. Employers recognize these skills and often view our graduates as more attractive for a traditional engineering or technical position. Firms contact the EPP department every year to recruit EPP graduates because of their satisfaction with the knowledge and skills acquired by EPP students.

The additional major also opens up a collection of other options that are not available to most technical graduates. These include jobs in policy analysis in federal, state, and local government or in public policy consulting firms. Alumni also pursue careers in companies to deal with issues like government regulation, environmental control, worker health and safety, product liability and safety, telecommunications policy, energy systems, and the social impact of large technological systems.

Students also choose to continue their formal education, doing graduate work in engineering, the social sciences, law, or interdisciplinary programs.

Faculty Advisors

Faculty in several departments serve as advisors and information resources to students selecting the EPP undergraduate programs. Given the interdisciplinary perspective of EPP, students may find that a faculty member outside their traditional major can provide support and guidance with EPP-related courses and career paths. The EPP Associate Department Head for Undergraduate Affairs is Deanna Matthews. Dr. Matthews can provide general academic advice and guidance for all EPP undergraduates. Other faculty affiliated with the undergraduate programs in EPP are:

- Civil Engineering: Peter Adams, Jared Cohon, Scott Matthews, Meagan Mauter, Mitch Small
- Chemical Engineering: Neil Donahue
- Computer Science: Lorrie Cranor
- Electrical and Computer Engineering: Jon Peha, Marvin Sirbu
- Engineering and Public Policy: Daniel Armanios, Ines Azevedo, Liz Casman, Alex Davis, Erica Fuchs, Paulina Jaramillo, Deanna Matthews, Granger Morgan
- Mechanical Engineering: Jeremy Michalek, Edward Rubin, Kate Whitefoot
- Material Science and Engineering: Jay Whitacre
- Social and Decision Sciences: Paul Fischbeck, Baruch Fischhoff

EPP Program Educational Objectives

Students who earn an additional major in Engineering and Public Policy at the undergraduate level do so in conjunction with a traditional engineering major. The elements of the EPP undergraduate program broaden the traditional scope of technical analysis to encompass an engineering solution's potential impact on society. Thus, our graduates have all of the skills as their peers in traditional engineering majors, but with a broader societal perspective and additional analysis skills. This enables our graduates to understand the interface between technology and society and to help solve the complex, interdisciplinary systems problems facing our world.

EPP Student Outcomes

By the end of the combined B.S. programs in a traditional engineering program and the EPP program, students should have attained the following:

1. an ability to apply knowledge of mathematics, science, and engineering;
2. an ability to design and conduct experiments, as well as to analyze and interpret data;
3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
4. an ability to function on multidisciplinary teams;
5. an ability to identify, formulate, and solve engineering problems;
6. an understanding of professional and ethical responsibility;
7. an ability to communicate effectively;
8. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. a recognition of the need for, and an ability to engage in life-long learning;
10. a knowledge of contemporary issues;
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice;

plus these additional skills:

12. an ability to demonstrate that engineering analysis alone is not sufficient to solve a “real world” societal need or problem;
13. an ability to complete an analysis of a problem that involves technical, social science/behavioral, and policy dimensions and components;
14. an ability to characterize the scale and systems level impacts of technology and public policy solutions;
15. an ability to structure unstructured problems as part of a multi-disciplinary team;
16. an ability to recognize they are appropriately trained for careers beyond traditional engineering.

Course Requirements for the Additional Major in EPP

Minimum units for the additional major 106

Students pursuing an additional major in EPP must complete three sets of requirements: courses for the EPP additional major, courses for their traditional disciplinary major, and general education courses. The student should refer to the relevant sections of this catalog for the required courses in the traditional disciplinary major. The EPP additional major is designed to be completed with a traditional disciplinary major in the standard four-year time frame. However, additional units or course work may be required. Some courses for the EPP additional major may also satisfy requirements for traditional disciplinary majors or for general education courses.

Overview

Course		Units
19-101	Introduction to Engineering and Public Policy	12
19-201	EPP Sophomore Seminar	1
73-102	Principles of Microeconomics	9
36-220	Engineering Statistics and Quality Control (or other approved statistics course)	9
19-301	Decision Making Methods for Engineers and Scientists	9
or 88-223	Decision Analysis	
or 88-302	Behavioral Decision Making	
(or other approved decision science course)		
19-325	Technology and Policy Writing for Lay Audiences	9
or 76-270	Writing for the Professions	
(or other approved writing course)		
19-351	Applied Methods for Technology-Policy Analysis	9
19-451	EPP Projects	12
19-452	EPP Projects	12
Three EPP Technology-Policy Electives		min. 24

Introductory Courses

		Units
19-101	Introduction to Engineering and Public Policy	12
19-201	EPP Sophomore Seminar	1

The two introductory courses prepare students for the additional major experience through discussion and assessment of technology-policy interactions. 19-101 Introduction to Engineering and Public Policy may be taken as the second introductory engineering course during the first year for engineering students. 19-201 EPP Sophomore Seminar is required in addition to any corresponding seminar course in a student’s traditional degree program.

Core Area Courses

73-102	Principles of Microeconomics	9
36-220	Engineering Statistics and Quality Control	9

EPP Decision Science elective - one of the following, or other approved course:

19-301	Decision Making Methods for Engineers and Scientists	9
88-223	Decision Analysis	9
88-302	Behavioral Decision Making	9

EPP Writing and Communications elective - one of the following, or other approved course

19-325	Technology and Policy Writing for Lay Audiences	9
76-270	Writing for the Professions	9

The four core area courses provide the foundational skills in the social sciences that are needed for robust analysis of policy problems. 73-102 Principles of Microeconomics should be taken as a CIT General Education course.

36-220 Engineering Statistics and Quality Control is required for all CE, ME, and MSE students in their traditional engineering majors. ChE students will substitute 36-220 for 03-232 Biochemistry I. ECE students, who take 36-217 Probability Theory and Random Processes for their traditional engineering major, may take 36-220 or 36-226 Introduction to Statistical Inference. Students should complete the statistics requirement by the end of sophomore year. A statistics course is a prerequisite for the EPP Decision Science elective.

The EPP Decision Science elective fulfills either the CIT General Education Social Analysis and Decision Making requirement or a CIT General Education free elective. The EPP Writing and Communications course fulfills the CIT General Education Writing and Expressions requirement.

Technology-Policy Electives

- At least 3 courses of EPP Technology-Policy electives (24 units minimum)

EPP Technology-Policy Electives include courses that belong to three categories. First, EPP Technology-Policy Electives include courses that synthesize engineering analysis and social analysis perspectives and apply them to problems with substantial societal and technological components. Specific areas of interest for these courses are (1) energy, resources, and the environment, (2) risk assessment, (3) forensic engineering, (4) urban engineering, (5) information and communication technology, and (6) product engineering and design, among others. Second, EPP Technology-Policy Electives include courses that teach methods or analysis skills necessary for solving complex problems. Examples include mathematical or statistical courses related to optimization or estimation, or economics courses related to economic analysis. Finally, EPP Technology-Policy Electives include courses that provide technical background for policy relevant issues. These courses are fundamental for understanding our current engineering systems and how proposed changes can be implemented. Examples include courses on electricity systems, engine design, or atmospheric systems.

Qualifying courses for EPP Technology-Policy Electives are determined each semester. The majority of 19-xxx EPP departmental courses are considered EPP Technology-Policy Electives. Exceptions will be identified when the courses are offered. 19-301 and 19-351 are required courses for the EPP additional major and may not be used as EPP Technology-Policy electives. Courses from other departments also are acceptable as electives. Students should work with their advisors to define areas of concentration or a selection of breadth courses for the EPP Technology-Policy Electives.

Students are required to take at least three EPP Technology-Policy electives for a minimum of 24 units. Units may be added in any combination, but a maximum of one 3-unit course is permitted. Up to 9 units of research may be used with approval. Students may not use a required course from their traditional disciplinary major for these elective units. However, students may use an elective course from their traditional major requirements to meet the requirements of both their traditional engineering major and an EPP Technology-Policy elective, but the units for the course will not be double-counted toward units required for their degree. Some EPP Technology-Policy elective courses may fulfill requirements for CIT General Education categories (e.g., 19-411 Global Competitiveness: Firms, Nations and Technological Change is an I&I course), otherwise students use Free Elective units to complete this requirement.

Capstone Courses

		Units
19-351	Applied Methods for Technology-Policy Analysis	9
19-451/452	EPP Projects	12
19-451/452	EPP Projects (taken twice)	12

The capstone courses synthesize the technical skills and knowledge from a student’s traditional major with the social science skills and broad perspective of the EPP major.

19-351 Applied Methods for Technology-Policy Analysis is a preparatory course for the EPP Projects. 19-351 may be completed as a co-requisite of 19-451/19-452 EPP Projects. The course fulfills CIT General Education free elective units.

19-451/19-452 EPP Projects is taken twice by all students. EPP Projects are technology/policy projects which deal with research and development of recommendations for solving actual and critical problems currently affecting society. The students, faculty, and graduate student managers for the project are drawn from EPP, Social and Decision Sciences, and the Heinz College, and other CMU departments, and hence bring different areas of expertise to the structuring and solution of the problem. The topics for EPP Projects are drawn from diverse areas such as environmental systems and resources, public transportation, urban engineering problems, energy and fuel utilization, the interaction of law and technology, strategic materials and vulnerability of supply, technical issues in national security, and problems in automation, robotics, and communication technology. Students use Free Elective units to complete this requirement.

Notes on EPP double major requirements

Students should follow the suggested curriculum timelines for completing the math, science, and engineering course requirements of the traditional major with the exception of 36-220 which should be taken as early as possible and no later than the end of sophomore year.

All students must complete 76-101 Interpretation and Argument. Some courses as noted above may be used to fulfill requirements of general education courses. Acceptable courses for the CIT General Education requirements are maintained by the CIT Dean's Office. Students must submit a plan during their first-semester as an EPP student (usually Fall sophomore year) for these general education courses demonstrating their relevance to EPP.

Students must complete the minimum number of units as required by their traditional major for graduation. In some cases, students completing the EPP additional major may need to complete additional units to meet all requirements for the traditional major and EPP additional major.

In addition to any other graduation requirements (e.g., regarding course work, minimum QPA, pass/fail course work, etc.) of the student's traditional disciplinary major, students must earn a minimum QPA of 2.0 in all courses required for the EPP major.

Side-by-side curriculum charts (<http://www.cmu.edu/epp/prospective/undergraduate/epp-additional-major/curriculum-charts>) of the curricula for the traditional engineering majors alone versus the traditional engineering majors with the EPP additional major can assist students in determining the course requirements and scheduling needed to complete the degree requirements.

A proposed semester plan is below. Students work with their faculty advisors to determine the best sequence of courses given the varied requirements in the traditional majors.

Course	Semester
19-101 Introduction to Engineering and Public Policy	First-year Spring
73-102 Principles of Microeconomics	First-year Fall or Spring
19-201 EPP Sophomore Seminar	Sophomore Fall
36-220 Engineering Statistics and Quality Control	Sophomore Fall or Spring
EPP Writing and Communications Elective	Sophomore Fall or Spring
EPP Decision Science Elective	Junior Fall
19-351 Applied Methods for Technology-Policy Analysis	Junior Spring
3 EPP Technology-Policy Electives	Junior and/or Senior year
19-451/19-452 EPP Projects	Senior Fall and Spring

Course Requirements for the Additional Major in STPP

Minimum units required for additional major 106

The requirements for the Science, Technology and Public Policy additional major are similar to those for the Engineering and Public Policy additional major. Some courses may fulfill some major requirements or "general education" requirements in other colleges. Other courses will use students' elective spaces or free elective units. Core courses required for a student's major will not be allowed to double-count for Technology Policy electives, but elective courses can be selected that fulfill both major elective requirements and Technology Policy electives. Students pursuing the STPP additional major should work with their advisors to determine how best to fit the additional major requirements into their course load.

Introductory Courses

	Units
19-101 Introduction to Engineering and Public Policy	12
19-201 EPP Sophomore Seminar	1

Core Area Courses

73-102 Principles of Microeconomics	9
Statistics course — one of the following:	
36-220 Engineering Statistics and Quality Control	9
36-226 Introduction to Statistical Inference	9
or other approved statistics course	

EPP Decision Science course — one of the following:

19-301 Decision Making Methods for Engineers and Scientists	9
88-223 Decision Analysis	9
88-302 Behavioral Decision Making	9
or other approved decision science course	
EPP Writing and Communications course — one of the following:	
19-325 Technology and Policy Writing for Lay Audiences	9
76-270 Writing for the Professions	9
76-271 Introduction to Professional and Technical Writing	9
or other approved writing and communications course	

Technology-Policy Electives

3 courses, at least 24 units **24 minimum units**

Capstone Courses

19-351 Applied Methods for Technology-Policy Analysis	9
19-451/452 EPP Projects	12
19-451/452 EPP Projects (taken twice)	12

Fifth Year M.S. program in Engineering and Public Policy

Students, regardless of whether they complete an undergraduate additional major or not, may apply for the fifth year masters program that will lead to the additional degree of Master of Science in Engineering and Public Policy. This course of study will ordinarily require two additional semesters of study beyond that required for the undergraduate degrees in the primary major and EPP/STPP additional major. Some coursework towards the MS may be able to be completed during the student's senior year, however no courses taken may count for both a BS program and the MS in EPP. Students interested in the program must have a minimum 3.0 QPA and should contact their advisor for details on the application process and course requirements.

Bachelor of Science in Engineering and Public Policy and Master of Science in Public Policy and Management

Highly motivated and talented students can earn the EPP additional major bachelor's degree, and a master's degree in the H. John Heinz College of Public Policy and Management in a five-year course of study. Students interested in the combined degree program should enroll in a standard additional major program in an engineering specialty and EPP. During the third year of study, the student applies to the Heinz College for admission to the master's program; an academic record of B average or better is normally a prerequisite for admittance.

The five-year course of study is possible because of specific course load overlaps between the EPP and Heinz College programs: (1) some social analysis requirements in EPP, usually four semester courses, can be satisfied with Heinz College common core courses in economics and social science; (2) at least one project course is common and applicable to both curricula; (3) at least one additional EPP technical elective, engineering option, or project course will be accepted for Heinz College credit following the usual request to the master's committee.

Students desiring this option should seek faculty advice and counsel in their sophomore year so that a curriculum satisfying all the degree requirements can be ensured. Contact the Associate Department Head for Undergraduate Affairs in EPP for more information. For general information on Heinz 3-1-1 programs please contact the Heinz College or refer to their website.

Minor in Technology and Policy

The department also offers a minor in Technology and Policy to non-CIT majors. This minor allows students outside of engineering to sample the EPP requirements and develop exposure and awareness to issues at the interface of science, technology, and society.

Pre-requisites: Students should have prerequisite knowledge in economics (73-102 Principles of Microeconomics or higher level economics course) and statistics (36-202 Methods for Statistics and Data Science or higher level statistics course) in order to pursue the Technology and Policy Minor.

Course Requirements	Units
19-101 Introduction to Engineering and Public Policy	12

19-301	Decision Making Methods for Engineers and Scientists (or other approved Decision Science course)	9
or 19-351	Applied Methods for Technology-Policy Analysis	
19-451	EPP Projects	12
or 19-452	EPP Projects	
xx-xxx	Two EPP Technology-Policy Electives	18

EPP Technical Electives include courses in CIT, MCS, or SCS that address problems at the society-technology interface and the means of analyzing these issues. A list of qualifying Technology-Policy electives is assembled each semester and is available from the EPP Department. Example Technology-Policy electives include:

19-211	Ethics and Policy Issues in Computing	9
19-365	Water Technology Innovation and Policy	9
19-402	Telecommunications Technology, Policy & Management	12
19-411	Global Competitiveness: Firms, Nations and Technological Change	9
19-424	Energy and the Environment	9

Students must earn a cumulative QPA of 2.0 in all courses taken for the minor. Required courses taken for a student's primary major may not be counted toward the Technology and Policy Minor. Elective courses for a student's primary major or courses fulfilling general education requirements may be counted, however.

Details of this program are provided in the discussion of CIT minors; see Technology and Policy Minor Description (<http://coursecatalog.web.cmu.edu/carnegieinstituteoftechnology/minorsfornonengineeringstudents/#technologyandpolicyminor>).

Notes on EPP Undergraduate/Graduate Level Courses

Many courses taught by the department (19-XXX courses) are offered to undergraduate and graduate students. These "dual level" courses are offered in two formats:

- Some courses are taught under both an undergraduate and graduate number. An example is Telecommunications Technology, Policy & Management (19-402) and 19-722 Telecommunications, Technology Policy & Management. In these types of courses, students who sign up under the 700-level (graduate) course number may be expected to perform the same coursework at a higher level, and/or complete additional coursework, compared to 400-level students. Undergraduates who choose to take the course under the graduate number will be also be expected to work at the higher expectation/coursework level.
- Other courses are taught under a 600 level number. An example is 19-626 Climate Science and Policy. These courses may be taken by undergraduates as a senior level course, or by graduate students as a graduate level course. As with dual number courses, graduate level students or undergraduates taking the course for graduate credit may be required to perform coursework at a higher level and/or complete additional coursework. Undergraduates who are taking a 600 level course for graduate credit should identify this fact to both the course instructor and to their EPP department advisor.

Students who have questions about the requirements of a specific EPP 400/700, or 600 level course, should contact the course instructor. Some courses have prerequisites which may be waived for students given prior background.

Other departments may have different policies regarding courses offered under both an undergraduate and graduate number, and courses offered under numbers other than the 100, 200, 300, 400, or 700 levels. Students who wish to take these courses should check with those departments for their specific policies.

Faculty

PETER ADAMS, Professor of Civil and Environmental Engineering / Engineering and Public Policy – Ph.D., Caltech; Carnegie Mellon, 2001–.

JAY APT, Professor of Technology of The Tepper School of Business / Engineering and Public Policy – Ph.D., MIT; Carnegie Mellon, 2000–.

DANIEL ARMANIOS, Assistant Professor of Engineering and Public Policy – Ph.D., Stanford University; Carnegie Mellon, 2015–.

INES LIMA AZEVEDO, Professor of Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2009–.

MICHEL BEZY, Distinguished Service Professor of Engineering and Public Policy; Associate Director, Carnegie Mellon University in Rwanda – Ph.D., Université Catholique de Louvain; Carnegie Mellon, 2011–.

TRAVIS BREAUX, Associate Professor of Institute of Software Research / Engineering and Public Policy – Ph.D., North Carolina State University; Carnegie Mellon, 2010–.

TIMOTHY BROWN, Distinguished Service Professor of Engineering and Public Policy / Electrical and Computer Engineering – Ph.D., California Institute of Technology; Carnegie Mellon, 2013–.

KATHLEEN M. CARLEY, Professor of the Institute of Software Research / Social and Decision Sciences / The H. John Heinz III College / Engineering and Public Policy – Ph.D., Harvard University; Carnegie Mellon, 1984–.

ELIZABETH CASMAN, Associate Research Professor of Engineering and Public Policy – Ph.D., The Johns Hopkins University; Carnegie Mellon, 1997–.

NICOLAS CHRISTIN, Assistant Research Professor of Electrical and Computer Engineering / Engineering and Public Policy – Ph.D., University of Virginia; Carnegie Mellon, 2005–.

JARED L. COHON, University Professor of Civil and Environmental Engineering / Engineering and Public Policy; President Emeritus – Ph.D., MIT; Carnegie Mellon, 1997–.

LORRIE FAITH CRANOR, Professor of Computer Science / Engineering and Public Policy – D.Sc., Washington University in St. Louis; Carnegie Mellon, 2003–.

ALEX DAVIS, Assistant Professor of Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2012–.

NEIL M. DONAHUE, Professor of Chemical Engineering / Chemistry / Engineering and Public Policy – Ph.D., MIT; Carnegie Mellon, 2000–.

PEDRO FERREIRA, Assistant Professor of The H. John Heinz III College / Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2007–.

PAUL S. FISCHBECK, Professor of Social and Decision Sciences / Engineering and Public Policy – Ph.D., Stanford University; Carnegie Mellon, 1990–.

BARUCH FISCHHOFF, Howard Heinz University Professor; Professor of Social and Decision Sciences / Engineering and Public Policy – Ph.D., Hebrew University; Carnegie Mellon, 1987–.

ERICA R. H. FUCHS, Associate Professor of Engineering and Public Policy – Ph.D., MIT; Carnegie Mellon, 2007–.

MICHAEL GRIFFIN, Research Professor of Engineering and Public Policy – Ph.D., University of Rhode Island; Carnegie Mellon, 2000–.

ALEX HILLS, Distinguished Service Professor of Electrical and Computer Engineering / Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 1992–.

PAULINA JARAMILLO, Associate Professor of Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2008–.

RAMAYYA KRISHNAN, Dean of The H. John Heinz III College; William W. and Ruth F. Cooper Professor of Management Science and Information Systems; Professor of Engineering and Public Policy – Ph.D., University of Texas at Austin; Carnegie Mellon, 1987–.

DEANNA MATTHEWS, Associate Teaching Professor of Engineering and Public Policy; Associate Department Head for Undergraduate Affairs – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2001–.

H. SCOTT MATTHEWS, Professor of Civil and Environmental Engineering / Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 1999–.

MEAGAN MAUTER, Associate Professor of Civil and Environmental Engineering / Engineering and Public Policy – Ph.D., Yale University; Carnegie Mellon, 2012–.

JEREMY J. MICHALEK, Professor of Mechanical Engineering / Engineering and Public Policy – Ph.D., University of Michigan; Carnegie Mellon, 2005–.

M. GRANGER MORGAN, Hammerschlag University Professor of Engineering; Professor of Engineering and Public Policy / Electrical and Computer Engineering / The H. John Heinz III College – Ph.D., University of California, San Diego; Carnegie Mellon, 1974–.

NICHOLAS MULLER, Lester and Judith Lave Associate Professor of Economics, Engineering, and Public Policy, Tepper School of Business / Engineering and Public Policy – Ph.D., Yale University; Carnegie Mellon, 2017–.

SPYROS N. PANDIS, Research Professor of Chemical Engineering / Engineering and Public Policy – Ph.D., California Institute of Technology; Carnegie Mellon, 1993–.

JON M. PEHA, Professor of Engineering and Public Policy / Electrical and Computer Engineering – Ph.D., Stanford University; Carnegie Mellon, 1991–.

ALLEN ROBINSON, Raymond J. Lane Distinguished Professor; Head of Mechanical Engineering; Professor of Mechanical Engineering / Engineering and Public Policy – Ph.D., University of California, Berkeley; Carnegie Mellon, 1998–.

EDWARD S. RUBIN, Alumni Chair Professor of Environmental Engineering and Science; Professor of Engineering and Public Policy / Mechanical Engineering – Ph.D., Stanford University; Carnegie Mellon, 1969–.

DOUGLAS SICKER, Head of Engineering and Public Policy; Lord Chair Professor of Engineering and Public Policy / Computer Science – Ph.D., University of Pittsburgh; Carnegie Mellon, 2014–.

MARVIN A. SIRBU, Professor of Engineering and Public Policy / Industrial Administration / Electrical and Computer Engineering – Sc.D., MIT; Carnegie Mellon, 1985–.

MITCHELL J. SMALL, The H. John Heinz III Professor of Environmental Engineering; Professor of Civil and Environmental Engineering / Engineering and Public Policy; Associate Department Head for Graduate Affairs – Ph.D., University of Michigan; Carnegie Mellon, 1982–.

DEBORAH STINE, Professor of the Practice of Engineering and Public Policy – Ph.D., American University; Carnegie Mellon, 2012–.

ESWARAN SUBRAHMANYAN, Research Professor of Institute for Complex Systems / Engineering and Public Policy – Ph.D., Carnegie Mellon University; Carnegie Mellon, 1984–.

JOEL A. TARR, Richard S. Caliguiri Professor of Urban and Environmental History and Policy; Professor of History / Engineering and Public Policy / The H. John Heinz III College – Ph.D., Northwestern University; Carnegie Mellon, 1967–.

JEANNE VANBRIESEN, Duquesne Light Company Professor of Civil and Environmental Engineering / Engineering and Public Policy – Ph.D., Northwestern University; Carnegie Mellon, 1999–.

JAY WHITACRE, Professor of Materials Science and Engineering / Engineering and Public Policy – Ph.D., University of Michigan; Carnegie Mellon, 2007–.

KATE WHITEFOOT, Assistant Professor of Mechanical Engineering / Engineering and Public Policy – Ph.D., University of Michigan; Carnegie Mellon, 2016–.

JIMMY WILLIAMS, Distinguished Service Professor and Executive Director Engineering and Technology Innovation Management, Engineering and Public Policy – Ph.D., Washington University; Carnegie Mellon, 2015–.

GABRIELLE WONG-PARODI, Assistant Research Professor of Engineering and Public Policy – Ph.D., University of California at Berkeley; Carnegie Mellon, 2013–.

HAIBO ZHAI, Associate Research Professor of Engineering and Public Policy – Ph.D., North Carolina State University; Carnegie Mellon, 2008–.

Emeriti Faculty

TUNG AU, University Professor of Civil and Environmental Engineering / Engineering and Public Policy, Emeritus – Ph.D., University of Illinois; Carnegie Mellon, 1957–.

ALFRED BLUMSTEIN, J. Erik Jonsson University Professor of Urban Systems and Operations Research; Professor of The H. John Heinz III College / Engineering and Public Policy, Emeritus – Ph.D., Cornell University; Carnegie Mellon, 1969–.

JAMES GOODBY, Distinguished Service Professor, Emeritus – A.B., Harvard ; Carnegie Mellon, 1989–.

CHRIS T. HENDRICKSON, Emeritus University Professor – PhD, MIT; Carnegie Mellon, 1978–.

DAVID A. HOUNSHELL, David M Roderick Professor of Technology and Social Change; Professor of Social and Decision Sciences / Engineering and Public Policy, Emeritus – Ph.D., University of Delaware; Carnegie Mellon, 1991–.

FRANCIS MCMICHAEL, Walter J. Blenko, Senior Professor of Environmental Engineering; Professor of Civil and Environmental Engineering / Engineering and Public Policy, Emeritus – Ph.D., California Institute of Technology; Carnegie Mellon, 1967–.

BENOÎT MOREL, Associate Teaching Professor of Engineering and Public Policy / Physics, Emeritus – Ph.D., University of Geneva; Carnegie Mellon, 1987–.

INDIRA NAIR, Former Vice Provost for Education; Professor of Engineering and Public Policy, Emeritus – Ph.D., Northwestern University ; Carnegie Mellon, 1978–.

HENRY R. PIEHLER, Professor of Materials Science and Engineering / Engineering and Public Policy / Biomedical Engineering, Emeritus – Sc.D. , MIT; Carnegie Mellon, 1967–.

SAROSH TALUKDAR, Professor of Electrical and Computer Engineering / Engineering and Public Policy, Emeritus – Ph.D., Purdue University; Carnegie Mellon, 1974–.

ROBERT M. WHITE, University Professor of Electrical and Computer Engineering / Engineering and Public Policy, Emeritus – Ph.D., Stanford University; Carnegie Mellon, 1993–.