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Electrical Engineering and Computer Science
Atmospheric, Oceanic, and Space Science
Space plasma, plasma diagnostics

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Nuclear Engineering and Radiological Sciences
Accelerators and beams, high power microwaves, magnetic fusion

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Space plasmas

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Managing Director, Lure Nanofabrication Facility
Solid State Electronics Laboratory
Plasma materials processing

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Assistant Professor
Mechanical Engineering
Synthesis, properties, and applications of nanomaterials and nanomaterials

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Arthur F. Thurnau Professor
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Computational plasma physics and uncertainty quantification

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Computational fluid dynamics

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Mathematics
Algorithms for plasma simulation

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Ultra-high intensity laser-plasma interactions

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Center for Radiative Shock Hydrodynamics
High energy density plasma

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Nuclear Engineering and Computer Science
Directors, Michigan Institute for Plasma Science and Engineering (MIPSE)
Low temperature plasmas

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Nuclear Engineering and Radiological Sciences
Beams and plasmas, high power microwaves

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Associate Professor
Atmospheric, Oceanic, and Space Science
Magnetosphere and interplanetary plasmas

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Professor
Materials Science and Engineering
Laser-plasma materials processing

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Computational electromagnetics

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Atmospheric, Oceanic, and Space Science
Space plasma physics

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Laser-plasma interaction at relativistic intensities

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Space plasma physics

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Plasma materials processing

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Combustion

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Solar system plasma physics

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Professor
Biomedical Engineering
Biotechnology and biocompatibility

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Electrical Engineering and Computer Science
Electronic materials – properties and processing

ALEXANDER THOMAS
Assistant Professor
Nuclear Engineering and Radiological Sciences
Applied Physics
High power laser-plasma interactions

MARGARET S. WOOLDRIDGE
Professor
Mechanical Engineering and Aerospace Engineering
Combustion and plasma systems

UNIVERSITY OF MICHIGAN MICHIGAN STATE UNIVERSITY
Plasmas – the 4th state of matter – are gases composed of neutral atoms and molecules, charged ions and electrons. Plasmas comprise the vast majority of the matter in the universe, from stars to nebulae, permeate the interstellar space, and surround the earth thereby constituting our weather. Plasmas are also the basis of a broad and impressive range of technologies, including: electrical and microwave generation. Plasmas are also the means of creating controllable fusion reactions that will one day provide nearly unlimited electrical power. Plasmas compose the vast majority of the matter in the universe, from stars to nebulae, permeate the interplanetary space, and surround the earth thereby constituting our weather. Plasmas are also the basis of a broad and impressive range of technologies, including: electrical and microwave generation. Plasmas are also the means of creating controllable fusion reactions that will one day provide nearly unlimited electrical power. Plasmas are also the basis of a broad and impressive range of technologies, including: electrical and microwave generation. Plasmas are also the means of creating controllable fusion reactions that will one day provide nearly unlimited electrical power.

The Michigan Institute for Plasma Science and Engineering (MIPSE) is building on the interdisciplinarity and strength of interdisciplinary research and education in plasmas. MIPSE is an interdisciplinary program involving faculty and students from a variety of disciplines. MIPSE includes the education and mentoring of the next generation of leaders in the field of plasma science and engineering. MIPSE aims to extend the graduate certificate to students at MSU in the near future. 

MIPSE provides a number of competitive fellowships to students participating in the Graduate Certificate in Plasma Science and Engineering (PSE). The fellowships may be awarded to incoming or current students.

Graduate Research Symposium
MIPSE sponsors an annual Graduate Student Research Symposium which provides an opportunity for U-M and MSU graduate students to present the results of their research projects and network with fellow students and faculty. The symposium features a special speaker and posters by students from across the campus. There are awards for best poster presentations.

Industrial Affiliates
Companies with technology interests in plasma science and engineering are invited to join the MIPSE-Industrial Affiliates Program. The members of the IAP will enjoy benefits including access to and opportunities to collaborate with U-M and MSU faculty and graduate students performing research in plasma science and engineering. The members of current research, invitations to attend MIPSE functions for student recruitment, and the opportunity to influence the directions of plasma research at U-M and MSU. MIPSE faculty and staff are available as consultants to industry, law firms, government agencies, and foundations.

Public Outreach
Plasma Science and Engineering is an interdisciplinary field that encompasses a impressive diversity of topics that are important to the general public. The MIPSE mission therefore has an important outreach component. One part of that mission is outreach within the discipline wherein scientists in the various fields of plasma science learn from each other. Another part of the mission is outreach to the general public, high school students, and even Federal agencies, to help inform them about the importance of plasmas in our society. Organizations interested in having MIPSE faculty speak at their functions should contact the director.

Visitors
MIPSE welcomes visitors to U-M and MSU for extended stays for collaborations.

MIPSE Director
Mark J. Kushner
George I. Haddad Professor of Engineering
University of Michigan

MIPSE sponsors a seminar series inviting leading inter- national researchers in the field of plasma science and engineering to our campuses. Notice of the seminars can be found on the MIPSE website. http://mipse.umich.edu/ about/seminars.htm

Graduate Certificate in Plasma Science and Engineering
MIPSE's mission includes the education and mentoring of the next generation of leadership in the investigation and application of plasmas. MIPSE's faculty members enthusiastically engage undergraduate and graduate students and post-doctoral fellows in their research programs. In this regard, MIPSE is administering a graduate certificate in Plasma Science and Engineering (PSE) on the U-M campus. The graduate certificate provides an opportunity for students conducting research in the fundamentals or applications of PSE to both broaden and deepen that experience. The components of the graduate program include:

• Coursework in the fundamentals and applications of PSE
• Co-advising to broaden the student's research
• Participation in an annual research symposium
• Research on a topic related to PSE

Information on the Graduate Certificate is available at http://mipse.umich.edu/students/certificate.htm. We hope to extend the graduate certificate to students at MSU in the near future.

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Seminar Series
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