

## Nathaniel Joseph Fisch

### Current Professional Interests

Plasma physics with applications to nuclear fusion, lasers, propulsion, waste remediation, and astrophysics.

### University Education

MIT Department of Electrical Engineering and Computer Science  
(BS in June, 1972; MS in January, 1975; Ph.D. in February, 1978)

### Academic Honors and Prizes

James Clerk Maxwell Prize for Plasma Physics (2005)  
EO Lawrence Award (2004)  
Gold Medal, United States Department of Energy (2004)  
Fellow of NASA Institute for Advanced Concepts (2003)  
Bronze Medal, US Department of Energy, Outstanding Mentor in Undergraduate Research Programs (2002)  
American Physical Society Award for Excellence in Plasma Physics (1992)  
Fellow of American Physical Society (1987)  
John Simon Guggenheim Memorial Foundation Fellow (1985)  
MIT National Scholar (1968–1972)

### Employment

2011 — Associate Chair, Department of Astrophysical Sciences, Princeton University  
2000 — Associated Faculty, Department of Mechanical and Aerospace Engineering, Princeton Univ.  
1993 — Associate Director for Academic Affairs, Princeton Plasma Physics Laboratory  
1991 — Director, Program in Plasma Physics, Princeton University  
1991 — Professor, Department of Astrophysical Sciences, Princeton University  
1986 Visiting Scientist, IBM T. J. Watson Research Center  
1981 — 86 Consultant, Exxon Research and Engineering Co.  
1978 — 91 Research Positions, Princeton Plasma Physics Laboratory

### Selected Concurrent Professional Responsibilities

2008 — Associate Editor, Journal of Plasma Physics  
1998 — Project Head, Hall Thruster Experiment, Princeton Plasma Physics Laboratory  
1991 — Academic Director, National Undergraduate Fellowship Summer Program

### Ph.D. Students Supervised

M. Herrmann \*98 (LLNL, *Cooling Alpha Particles with Waves*); APS Thesis Prize Winner  
M. Malyshev \*98 (Lucent, *Advanced Plasma Diagnostics for Plasma Processing*, co-advisor)  
V. Savchenko \*99 (Polymath Research, *Quantum and Radiation Effects in Plasmas*)  
R. Heeter \*99 (LLNL, *AE and IBW Studies for Controlling Fusion a Particles*, co-advisor)  
D. Clark \*03 (LLNL, *Raman Laser Amplification in Preformed and Ionizing Plasmas*)  
I. Dodin \*05 (Princeton, *Nonlinear Dynamics of Plasmas under Intense Electromagnetic Radiation*)  
S. Son \*05 (LANL, *Reaction Rates and other Processes in a Dense Plasma*)  
A. Smirnov \*06 (Tri Alpha, *Experimental and Theoretical Studies of Cylindrical Hall Thrusters*, co-advisor)  
N. Yampolsky \*09 (LANL, *Plasma Waves in Parametric Interactions*)  
A. Fetterman \*12 (Lightsail Energy, *Wave-Driven Rotation and Mass Separation in Rotating Magnetic Mirrors*)  
A. Zhmoginov \*12 (LBNL, *Resonant Wave-Particle Manipulation Techniques*)