Thomas P. Crowley

PRESENT POSITION

Associate Professor
Electrical, Computer, and Systems Engineering Dept.
Rensselaer Polytechnic Institute

CONTACT INFORMATION

http://hibp.ecse.rpi.edu/~crowley/homepage/tom_crowley.html
tomcrowley@alum.mit.edu

Work Address (1-15-00 -> 6-15-00)	RPI Work Address	Home Address
Helicon Club Room 102	ECSE Dept.	201 River St. #57
National Institute for Fusion Science	RPI	Troy, NY 12180
322-6 Oroshi-cho, Toki-shi 509-5292	Troy, NY 12180	518-272-6317
Japan	518-276-6087	
81-0572-58-2702 (home)	518-276-6261 (fax)	
81-0572-58-2215 (work)		
81-0572-58-2624 (fax)		

EDUCATION

Ph.D.	Princeton University	Astrophysical Sciences	1984
S.B.	Massachusetts Institute of Technology	Physics	1979

EXPERIENCE

Foreign Research Staff	National Institute for Fusion Science, Japan	Jan-June 2000
Associate Professor	Rensselaer Polytechnic Institute	1993-present
Foreign Research Staff	National Institute for Fusion Science, Japan	1995
Assistant Professor	Rensselaer Polytechnic Institute	1986-1993
Research Fellow	University of Texas at Austin	1991

Primary research emphasis has been particle beam diagnostics for which the Plasma Dynamics Lab at RPI has developed an international reputation.
Supervised design of a 2 MeV particle beam diagnostic of a fusion plasma experiment.
Extensive experience in plasma fluctuation and turbulence measurements
Developed new techniques for measuring magnetic fields in plasmas.
Teaching and course development of electromagnetics and plasmas
Installed and operated new ion beam diagnostics in Japan and Texas during leaves

Assistant Research Physicist — Univ. of California at Los Angeles — 1984-1985
Ionospheric heating experiments using 4.9 MHz transmitters

Graduate Student — Princeton University — 1979-1984
Thesis title: Measurements of Density Fluctuations in the PDX Tokamak Using Microwave Scattering

Summer Student — General Motors Research Laboratory — 1979
Photoacoustic spectroscopy of ceramics

CITIZENSHIP

U.S.

Thomas P. Crowley

SKILLS

· Laboratory

Designed ion beam detectors, sweep systems, high voltage systems with voltages up to 400 kV
Experience with Ion accelerators with energies from 30 kV to 2 MeV,
RF transmitters and antennas, microwave scattering experiments
Vacuum systems with base pressures below 10^-6 Torr.

· Modeling

Interpretation of measurements and comparison with plasma theory
Digital signal analysis
Developed simple electromagnetic calculation codes for use in classes

· Computer

Programming in Matlab, IDL, Fortran, and a small amount of html
Unix, Macintosh, and Windows operating systems and miscellaneous standard software
Experience with Flux-2D (an electromagnetics modeling package)

· Communication

Taught classes in plasma physics and engineering, electromagnetics, and engineering design
co-editor of Special Issue of IEEE Transactions on Plasma Science
Modest knowledge of Japanese

FUNDING

Principal Investigator or Co-Principal Investigator on grants with total value of $4,200,000

"Detection of RF Perturbations Using an Ion Beam Diagnostic",
April 1999 - April 2001 $272, 262 sole PI

"An Improved Beam Detector for Plasma Systems"
Oct. 1994 - March 1995 $9,550 sole PI

"Heavy Ion Beam Probe for TEXT"
Sept. 1989 - Oct. 1995 $500,000 co-PI with P.M. Schoch and R.L. Hickok

"Advanced Development of Particle Beam Probe Diagnostic Systems
April 1989 - Mar. 1994 $3,400,000 co-PI with Schoch, Hickok, and Connor

"Preliminary Numerical Analysis of Printed Circuit Board Radiation"
Sept. 1988 - Dec.1989 $35,000 sole PI

Invited Talks

D.R. Demers, T.P. Crowley, et al., "Potential Fluctuation Measurements in the TEXT-Upgrade Tokamak", 1996 Intl. Conf. on Plasma Physics, Nagoya, Japan 1996

"Interior Magnetic Fluctuation Measurements in TEXT Using a Heavy Ion Beam Probe" 32nd meeting of the APS Div. of Plasma Physics, November 1990

"Recent Advances in Heavy Ion Beam Probe Diagnostics", 8th Topical Conf. on High Temp. Plasma Diagnostics, May 1990

"Microwave Scattering Measurements in PDX", 1983 Gordon Conf. on Plasma Physics, June 1983.

PUBLICATIONS

43 publications in refereed journals (18 as 1st author or supervisor of first author).
see accompanying pdf file