

# Setthivoine You

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## EDUCATION

Ph.D., Physics, Imperial College, London, UK (2002)  
M.Sci., Physics, Imperial College, London, UK (1997)  
Baccalauréat C, Option Internationale, Lycée International, St-Germain-en-Laye, France (1993)

## RESEARCH

Fusion energy, advanced space propulsion, astrophysical jets. Plasma physics of magnetic confinement concepts envisioned for compact fusion power. Physics and development of plasma thrusters. Cellular automata and lattice Boltzmann numerical approach to plasma dynamics. Density limits and refuelling in tokamaks.

## EMPLOYMENT

**Assistant Professor – Dept. of Aeronautics and Astronautics, University of Washington, Seattle, USA**  
2009 Sep – present

**JSPS Postdoctoral Fellow – Dept. of Electrical Engineering, University of Tokyo, Japan**  
2007 Nov – 2009 Jul

**Foreign Researcher – High Temperature Plasma Center, University of Tokyo, Japan**  
2007 Jan – Nov

**Postdoctoral Scholar – Dept. of Applied Physics, California Institute of Technology, Pasadena, California, USA**  
2002 Sep – 2006 Sep

**Scientific Programmer – Confinement & Fuelling Group, UKAEA Fusion, Culham Science Centre, Culham, UK**  
2002 Mar – Sep

**Doctoral Candidate – Confinement & Fuelling Group, UKAEA Fusion, Culham Science Centre, Culham, UK**  
1997 Sep – 2002 Mar

## TEACHING

**Instructor – University of Washington (2009 – present)**  
Undergraduate: Engineering Thermodynamics, Aerospace Heat Transfer  
Graduate: Plasma Cross-field Transport, Fusion Energy for Space Power and Propulsion

**Tutor – University of Tokyo (2008)**

Graduate: Fundamentals of Plasma Physics

**Co-mentor, Summer Undergraduate Research Fellowship (SURF) students – Caltech (2005 – 2006)**

Retarding grid particle energy analyzer, prototype of resistive bolometer

**Instructor and organizer – UKAEA Fusion (2000 – 2001)**

Graduate: Introduction to tokamak physics (seminar)

PROFESSIONAL SERVICE

Review panel member, NASA ROSES Solar and Heliospheric Review Panel, Washington DC (2011)

Consultant, General Fusion, Vancouver, Canada (2011)

Graduate Committee member, Aeronautics & Astronautics, University of Washington (present)

Sigma Gamma Tau faculty advisor, University of Washington Chapter (2010 – present)

Qualifying Exam Committee (Chair), Aeronautics & Astronautics, University of Washington (2011)

General Doctoral Exam Committee (GSR), Physics, University of Washington (2011)

Mubadala/UAEU/UW Planning Committee member, University of Washington (2010-2011)

Reviewer, ARRA proposals, US Dept. of Energy, Office of Fusion Energy Sciences (2009)

Reviewer, RRF proposals, Royalty Research Fund, University of Washington (2009, 2010)

PUBLIC SERVICE

Lecture on “Astrophysical Jets and Plasma Physics”, MENSA Science Special Inter. Group, Redmond, Wash., USA (2011)

Presentations on “The Solar System”, Lycée franco-japonais (high school), Tokyo, Japan (2008 - 2009)

Judge, Science Fair, AGBU Manoogian-Demirdjian school, Canoga Park, California, USA (2005 - 2006)

Television documentary participant, National Geographic Channel “The Death of the Sun” (2005)

Demonstration of wave physics, public outreach event “Discover Plasmas”, Denver, Colorado, USA (2005)

Committee member, astronomy society, science-fiction society, Imperial College (1994 – 1996)

AWARDS

Foreign postdoctoral fellowship and research grant – Japan Society for the Promotion of Science (JSPS) (2007-2009)

Research graduate studentship – UK Dept. of Trade & Industry/Eng. Phys. Sci. Res. Council (1997-2001)

Research summer studentship – Internat. Assoc. for the Exchange of Students for Techn. Experience (IAESTE) (1997)

DISTINCTIONS

Cover of Physical Review Letters, Vol. 95, 4 (2005)

1<sup>st</sup> prize, student presentation, 27<sup>th</sup> Institute of Physics conference, Pitlochry, Scotland (1999)

Associate of the Royal College of Science (1997)

1<sup>st</sup> prize, final year project, Imperial College (1997)

PUBLICATIONS

Refereed journals (17), Conference abstracts (24), Talks (7), Ph.D. dissertation