

Choong-Seock Chang

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Present Position: Principal Research Physicist, Princeton Plasma Physics Laboratory, Princeton University;
Head, SciDAC-3 Center for “Edge Plasma Simulation (EPSI);”
Joint Professor of Physics, Korea Advanced Institute of Science and Technology

Home Address: 145 Philip Dr., Princeton, NJ 08540, U.S.A.

Research Field: Theoretical and computational plasma Physics for fusion and industrial applications,
Extreme scale simulation of turbulence and transport in magnetic fusion plasma,
Large scale computational ODE and PDE

Academic Degrees:

Ph.D. Physics May 1979 The University of Texas at Austin

B.S. Physics Feb. 1974 Seoul National University, Korea

Previous Professional Positions

Professor of Physics, Korea Advanced Institute of Science and Technology, 1986-2011

Research Professor with Rolling Tenure, Courant Institute of Mathematical Sciences, NYU, 1988-2011

Staff Scientist, Applied Microwave Plasma Concept, Carlsbad, CA, 1983-1986

Senior Scientist, General Atomics, La Jolla, CA, 1979 – 1983

International Leadership, Honors and Awards

Fellow, American Physical Society, elected in 2006

Head, SciDAC Proto-FSP Center for Plasma Edge Simulation (CPES), 2005-2011

Executive Committee, US DOE SciDAC Program, current

Executive Committee, US Transport Task Force, current

Theory Coordinating Committee, US DOE Office of Fusion Energy Science, current

User Council, Oak Ridge Leadership Computing Facility (OLCF), current

Editorial Board, Computational Science & Discovery (an IOP Journal), current

Council Member, US Burning Plasma Organization, 2008-2011

Edge Coordinating Committee, US DOE, 2007-2010

Chair, Advisory Committee, SciDAC Center for Gyrokinetic Particle Simulations, 2008-2011

Member, ITER Expert Group, 1997-1998

Chair, Korean Physical Soc., Plasma Physics Division, 1998-2000

Head, KSTAR tokamak Physics Design Team, 1995-1998

Chair, KSTAR tokamak Physics Coordinating Committee, 2002-2007

Chair, KBSI Hanbit Program Advisory Committee, Korea, 2003-2005

Director, Institute for Plasma and Fusion Studies, KAIST, Korea, 1995-1999

Chair, Department of Physics, Daejeon KIT campus, KAIST, Korea, 1987

INCITE Awards for large scale computational research, 229M Hrs on Titan and Mira in 2014

C.S. Chang is the head of the SciDAC-3 Center for Edge Plasma Simulation (EPSI), participated by applied mathematicians, computer scientists, and fusion theoreticians and experimentalists for an extreme scale computing research of multiscale self-organization physics in magnetic confinement plasmas. He is a Fellow of the American Physical Society, with broad research experience in fusion plasmas, industrial plasmas, bio-plasmas, nonlinear chaotic systems, and rf heating. Prior to joining Princeton University, C.S. Chang retired from the faculty of Physics, Korea Advanced Institute of Science and Technology (KAIST), and the faculty of Courant Institute of Mathematical Sciences, New York University. He is serving in numerous national and international advisory and executive committees. He has produced about 20 Ph.D.'s and supervised similar number of postdoctoral scientists. He has published over 150 scientific papers in refereed journals and gave numerous invited talks, keynote speeches and tutorial lectures at major scientific conferences.