Thursday, December 14, 2000

11:00 am — 12:30 pm  TOKAMAKS AND STELLERATORS  
VENUE: RENNIE  
Chairperson: Andrew Cheetham

11:00 am  Dr Alan TURNBULL General Atomics Inc  
700  The advanced Tokamak concept

11:30 am  Dr Boyd BLACKWELL Australian National University  
701  Results from Helical Axis Stellarators

11:45 am  Mr Scott COLLIS Australian National University  
702  Electron density transport studies on the H-INF Heliac

12:00 pm  Mr Fenton GLASS Australian National University  
703  Time-resolved Tomographic Spectroscopy system for H-INF

12:15 pm  Prof Robin STORER Flinders University of South Australia  
704  Resistive magnetohydrodynamics for three-dimensional plasmas

2:00pm — 3:30 pm  PLASMA & SPACE JOINT SESSION  
VENUE: CINEMA, LEVEL 5  
Chairperson: Brian Fraser

2:00 pm  Prof Peter ROBINSON University of Sydney  
936  Stochastic growth of localized plasma waves

2:30 pm  Prof Manfred HELLBERG University of Natal  
937  Waves in plasmas with power-law distributions

2:45 pm  Dr Murray SCIFFER University of Newcastle  
938  One dimensional model for ULF wave propagation in the ionosphere

3:05 pm  Mr Phillip WEBB La Trobe University  
939  The Global Plasmasphere Ionosphere Density (GPID) model

4:00 pm — 5:30 pm  DUSTY PLASMAS AND PLASMA THEORY  
VENUE: RENNIE  
Chairperson: Robin Storer

4:00 pm  Mr Nathan PRIOR Flinders University of South Australia  
705  Oscillations of particles in a dusty plasma

4:15 pm  Dr Neil CRAMER University of Sydney  
706  Plasma kinetics around a dust grain in an ion flow

4:30 pm  Dr Alex SAMARIAN University of Sydney  
707  Strongly coupled Coulomb systems with positive dust grains: Thermal and UV-induced Plasmas

4:45 pm  Ms Sally LLOYD Australian National University  
708  The response of magnetic islands to pressure change

5:15 pm  Mr Rod BOSWELL Australian National University  
709  Communication systems and the role of plasma processing
Friday, December 15, 2000
11:00 am — 12:30 pm  RF PLASMA PHYSICS

VENUE: RENNIE

Chairperson: Jeffrey Harris

11:00 am  Dr Gerard BORG Australian National University
An overview of plasma antenna research

11:30 am  A/Prof Andrew CHEETHAM University of Canberra
Surface wave excitation for plasma antenna applications

11:45 am  Dr Kostyantyn OSTRIKOV Nanyang Technological University
Mode transitions and power transfer in low-frequency inductively coupled plasmas

12:00 pm  Mr Erekle TSAKADZE NIE, Nanyang Technological University
Inductively coupled plasmas in a cylindrical resonator with phase-varying radio-frequency currents

12:15 pm — 12:30 pm  POSTER SESSION
VENUE: GAMES, LEVEL 5

TF 160  Dr Boyd BLACKWELL Australian National University
Computers in plasma physics: Remote data access and magnetic configuration design

TF 161  Dr Boyd BLACKWELL Australian National University
The H-1 National Plasma Research Facility

TF 162  Mr Felix CHEUNG Flinders University
The rotation of dust plasma crystals in an axial magnetic field

TF 163  Dr Neil CRAMER University of Sydney
The equilibrium and oscillations of dust grains in a discharge

TF 164  Dr Neil CRAMER University of Sydney
Dynamics of a macroparticle in a plasma flow

TF 165  Dr Neil CRAMER University of Sydney
Dust - crystal experiments in a RF - discharge plasma

TF 166  Prof Robert DEWAR The Australian National University
Global ballooning modes in a low-shear stellarator

TF 167  Peter FENG La Trobe University
High power laser raman scattering from a Rarefied plasma

TF 168  Liviu LUNGU Australian National University
Investigation and design of a variable microwave plasma lens

TF 170  Dr Frederick OSMAN University of WEstern Sydney Nepean
Geometric phases and monodromy at singularities in laser atom interactions

TF 171  Dr Kostyantyn OSTRIKOV Nanyang Technological University
Standing surface waves in dusty microwave slot-excited plasmas

TF 172  Dr John RAYNER University of Canberra
Antenna matching for a helicon plasma source

TF 173  Dr Alex SAMARIAN University of Sydney
The changing of dust particles in plasma sheath

TF 174  Dr Horst PUNZMANN Australian National University
Multi-channel spectroscopy diagnostic for line intensity ratio measurements

TF 175  Dr Alex SAMARIAN University of Sydney
Instabilities in dusty plasma with the spatial variation of grain charges
TF 175  Dr George WARR  Australian National University  
  
  Electron density Tomography on the H-INF Heliac

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**2:00 pm — 3:30 pm  PLASMA APPLICATIONS**  
**VENUE: RENNIE**  
**Chairperson: Boyd Blackwell**

2:00 pm  Mr Matthew HOLE University of Sydney  
  
  714 Review of plasma phenomena in vacuum Arc centrifuges

2:15 pm  Dr Ian FALCONER University of Sydney  
  
  715 The nature of the discharge in a Plasma display panel pixel

2:30 pm  Dr Ian FALCONER University of Sydney  
  
  716 Filaments and feelers: uv and visible imaging of Xe excimer dielectric barrier discharge lamps

2:45 pm  A/Prof Matthew FEWELL University of New England  
  
  717 First results on nitriding aluminium alloys in a low-pressure rf plasma

3:00 pm  A/Prof Brian JAMES University of Sydney  
  
  718 A spectroscopic study of a high-voltage fuse arc

3:15 pm  Mr Matthew COLLINS University of Western Sydney  
  
  719 Gaussian beams and electron acceleration

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**4:00 pm — 5:30 pm  PLASMA DIAGNOSTICS**  
**VENUE: RENNIE**  
**Chairperson: Ian Falconer**

4:00 pm  Mr Clive MICHAEL Australian National University  
  
  720 The MOSS camera for ion thermal transport studies on the H-INF Heliac

4:15 pm  Mr Andreas DANIELSSON Australian National University  
  
  721 Measurement of vector B using Zeeman effect and optical coherence techniques

4:30 pm  Mr Richard TARRANT University of Sydney  
  
  722 Optical spectroscopy of a cathodic arc

4:45 pm  Dr Mohammad NADEEM Chalmers University of Technology  
  
  723 Drift waves in plasma

5:00 pm  Mr Daniel ANDRUCZYK The University of Sydney  
  
  724 A supersonic He probe beam for L/F measurements of electric fields in plasmas

5:15 pm  Mr Wayne SOLOMON Australian National University  
  
  725 Plasma characterisation using combined Mach/Triple probe techniques