Report on Division of Plasma Physics, AAPPS

M. Kikuchi, AAPPS-DPP chair
What is AAPPS-DPP?
- Division of plasma physics under AAPPS

Objective of DPP
- shall be the advancement and dissemination of the knowledge, understanding and applications of plasmas of natural and laboratory origin.

All fields of plasma physics:
- **Fundamental, Basic, Applied plasma, Laser plasma, Space plasma, Solar/Astro, Magnetic Fusion**


• Plasma: 4th state of matter

- Solar flare/dynamo
- Fusion research
- Plasma Wakefield effect
- Relativity: $V \sim C$
- Origin of magnetic field & vorticity
Plasma physics made significant progress benefited by fundamental disciplines
AAPPS : Association of Asia Pacific Physical societies
Divisions
- Division of plasma physics
- Division of Astrophysics, cosmology and gravitation
- Division of Nuclear physics

European Physical society (EPS)
Division of plasma physics
700 participants

American Physical society (APS)
Division of plasma physics
1500 participants

AAPPS-DPP
550 participants

Alfven prize
Maxwell prize
Activity of AAPPS
[1] Council meeting

APPC-12 (2013): Nobel Prize laureate: Kobayashi
Plenary: Liu Chen, T. Tojima, K. Shibata, RK Chu

AAPPS Council

DPP report
Division of Plasma Physics
- Established 2014 (AAPPS council)
- S. Chandrasekhar Prize
  2014 : Setsuo Ichimaru
  2015 : Predhiman Kaw
  2016 : Don Melrose
  2017 : CZ. Cheng and Lou C. Lee
- DPP Young research Award
- 1st Asia-Pacific Conference on Plasma Physics (annual conference) 2017

Evening Session 2, September 19, 2017
Jinni Hotel, Chengdu
Executive committee (decision body 2014-1017)

M. Kikuchi  Chair
L. Chen     fundamental
A. Sen      basic
M. Shiratani Applied
ZM Sheng    Laser
Lin Ni Hau  Space

D. Ryu       Solar/astro
M. Hole      APPC-13
T. Onjun     Secretary general
H. Nagai     Home page
K. Imadera   Member
International honorary advisory committee (I-HAC) (advisory body) 2014-2017

P. Kaw     A. Hasegawa  C. Yu,     R. Dewar,  C.Z. Cheng, C.S. Chang, F.F. Chen,  

Z. Pu, W. Namkung, M. Sasao, H. Takabe, C. Pan   B. Buti
Membership distribution

Total member
1300 -> 1600

No membership fee

DPP: K. Imadera

DPP Membership 2016.01 -> 2017.9.17
DPP News; start in April 2014 to introduce Asian plasma activity

DPP News on WLS2014

DPP News on Council

DPP News on APTWG2015

DPP News on ASEAN school

International West Lake Symposium on Laser Plasma Interactions in Hangzhou, China

In April 2014, the 8th International West Lake Symposium on Laser Plasma Interactions (WLS-LPI) was held in Hangzhou. The event featured a plenary talk at the West Lake in Hangzhou, China. There were more than 120 participants from China, Germany, India, Italy, Japan, Korea, Russia, USA, etc., representing more than 20 institutions worldwide. More than 15 invited talks and posters were presented.

The West Lake Symposium series is organized and hosted annually by the Institute for Plasma Science and Technology, Zhejiang University, for the purpose of exchanging ideas in a relaxed atmosphere on topics ranging from magneto-optical related plasma science, laser-plasma interactions, and plasma technology to computational plasma physics.

The 2014 Symposium was attended by the newly established Director of Plasma Physics, Association of Ionospheric Plasma Physics (AAPP-APP), as well as the newly established Director of Plasma Physics, Association of Ionospheric Plasma Physics (AAPP-APP). The meeting was supported by the Science and Technology Ministry of China, the China Academy of Sciences, and the National Natural Science Foundation of China. The event was organized by the Institute for Plasma Science and Technology, Zhejiang University.

DPP News;

DPP News on A3 foresight

DPP News :Fermi Prize to Tajima

DPP News :ICPP 2016 in Kaoslun

DPP News :APPC-13 in Brisbane

On September 21, 2016, the Italian Physical Society will award the Fermi Prize to Toshiaki Tajima, Professor at UC Irvine. Toshiaki Tajima is recognized for his invention of the laser wakefield acceleration technique which led to a series of fundamental and revolutionary developments in the field of multi-GeV electron accelerators. As the world’s first and leading example of laser wakefield acceleration, Tajima and his group have set the pace for the development of laser-based accelerators. Their work has paved the way for a new era in particle and nuclear physics.

Y. Ono

T. Tajima

CZ Cheng

T. Kajita
DPP Homepage (Linked from AAPPS HP) volunteer work by H. nagai

**DPP News**

- **Upcoming meeting**
  - APFA 2015, Dec.14-18, 2015, Gandhinagar, India
  - 2015 ITER International School, Dec.14-18, 2015, Heifei, China
  - 18th West Lake International Symposium (WLIS) on Magnetic Fusion and the 12th Asia Pacific Plasma Theory Conference (APPTC), May 9-12, 2016, Hangzhou, China
  - The 18th International Congress on Plasma Physics (ICPP-2016), June 27-July 1, 2016, Kaohsiung, Chinese Taipei
  - EPS 2016, July 4-8, 2016, Leuven, Belgium

**Education/school**

- Asia Pacific school information:
  - Location: National Institute for Fusion Science, Japan
  - Intended for: Students and young researchers in Japan
  - Capacity: 30 people

- 18th Asian School on Plasma and Nuclear Fusion, Aug 15-22, 2016, University, Bangkok, Thailand
  - This will be an amazing one-week course taught by fusion experts from all over the world.

**DPP endorsed conferences**

- **AAPPS-DPP sponsored conference**
  - 5th Asian-Pacific Plasma Theory Conference (APPTC), July 9-14, 2016, Jeju Island, Korea
  - Host: AAPPS Joint Organizing Committee
  - Contact: AAPPS-DPP
  - Website: www.asiapacphys.org

- **AAPPS-DPP sponsored conference**
  - 48th Asia-Pacific Transport Working Group (APTWG) conference
  - Apr 21-26, 2016 at Hangzhou, China
  - Host: Institute for Fusion Theory and Simulation, Zhejiang University
  - Contact: AAPPS-DPP
  - Website: www.asiapacphys.org

**S. Chandrasekhar Prize**

- **S. Chandrasekhar Prize**
  - Subrahmanyan Chandrasekhar (1910-1995) is an Indian-American cosmologist who made fundamental contributions to astrophysics and quantum mechanics. He was the first Indian to win the Nobel Prize in Physics.
  - He was awarded the Nobel Prize in Physics in 1983 for his development of the Chandrasekhar limit of mass for white dwarf stars.
  - In 2013, he was awarded the Distinguished Achievement Award (DAA) for his outstanding contributions to plasma physics.

**Join DPP membership**

AAPPS-DPP sponsored member registration

If you are a participant of AAPPS, please send your information to AAPPS-DPP secretariat for the following reasons:

1. Name (as in logo, Faculty)
2. Affiliation
3. Position
4. Email
5. Field of interest: C-D, D-B, D-I, D-L, D-4, D-B

D-B: Fundamental Plasma Physics
D-L: Advanced Plasma Physics
D-I: Laser-Plasma Interactions
D-D: Plasma Science (plasma diagnostics, astrophysical plasmas, etc.)
D-D: Solar and Terrestrial Physics

If you are not a AAPPS-DPP participant, please contact AAPPS-DPP secretariat for more information.

The member fee is free at this moment!

For your registration, please use the following:

AAPPS-DPP secretariat

**Call for Web Advertising**

AAPPS-DPP needs your cooperation! Make contact with AAPPS-DPP secretariat for further information.

**Call for Donation**

For the benefit of the Plasma Physics program, we are seeking donations to support our activities. If you would like to make a donation, please contact AAPPS-DPP secretariat.
AAPPS-DPP Prize: S. Chandrasekhar Prize of Plasma Physics

1st S. Chandrasekhar Prize
Prof. Em. Setsuo Ichimaru (2014)

Citation: For his contributions to the establishment of the theoretical basis of the science of strongly coupled plasmas and their applications, not only to laboratory plasmas and plasmas in solid- or liquid-state materials including fusion plasmas, but also to important astrophysical plasma phenomena including radiation and nuclear reactions.
AAPPS-DPP Prize: S. Chandrasekhar Prize of Plasma Physics

2015 S. Chandrasekhar prize
Prof. Predhiman Kaw

Citation: For his seminal contributions in the areas of laser-plasma interactions, strongly coupled dusty plasmas, and turbulence, nonlinear effects in magnetic fusion devices.

Published on June 16

Nonlinear laser-plasma interactions

P. K. Kaw
Citation: For his sustained original contributions to the theory of coherent emission processes in astrophysical and space plasmas, and for his seminal contributions to the theory of quantum plasmas.

DOI 10.1007/s41614-017-0007-0

Coherent emission mechanisms in astrophysical plasmas

D. B. Melrose

Published on July 25
APPC-13 (Brisbane)
2016.12.5-8 ~100 in plasma physics.
Total : ~760

M. Hole
Vice chair for APPC-13
AAPPS-DPP Education program
: 2nd ASEAN plasma and fusion school Jan.17-22, 2016

CEA(French)-TINT(Thailand) agreement, co-sponsored by AAPPS-DPP
T. Onjun (DPP chief secretary) : organizer
4 lecturers from Japan  M. Murakami, H.Nagatomo, S. Ohdachi, MK,
58 students
Official DPP Journal:  
Reviews of Modern Plasma Physics

1. Name of journal: “Reviews of Modern Plasma Physics” in short RMPP
2. Concept of RMPP:
   - High quality international review journal specialized in plasma physics
   - High impact factor above 10 (target)
   - Cutting-edge reviews and tutorials of modern plasma physics for the Asia-Pacific region
4. Term: first contract may be 5 years subject to renewal.
5. Journal model: hybrid journal model, i.e. a subscription journal with an option to choose open access. If author wants to select open access, he/she has to pay. If not, free charge.
6. First two years will be fully open access and from 3rd year, all articles will be closed access (subscription).
7. Publication model: Continuous article publishing model.
8. Royalty to AAPPS-DPP: 25% of net revenue after 3rd year.
9. Merit for AAPPS-DPP members: Free access to individual DPP members but not for institutional members. For authors, USD 100$ book voucher.
10. S. Chandrasekhar prize laureates are requested to write review papers.
11. Summary speakers of AAPPS-DPP annual conference are requested as well.
We started first publication from June 16, 2017

Authors | Titles
---|---
P. K. Kaw | Nonlinear laser–plasma interactions
Peter H. Yoon | Kinetic instabilities in the solar wind driven by temperature anisotropies
D. B. Melrose | Coherent emission mechanisms in astrophysical plasmas

S. Ichimaru

1st Editorial Board meeting held on Sept. 19, 7:00 -7:40
Submit your paper online at: https://mc03.manuscriptcentral.com/pst

Submission deadline: December 25, 2017

Step 1: Type, Title, & Abstract

Select your manuscript type. Enter your title, running head, and abstract into character, click the “Special Characters” button. When you are finished, click

* Required Fields

* Type:  Edit

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<tr>
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<td>Editorial/Other</td>
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<td>Letter</td>
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Special Issue Article

Special Issue Article

Addendum

Addendum

Note: please first select “Special Issue Article” in manuscript Type column, then select “The 1st Asia-Pacific Conference on Plasma Physics” in Select Special Issue column when submitting your manuscript in PST manuscript system.
DPP Annual Conference

European Physical society (EPS)
Division of plasma physics
700 participants

American Physical society (APS)
Division of plasma physics
1500 participants

Alfven prize

Maxwell prize

Chandrasekhar prize

AAPPS-DPP
Division of plasma physics
550 participants
Organized by AAPPS-DPP

Hosted by SWIP
(LOC chair: Y. Liu)

IOC chair: Liu Chen

General PC chair: M. Kikuchi

Fundamental chair: TS Hahm
Basic chair: A. Sen
Applied chair: M. Shiratani
Laser chair: ZM Sheng
Space chair: Lou C. Lee
Solar/Astro chair: K. Shibata
Magnetic F. chair: B. Wan
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday (09.18)</th>
<th>Tuesday (09.19)</th>
<th>Wednesday (09.20)</th>
<th>Thursday (09.21)</th>
<th>Friday (09.22)</th>
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<td>7:00~</td>
<td>Breakfast/Registration</td>
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<td>8:00-8:30</td>
<td>Opening Session</td>
<td>Plenary 2 [Jiagang Li]</td>
<td>Yu memorial [Hua Li]</td>
<td>Plenary 6 [Wong Namkung]</td>
<td>Plenary 8 [P. Diamond]</td>
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<td>8:30-9:00</td>
<td>P3 T. Watanabe</td>
<td>8:30-9:00 P11 B. Wan</td>
<td>8:30-9:00 P19 M. Bonitz</td>
<td>8:30-9:00 P26 S. Inagaki</td>
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<td>9:00-9:30</td>
<td>P6 K. Kusano</td>
<td>9:00-9:30 P13 M. Miguel</td>
<td>9:00-9:30 P20 B. Tsurutani</td>
<td>9:00-9:30 P27 Y.X. Liu</td>
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<td>9:30-10:00</td>
<td>Photo Break</td>
<td>9:30-10:00 P14 Hui Li</td>
<td>9:30-10:00 P21 T. Hosokai</td>
<td>9:30-10:00 P28 T. Chineh</td>
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<td></td>
<td>Kaw memorial [Liu Chen]</td>
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<td>10:00-10:30 Coffee Break</td>
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<td></td>
<td>10:30-11:00 P2-1 L.C. Lee</td>
<td>10:30-11:00 P15 H. Hayashi</td>
<td>10:30-11:00 P22 T. Sourdope</td>
<td>10:30-11:00 P29 X. Duan</td>
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<td>11:00-11:30 C.Z. Cheng</td>
<td>11:00-11:30 P16 M. Sugaya</td>
<td>11:00-11:30 P23 H. Wu</td>
<td>11:00-11:30 P30 Y. Li</td>
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<td>11:30-12:00 P3 A. Nishida</td>
<td>11:30-12:00 P17 S. Shimohara</td>
<td>11:30-12:00 P24 G. Tynan</td>
<td>11:30-12:00 P31 H. Qin</td>
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<td>12:00-14:00 Lunch &amp;Poster 1</td>
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<td>14:00-16:00 F1 [P. Diamond]</td>
<td>14:00-16:00 F III [T. Chiechua]</td>
<td>14:00-16:00 F V [G. Tynan]</td>
<td>14:00-16:00 F VII [D. Escande]</td>
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<td>14:00-16:00 B1 [A. Seri]</td>
<td>14:00-16:00 B III [H. Akiatsu]</td>
<td>14:00-16:00 B V [Lin I]</td>
<td>Plenary [Summary] [S. Sengupta]</td>
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<td>14:00-16:00 A1 [M. Hiramatsu]</td>
<td>14:00-16:00 A III [R. Kawat]</td>
<td>14:00-16:00 A V [YX Liu]</td>
<td>14:00-16:00 A VII [H. Toyoda]</td>
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<td>14:00-16:00 L1 [M. Shigun]</td>
<td>14:00-16:00 L III [CH Nami]</td>
<td>14:00-16:00 L VII [Ke Lin]</td>
<td>14:00-16:30 Basic A. Sen</td>
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<td>14:00-16:00 S1 [J. Buchner]</td>
<td>14:00-16:00 S III [Y. Omura]</td>
<td>14:00-16:00 S VII [B. Tsurutani]</td>
<td>15:00-15:30 Laser ZM Sheng</td>
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<td>14:00-16:00 SA1 [K. Shibata]</td>
<td>14:00-16:00 SA III [G. Chee]</td>
<td>14:00-16:00 SA VII [R. Yamazaki]</td>
<td>15:00-15:00 Applied M. Shiratani</td>
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<td></td>
<td>14:00-16:00 MF11 [M. Kikuchi]</td>
<td>14:00-16:00 MFIII-1 [AM Garofalo]</td>
<td>14:00-16:00 MFV-1 [H. Park]</td>
<td>15:00-16:00 Coffee Break</td>
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<td>14:00-16:05 MF2 [M. Xu]</td>
<td>14:00-16:00 MF3-2 [GS Xu]</td>
<td>14:00-16:00 MF3-2 [K. Iga]</td>
<td>15:00-16:00 MF3-2 [Y. Liang]</td>
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<td>16:00-17:00 Coffee Break</td>
<td>16:00-16:30 Coffee Break</td>
<td>16:00-16:30 Coffee Break</td>
<td>Plenary [Summary] [M. Kikuchi]</td>
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<td>16:30-17:00 Space Y. Omura</td>
<td>16:00-17:00 S/A P.F Chen</td>
<td>16:00-17:00 S/A P.F Chen</td>
<td>17:00-17:30 MF Jiagang Li</td>
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Public lectures: Y. Liu, K. Shibata at Sichuan U. Sunday
Publication of AAPPS-DPP 2017 papers

S. Chandrasekhar prize winners are requested to write review paper to RMPP. Summary speakers are requested as well.

Plenary and invited speakers are encouraged to submit review paper if appropriate.

Invited and contributed speakers are encouraged to submit original paper to PST.
### Executive committee (decision body 2017-2020)

<table>
<thead>
<tr>
<th>Function</th>
<th>Name (OLD ExCo)</th>
<th>Name (NEW ExCo)</th>
</tr>
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<tbody>
<tr>
<td>Chair</td>
<td>M. Kikuchi</td>
<td>M. Kikuchi</td>
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<tr>
<td>Chair-Elect</td>
<td>No</td>
<td>B. Wan</td>
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<tr>
<td>Vice chair</td>
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<tr>
<td>Fundamental</td>
<td>Liu Chen (CN)</td>
<td>Z. Yoshida (JP)</td>
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<tr>
<td>Basic</td>
<td>A. Sen (IN)</td>
<td>Shih-hung Chen (TW)</td>
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<tr>
<td>Applied</td>
<td>M. Shiratani (JP)</td>
<td>Jung-Sik Yoon (KR)</td>
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<tr>
<td>Laser</td>
<td>ZM Sheng (CN)</td>
<td>Amita Das (IN)</td>
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<tr>
<td>Space</td>
<td>Lin Ni Hau (TW)</td>
<td>X.T. Deng (CN)</td>
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<tr>
<td>Solar/Astro</td>
<td>D. Ryu (KR)</td>
<td>R. Matsumoto (JP)</td>
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<td>Magnetic Fusion</td>
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<td>X. Duan (CN)</td>
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<td>2018 DPP</td>
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<td>Uesugi (JP)</td>
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<td>Next APPC</td>
<td>M. Hole (AU)</td>
<td>R.S. Rawat (SG)</td>
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<td>Budget</td>
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<td>M. Shiratani (JP)</td>
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<td>Chief Div. secret.</td>
<td>T. Onjun (TH)</td>
<td>M. Hole (AU)</td>
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<td>DPP (HP)</td>
<td>H. Nagai (JP)</td>
<td>H. Nagai (JP)</td>
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<td>DPP secretary</td>
<td>K. Imadera (JP)</td>
<td>Yong Liu (CN)</td>
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</tbody>
</table>

### I-HAC (advisory body 2017-2020)

- Chair: Liu Chen
- Vice Chair: A. Sen
DPP Calendar

- 2013: APPC-12 (Makuhari, Japan)
- 2014: Start DPP, Start S. Chandrasekhar Prize
- 2015: S. Chandrasekhar
- 2016: APPC-13 (Brisbane, Australia)
- 2017: 1st AAPPSS-DPP conf., RMPP journal
- 2018: 2nd AAPPSS-DPP conf., Kanazawa, Japan Nov. 12-16
- 2019: APPC-14 (Sarawaku, Malaysia)
- 2020: 3rd AAPPSS-DPP conf.
- 2021: 4th AAPPSS-DPP conf.
- 2022: APPC-15 (?)

Next year to KANAZAWA!