

# Recent Activities of the Division of Plasma Physics (DPP)

MITSURU KIKUCHI, AAPPS-DPP CHAIR



## THE 2ND DPP ANNUAL CONFERENCE

The Division of Plasma Physics (DPP) of the Association of Asia Pacific Physical Societies (AAPPS) annually holds the Asia-Pacific Conference on Plasma Physics. The second annual conference (AAPPS-DPP2018) was held at Kanazawa, Japan and was hosted by Prof. Y. Uesugi in Kanazawa University from November 12-17, 2018. Figure 1 shows group photos of the Kanazawa conference.

There were 682 total participants of the second annual conference, including participants of two satellite meetings and the Local Organizing Committee staff mem-

bers. Table 1 shows the distribution of topics in the 585 presentations among plenary, invited, oral, and poster presentations for various sub-disciplines.

As reported in *Society News* Vol. 29, No. 2, DPP celebrated Prof. Toshiki Tajima for receiving the 2018 S. Chandrasekhar Prize of Plasma Physics. In 2019, he was awarded the Hannes Alfvén Prize of the European Physical Society.

## The AAPPS-DPP Young Researcher (U40) Award

Since 2016, DPP has annually recognized young and talented plasma researchers who are not more than 40 years old through the AAPPS-DPP Young Researcher



Fig. 1: Group photo of AAPPS-DPP2018.

Table 1: Distribution of presentations.

	Plenary	Invited	Oral	Poster	Total
<b>S. Chandrasekhar</b>	1				1
<b>Evening talks</b>	6				6
<b>Cross Disciplinary</b>	5	22	5	0	32
<b>Fundamental</b>	4	23	11	2	40
<b>Basic</b>	5	53	13	31	102
<b>Applied</b>	5	22	26	61	114
<b>Laser</b>	5	38	12	25	80
<b>Space/Geomag</b>	5	23	9	9	46
<b>Solar/Astro</b>	5	23	12	9	49
<b>Magnetic Fusion</b>	6	46	24	39	115
<b>Total</b>	47	250	112	176	585

\* Plenary includes summary, Laser invited includes semi-plenary.

Award (U40). DPP celebrated seven physicists (Takanobu Amano (space plasma), Hideki Hotta (solar plasma), Yan Feng (basic plasma), Wulyu Zhong (magnetic fusion plasma), Zheng-Xiong Wang (fundamental plasma), Chao Chang (Applied plasma), and Wei-Min Wang laser plasma)) as U40 winners at DPP2018 (Figure 2). The recipients each received a cash prize of 500USD, a plate and a certificate. The citations of the awardees can be seen at <http://aappsdp.org/AAPPSDPPF/youngawardtable.html>.

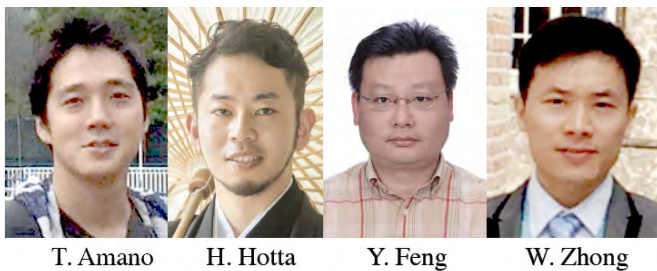


Fig. 2: The 2018 AAPPS-DPP Young Researcher Awardees.

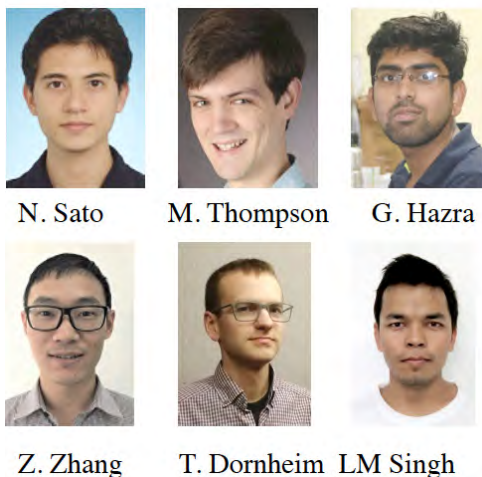


Fig. 3: The 2018 U30 Doctoral Scientist / Student Awardees.

### The U30 Scientist and Student Award

Since 2018, DPP has recognized young and talented doctoral scientists/ students who are not more than 30 years old through the AAPPS-DPP U30 Doctoral Scien-

tist / Student Award. This award is sponsored by the IFE-Forum. The first winners of this award are Naoki Sato, Matt Thompson, Gopal Hazra, Zhelin Zhang, Tobias Dornheim, and Laishram M Singh (Figure 3). The recipients each received a cash prize of 300USD, a plate, and certificate. The award was fully funded by the IFE-Forum. The citations of the awardees can be seen at <http://aappsdp.org/AAPPSDPPF/U30awardtable.html>

### The AAPPS-DPP2018 Poster Prize

Since 2018, DPP has recognized significant poster presentations at our annual conference through the AAPPS-DPP Poster Prize for both students and young/senior researchers. Among 176 poster presentations, 36 posters were selected to receive an award. Winners received a certificate and a gift (a Springer book on plasma physics) <http://aappsdp.org/AAPPSDPPF/posteraward.html>.



Fig. 4: Poster Prize winners.

### AAPPS-DPP MEMBERSHIP

AAPPS-DPP started from 92 founding members in 2014. As of May 31, 2019, DPP has 1815 members from around the world. The regional distribution of our members is as follows: India (782), Beijing (355), Japan (303), Korea (106), US (44), Australia (43), Taipei (30), Nepal (23), Thailand (18), France (15), Pakistan (13), Malaysia (12), UK (9), Philippines (8), Italy (8), Indonesia (8), Iran (5), Singapore (4), Vietnam (3), Netherland (3), Bangladesh (3), Russia (2), Lao (2), Switzerland (1), Sweden (1), Myanmar (1), Egypt (1), Czech (1), Canada (1), and Belgium (1).

AAPPS-DPP membership does not necessitate any membership fee but DPP members receive many benefits as DPP members: 1) DPP members can participate in DPP conferences with reduced registration fees; 2) DPP members have free access to our official journal, *Reviews of Modern Plasma Physics* (RMPP), using the token service; 3) DPP members can receive news from DPP, including

information regarding DPP's events, conference information, job opportunities, information regarding new books, etc.; and 4) DPP members are eligible for nomination for DPP's various prizes and awards.

### ESTABLISHING LEGAL PERSONALITY

Up until DPP's 2nd Annual Conference in Kanazawa, Japan, DPP was a "voluntary" organization. The 2nd annual conference was held under the financial authority of DPP; consequently, DPP had to take financial responsibility.

Voluntary organization is problematic in that the chairman has to personally take final responsibility, and many uncertainties in organizational responsibility also arise. Therefore, DPP decided to establish legal personality like JPS or JSAP. DPP is legally registered in the Ministry of Justice of Japan as a general incorporated association (see <http://aappsdp.org/DPPhoujin/index.html>). DPP's governance is set by articles of incorporation (<http://aappsdp.org/DPPhoujin/teikan.html>), where the general assembly and the board of directors are defined as the key organs of this society. The current members of the board of directors are M. Kikuchi (chair and CEO); B. Wan (chair-elect); Z. Yoshida (vice chair); S.H. Chen (vice chair); J.S. Yoon (vice chair); X.H. Deng (vice chair); R. Matsumoto (vice chair); M. Shiratani (vice chair); M.J. Hole (vice chair); R.S. Rawat (vice chair); and H. Nagai (executive officer). The auditor of the AAPPS-DPP Association Incorporation is Y. Uesugi. Organizational responsibility is shared among the members of board of directors, subject to governmental law. Now, DPP operates as a legal entity in areas including taxes, payment and insurance.

The International Honorary Advisory Committee (IHAC) continues to be an advisory body to the board of directors.

### STATUS OF DPP'S JOURNAL, RMPP

*Reviews of Modern Plasma Physics* (RMPP) is a review journal specialized to plasma physics. The first volume (2017) published ten articles. The second volume (2018) published nine articles and third volume (2019) has already published twelve articles as of August 31, 2019. In particular, in 2019, the special issues (SI) on plasma propulsion by Prof. Igor Levchenko (guest editor) made a significant contribution (six published out of ten).

The twelve papers published in 2019 as of Aug 31 are by Y. Todo (Alfven Eigenmode), S. Fujita (magnetospheres), K. Takahashi (helicon thrusters), M. Xu (2017 F summary), Z. Zhang (ablative pulsed thrusters), DR Lev (hollow cathodes), O. Baranov (direct current arc plasma thrusters), J. Weiland (drift waves), M.Y. Tanaka (vortexes in plasma), Yan Feng (Yukawa liquids), D. Kahnfeld (multi-stage plasma thrusters), and F. Taccogna (modeling of Hall thrusters).

RMPP compensated authors by providing a 100USD coupon, through which authors could purchase any books published by Springer-Nature. All authors of volume 1 and 2 of RMPP have received coupons.

There are 32 proposed review articles from AAPPS-DPP2018 and are still in the process that most authors are preparing manuscripts. We have prepared honorarium for review articles proposed from AAPPS-DPP2018, of 50,000 JPY/article, in addition to a Springer-Nature coupon.