



Report on AAPPS-DPP 2021

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1. 5th DPP Annual Conference

Division of plasma physics (DPP) annually holding Asia-Pacific conference on Plasma Physics. The fifth annual conference (AAPPS-DPP2021) was held as remote online e-conference using Zoom system from September 26-October 1, 2021. Figure 1 shows Opening session speakers of AAPPS-DPP2021.



Figure 1 Opening session speakers of AAPPS-DPP2021

Table 1 Distribution of presentations

	Plenary	Top. Pl	Invited	Oral	Poster	Total
Host	1	-	-	-	-	1
Chandra/PIP	2	-	-	-	-	2
Cross Disciplinary	4	11	22	6	1	44
Fundamental	4	2	69	12	6	93
Basic	4	4	32	18	9	67
Applied	4	5	54	13	12	88
Laser plasma	4	11	39	8	5	67
Space/Geomag	4	5	40	12	3	64
Solar/Astro	4	4	35	16	3	62
Magnetic Fusion1	4	5	60	15	12	96
Magnetic Fusion2	4	4	34	14	8	64
Closing	1	-	-	-	-	1
Total	40	51	385	114	59	649

Table 1 shows distribution of 649 presentations among plenary, topical plenary, invited, oral, and poster for various sub-disciplines. AAPPS-DPP2021 consists of 40 plenary talks, 51 topical plenary talks, 385 invited talks, 114 oral talks, and 59 poster presentations. Cross-disciplinary session focused on Kinetic Alfvén Wave led by Yu Lin/F Zonca/DJ Wu having 44 presentations. Fundamental session is fundamental discipline common to all plasma physics area and had joint session with magnetic fusion plasma led by Patrick Diamond and Taik-Soo Hahm having 93 presentations. Basic session discussed methods common to all plasma physics as well as small scale plasma research and dusty/quantum plasmas led by R. Ganesh having 67 presentations. Applied session discussed applied plasma physics such as semi-conductor, medicine, agriculture, etc led by G. Uchida having 88 presentations. Laser plasma session discussed Laser-plasma interaction, Laser fusion, wake-

field acceleration led by Yutong Li having 67 presentations. Space / Geomagnetism session discussed mostly space plasma physics and magnetic reconnection on space plasma led by T. Hada/A. Chian having 64 presentations. Solar/Astro session discussed solar plasma physics and astro plasma physics led by R. Matsumoto having 62 presentations. Magnetic Fusion session 1 (Core plasma) is led by H. Yamada having 96 presentations. Magnetic Fusion session 2 (Edge plasma) is led by Ge Zhuang having 64 presentations. Among them, 2021 S. Chandrasekhar lecture is given by Taik Soo Hahm and 2021 plasma innovation lecture is given by Anthony Murphy. We also celebrated 7 U40 winners and 6 U30 winners.

Table 2 Regional distribution of participants

Region	No	Female	Speaker	Region	No	Female	Speaker
Japan	263	27	145	Czech	3	1	1
Beijing	206	32	138	Canada	2	0	2
India	151	45	76	Philippines	2	1	1
USA	130	20	86	Swiss	2	0	2
Korea	86	5	46	Austria	2	0	2
Germany	40	6	25	Netherlands	2	1	1
France*	38	8	20	Slovakia	2	0	1
England	26	4	17	Mexico	2	0	1
Italy	24	2	11	Saudi Arabia	2	0	1
Belgium	23	6	13	Chile	1	0	1
Australia	22	7	13	Lithuania	1	1	1
Pakistan	19	8	7	Peru	1	0	1
Russia	13	2	7	Singapore	1	0	1
Taipei	10	2	7	Sweden	1	0	1
Romania	6	2	4	Colombia	1	0	1
Malaysia	5	2	2	Portugal	1	0	1
Nepal	5	0	3	Slovenia	1	0	0
New Zealand	4	0	2	Brazil	1	0	1
Argentina	3	1	2	Hungary	1	0	1
Spain	3	1	2	Total	1109	184	649
Thailand	3	0	2				

* France include ITER organization

Table 2 shows distribution of region/countries and gender balance. This conference was 1st e-conference held by AAPPS-DPP due to COVID-19 pandemic. Nonetheless, conference was great success to have 1109 participants all over the world. We have regional distribution of Japan(263), Beijing(206), India(151), USA (130), Korea(86), Germany(40), France(38), England(26), Italy(24), Belgium(23), Australia(22), Pakistan(19), Russia(13), Taipei(10), etc.

While participation from APS (130) and EPS(189) are significant, we had participants from South

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American countries, Argentina, Mexico, Chile, Peru, Columbia, and Brazil.

As for the gender balance, we had 184 female participants. Many female researchers joined from India, especially.

2. AAPPS-DPP S. Chandrasekhar Prize

DPP select S. Chandrasekhar Prize annually to recognize outstanding contributions to plasma physics since 2014. Chandrasekhar prize selection committee chaired by Hiroshi Yamada selected 2021 laureate is Prof. Taik Soo Hahm (SNU). Medal is sponsored by IPR/PSSI.

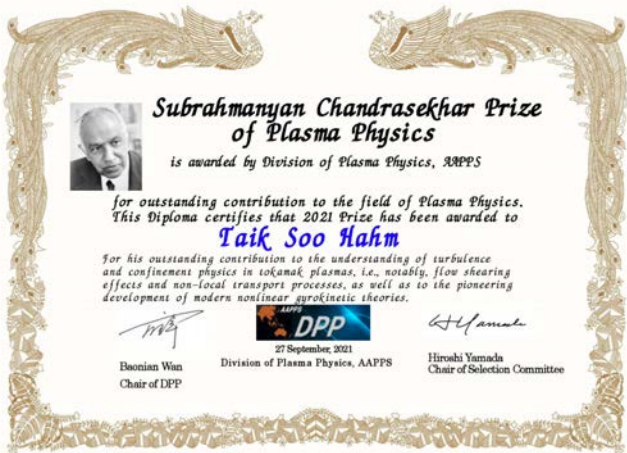


Fig.1 2021 Chandrasekhar prize certificate and Medal from IPR/PSSI

3. AAPPS-DPP Plasma Innovation Prize

Year 2021 is third year of “AAPPS-DPP Plasma Innovation Prize” to recognize outstanding contributions to experimental and / or theoretical research in all fields of plasma applications, focusing on impacts on industry.

Plasma Innovation Prize selection committee chaired by W. Choe selected 2021 laureate is Dr. Anthony Murphy (Nagoya University) especially for his inventions such as plasma activated medium in plasma medicine. s

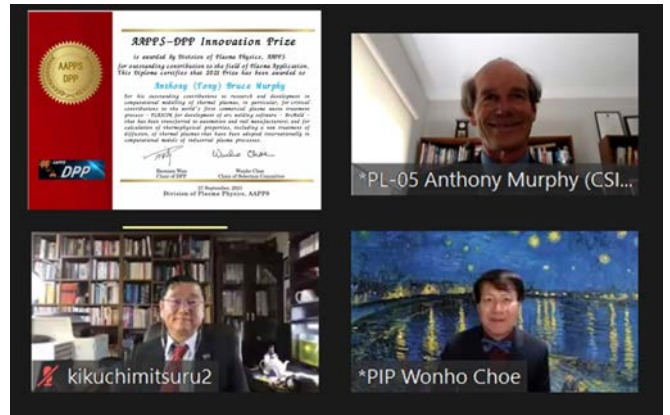


Fig.2 2020 Plasma Innovation prize certificate, laureate online photo and Medal

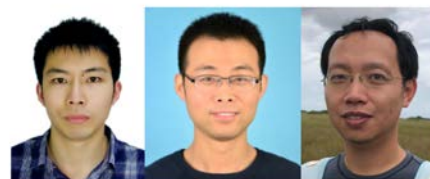
4. AAPPS-DPP Young Research (U40) Award

DPP is recognizing annually young talented plasma researchers not more than 40 years old since 2016 as AAPPS-DPP Young Research Award (U40). U40 selection committee chaired by TS Hahm selected 7 young talents; Hiroshi Tanabe (Fundamental, U. Tokyo), Min-Gu Yoo (Basic, PPPL), Sanghoo Park (Applied, KFE), Tong-Pu Yu (Laser, NUDT), Meng Zhou Space, Nanchang U.), Xin Cheng (Solar/Astro, Nanjing U.), Siye Ding (Magnetic Fusion, IPP-CAS) as U40 winners at DPP2021. Their citations can be seen at <http://aapsdpp.org/AAPPSDPPF/youngawardtable.html>.

Winners received cash prize 500USD, plates and certificate. Photos of winners, a certificate and plate to Xin Cheng are shown in Fig.3.



Hiroshi Tanabe Min-Gu Yoo Sanghoo Park Tong-Pu Yu



Meng Zhou Xin Cheng Siye Ding



Figure 3 2020 AAPPS-DPP Young Research Awardees and certificate and plate of Xin Cheng.

5. U30 Scientist and Student Award

DPP is recognizing young talented doctoral scientists/ students not more than 30 years old since 2018 as AAPPS-DPP U30 Doctoral Scientist / Student Award. This award is sponsored by IFE-Forum. 2021 U30 award selection committee chaired by K. Mima selected 2021 Winners; Riddhi Bandyopadhyay (Fundamental, Princeton U.), Kento Katagiri (Laser, Osaka U.), Honghong Wu (Space, Peking U.), Munehito Shoda (Laser, SJTU), Po-Cheng Liu (Basic, NCU), Prasun Dhang (SA, NAOJ), Guanqi Dong (Magnetic Fusion, SWIP), Sang Kyeun Kim (Magnetic Fusion, SNU) (Figure 4). Winners received cash prize 300USD, plate, and certificate. Their citation can be seen at <http://aappsdpp.org/AAPPSDPPF/U30awardtable.html>



R. Bandyopadhyay Kento Katagiri Honghong Wu



Munehito Shoda Guanqi Dong Sang Kyeun Kim

Figure 4 AAPPS-DPP U30 Awardees and a certificate (Tingyu Gou)

6. AAPPS-DPP2021 Poster Prize

DPP is recognizing significant poster presentation at the annual conference as AAPPS-DPP Poster Prize since 2018 for both students and young/senior researchers. Among 59 poster presentations, 9 posters (Shrish Raj, Swati Dahiya, Kalyani Barman, Masato Sumino, Tatiana Pikuz, Feng-Jen Chang, Feiyue Mao, Min Sang Cho, Yin Liu) were selected by the selection committee chaired by Abhijit Sen. Winners will receive certificate and a Springer book on plasma physics <http://aappsdpp.org/AAPPSDPPF/posteraward.html>.

The poster session has been done for full week and large number of participants visited poster Web site during the conference. Number of posters are smaller while we encouraging more discussion in poster session.

7. Membership Status

AAPPS-DPP started from 92 founding members in 2014. As of Oct 30, 2020, DPP has 2011 members all over the world. It took 6 years for members to reach two

thousands. While it might be difficult to attract all plasma physicists in Asia-Pacific region, there is huge opportunity to increase membership from China, Japan, Korea as well as ASEAN region. Members of BoD have to take a leadership in encouraging membership registration.

Table 3 Member distribution

Country/Region	'14.7.24	'19.6.4	'20.10.30	'21.11.01
1. India	856	782	793	
2. Beijing	110	371	440	
3. Japan	97	278	308	
4. Korea	36	106	123	
5. US	11	51	70	
6. Australia	30	45	48	
7. Taipei	21	30	35	
8. Nepal	1	26	26	
9. France	1	17	25	
10. Thailand	14	18	18	
11. Pakistan	0	13	13	
12. Germany	0	10	13	
13. Malaysia	2	12	12	
14. UK	0	9	12	
15. Italy	0	9	11	
16. Philippines	6	8	9	
17. Belgium	0	2	9	
18. Indonesia	0	8	8	
19. Iran	0	5	5	
20. Vietnam	0	4	4	
21. Singapore	4	4	4	
22. Russia	0	2	6	
23. Bangladesh	0	3	3	
24. Netherland	0	3	3	
25. Lao PDR	0	2	2	
26. Austria	0	0	2	
27. Canada	0	1	1	
28. Czech	0	1	1	
29. Egypt	0	1	1	
30. Ireland	0	1	1	
31. Israel	0	1	1	
32. Myanmar	0	1	1	
33. Norway	0	0	1	
34. Spain	0	0	1	
35. Switzerland	0	1	1	
Total	1,212	1,825	2,011	

8. Status of RMPP Journal

RMPP is review journal specialized to plasma physics. The first volume (2017) published 10 articles. The second volume (2018) published 9 articles and third volume (2019) published 15 articles, 4th volume (2020) published 12 articles.

Springer Tokyo told me RMPP must increase number of published papers in each volume by at least factor of two to proceed to get impact factor. Stronger invitations from DPP annual conferences are in progress.

See separate report.