International Academy of Astronautics

IAA Space Debris Committee

March 26th, 2025

International Academy of Astronautics

Agenda

1. IAC – Administrative part
   - 1.1. IAA Space Debris Committee
   - 1.2. Lessons learned from Milan 2024
   - 1.3. IAA Space Debris Committee General Statistics
   - 1.4. Status of Space Debris Symposium for Sydney 2025
   - 1.5. Report from the SDC Improvement Working Group
   - 1.6. Election of a new co-chair
   - 1.7. Preparation of Antalya 2026

2. Exchanges
   - 2.1. Past events: workshops, conferences, congresses, …
   - 2.2. On the Agenda
   - 2.3. General information
   - 2.4. Round table – Open discussion

3. IAA Study Groups
   - 3.1. SG 5.17 IAA Situation Report on Space Debris
   - 3.2. SG 5.20 Establishing “Rules of the Road” for Satellite Collision Avoidance Maneuver Planning”
   - 3.3. New SG proposal?

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1.1 IAA Space Debris Committee

General frame:

- Officially created within IAA in 2012
  - Independent Committee
  - Permanent Committee
  - Attachment to Commission V. Could be independent if it would present any interest
- Actions of the Committee:
  - Organization of the IAC A6 Space Debris Symposium
  - 12 Position Papers or similar so far, either directly from the Committee, or contribution to others [1]
    - Position Paper on Orbital Debris in 1993, updated in 2000
    - Position Paper SG 5.1 on Space Debris Mitigation in 2005
    - Position Paper SG 5.5 on Space Debris Remediation in 2013
    - Participation to SG 5.10 on Orbital Debris Removal: Policy, Legal, Political and Economic considerations
    - Participation to SG 4.23 on IAA Handbook for Post-Mission Disposal for Micro and Smaller Satellites: Concepts and Trade Studies
    - Situation Report Paper 2016 SG 5.14 finished and distributed [2] - Update 2019 SG 5.17 on hold
    - Contribution to SG5.10 Orbital Debris Removal: Policy, Political, Legal and Economic considerations, 2022
    - Joint study group IAF-IAA-IISL on Space Traffic Management IAF TC26 – 2022 - 2025
  - Numerous presentations (UNCOPUOS, …)

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1. IAA Space Debris Committee

Membership:

No need to be member of IAA !

- Members of the IAA A6 Symposium Program Committee (chairs & rapporteurs)
  - ⇨ Note that the IAC Program Committee is exclusively selected among the IAA SDC members
- Members of the Program Committee of other IAA sponsored conferences with Space Debris concerns
- Members of Space Debris related working groups (IADC, UNCOPUOS, COSPAR, ISO …)
- Academics, Labs, Universities, Industrials… working on the topic

However, **it is requested to be "active"**:

- Participation to the meetings
- Debriefing of activities during the meetings
- Cross information with other members
- Contribution to studies and reports
- To see the work which is done, visit our web page
  https://iaaspace.org/about/permanent-committees/#SA-PERMCspacedebris

Two meetings per year:

- One during IAC ⇨ Includes the status of the sessions, workshops, round tables… of the week
- One during IAC March Meeting ⇨ Includes the pre-selection of the abstracts for the following IAC
  - ⇨ **Next meeting on Saturday 27 September morning at IAC**

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1.1 IAA Space Debris Committee

Current membership (as should be on the website):

Agapov Vladimir
Aglietti Guglielmo
Agueda Alberto
Ailor William H
Alary Didier
Anilkumar A.K.
Anselmo Luciano
Anz-Meador Philip
Bank Cristian
Bastida-Virgili Benjamin
Berend Nicolas
Bevilacqua Riccardo
Bhatia Rachit
Cattani Benedetta
Colombo Camilla
Cordelli Emiliano
Crowther Richard
Dailey Nate
Dasgupta Upasana
Del-Campo Borja
Dolado Perez Juan-Carlos
Escobar Diego
Faucher Pascal
Fitz-Coy Norman G.
Flohrer Tim Flury Walter
Forshaw Jason
Francesconi Alessandro
Francillout Laurent
Gong Zizheng
Gonzalo Juan Luis
Grishko Dmitriy
Hanada Toshiya
Howard Diane
Hyde James
Jah Moriba K.
Jankovic Marko
Ju Gwanghyeok
Kawamoto Satomi
Kelso T. S.
Kerr Emma
Kibe Seishiro
Kim Hae-Dong
Kitazawa Yukihito
Klinkrad Heiner
Krag Holger
Kunstadter Chris
Kuriyama Ikuko
Lacomba Florent
Lemmens Stijn
Letizia Francesca
Liou Jer-Chyi
Maclay Tim
Martinez Peter
Martinot Vincent
Marzioli Paolo
Masson-Zwaan Tanja
McKnight Darren S.
Metz Manuel
Monham Andrew
Mulholland Mark
Nassisi Annamaria
Nitta Kumi
Oltrogge Daniel L.
Opromolla Roberto
Pardini Carmen
Piergentili Fabrizio
Plattard Serge
Prevereaud Ysolde
Rossettini Luca L.
Rossi Alessandro
Sanchez-Ortiz Noelia
Santoni Fabio
Santoro Francisco
Schaefer Frank
Schildknecht Thomas
Seitzer Pat
Siminski Jan
Singh Balbir
Smith Lesley-Jane
Somma Gian Luigi
Sorge Marlon E.
Spencer David B.
Stokes Hedley
Usovik Igor
Wiedemann Carsten
Yasaka Tetsuo
Youngho Eun
Zemoura Melissa

Coordinators & Secretary:

Skinner Mark A.
Bonnal Christophe
Omaly Pierre

Missing members?

To be removed

Christiansen Eric L
Lecas Morgane

New members

Tadzi-Stower Geovian

Synthesis:
92 members
Including new

See appendix 1 for today's list of participants

It is reminded that Program Committee (Chairs + Rapporteurs) is selected among members only

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1.2 Feedback from Milan 2024

Accepted/Total = 64%

Oral/Accepted = 52%
IP/Accepted = 48%
Confirmed/Accepted = 87%
Uploaded/Accepted = 71%

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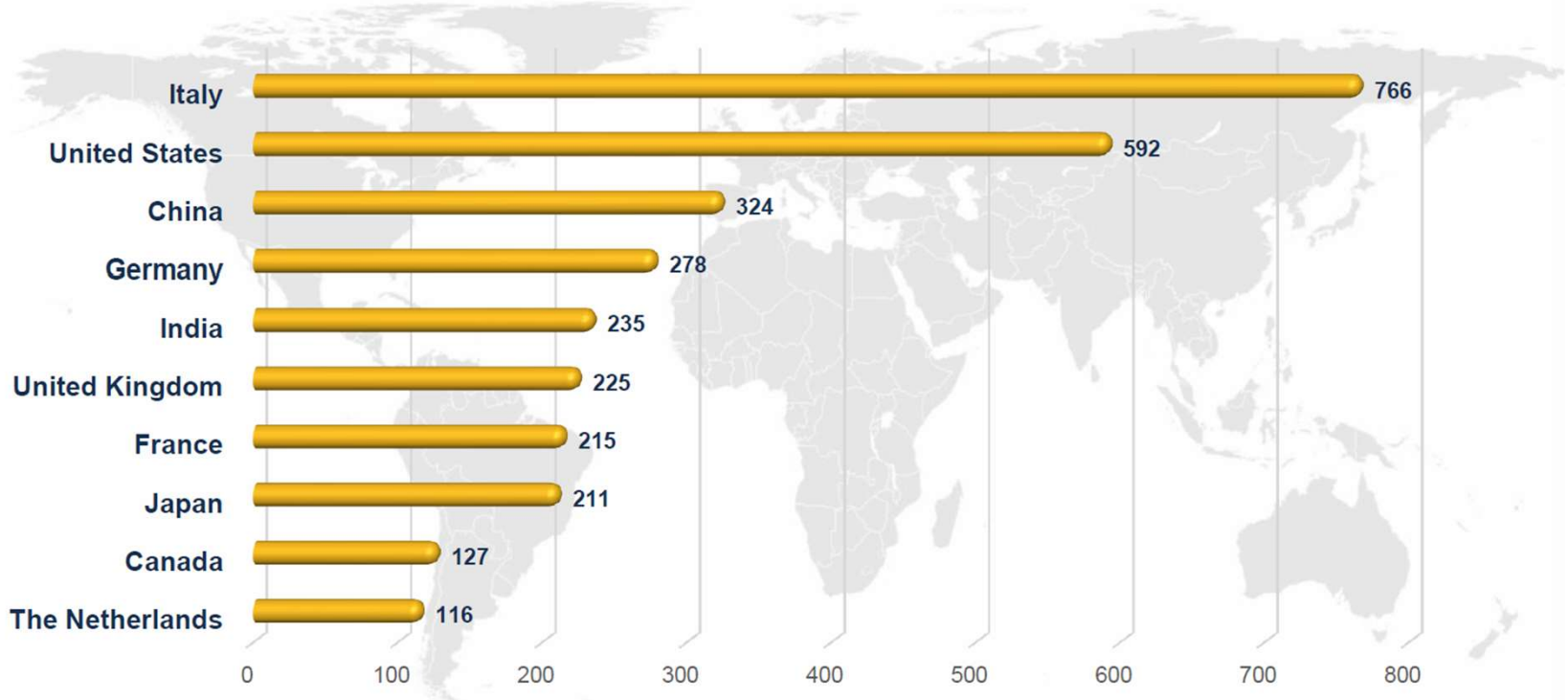
1.2 Feedback from Milan 2024

3. Accepted abstracts (Top 10 Countries)



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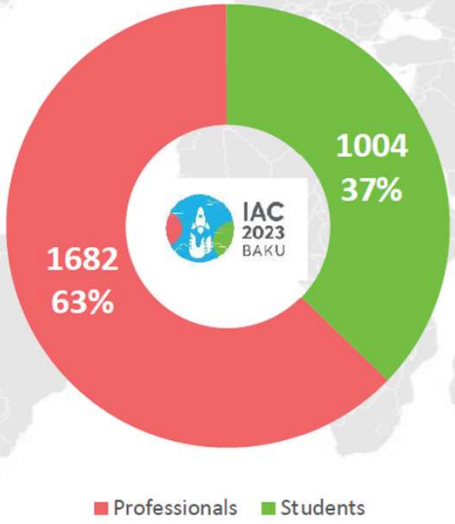
1.2 Feedback from Milan 2024

3. Accepted abstracts (Professionals and Students)



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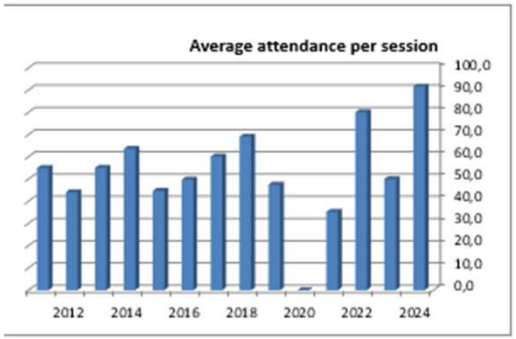
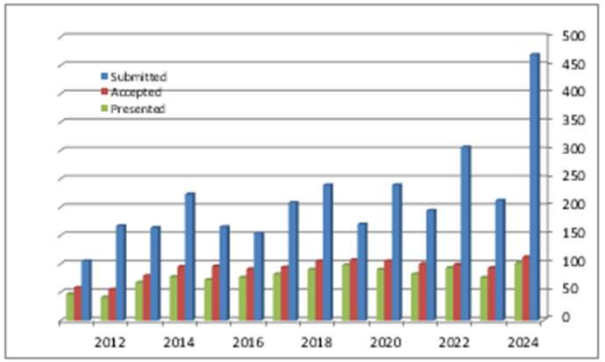
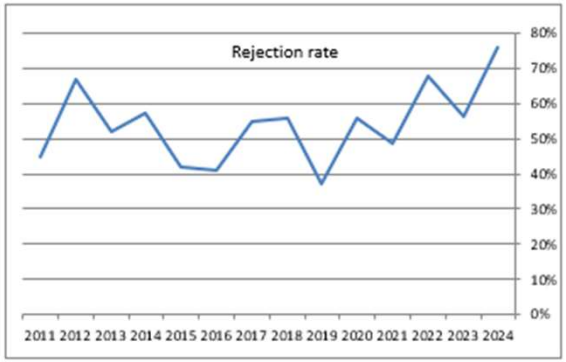
1.3 IAA Space Debris Committee General Statistics

Date	# Sess	Att Min	Att Max	Att Ave	Att/session	Pap Sub	Pap Acc	Pap Pres	Pap No-Sh	Up Manu	Up Pres	% Pap Rej	% Pap Acc	% Pap Pres	% Pap Wd	% Pap No-Sh
2024	11	807	1208	1008	91,6	469	112	101	6	103	84	76%	24%	90%	3%	5%
2023	9	340	569	450	50,0	212	93	76	12			56%	44%	82%	0%	13%
2022	10	604	1019	801	80,1	306	99	93	9	88		68%	32%	94%	4%	9%
2021	10	339	454	397	35,3	194	100	82	11			48%	52%	82%	18%	11%
2020	10	0	0	0	0,0	239	105	90	4	97		56%	44%	86%	10%	4%
2019	10	390	654	475	47,5	170	107	98	3	96		37%	63%	92%	6%	3%
2018	10	547	809	691	69,1	239	105	90	4	97		56%	44%	86%	10%	4%
2017	10	505	698	602	60,2	208	94	82	5	84		55%	45%	87%	20%	5%
2016	9	365	531	448	49,8	154	91	76	3	75	74	41%	59%	84%	14%	3%
2015	10	374	521	448	44,8	165	96	72	4	73	69	42%	58%	75%	21%	4%
2014	9	492	653	572,5	63,6	223	95	77	4	74		57%	43%	81%	15%	4%
2013	8	360	521	440,5	55,1	164	79	67	4	63		52%	48%	85%	13%	5%
2012	7	270	348	309	44,1	167	55	41	4	55		67%	33%	75%	18%	7%
2011	6	285	375	330	55,0	105	58	47	1	48	54	45%	55%	81%	17%	2%
Avg	9,1	374,7	550,2	458,7	50,3	195,8	90,5	76,2	5,2	77,3	65,7	51%	49%	81%	17%	4%
Standard deviation =			251,3		20,8	86,9										







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1.3 IAA Space Debris Committee General Statistics

SESSION ID	TECHNICAL SESSIONS	Min Att	Max Att	Avg Att	Avg per Session	Papers Subm	Papers Sched	Papers Pres	Notified Withdraw	No Show	% Papers Selected	% Papers Present	% Notified Withdrawn	% No Show
2024	A6. SPACE DEBRIS													
A6.1.	Space debris detection, tracking and characterization I	100	150	125		102	11	10	1	0	11%	91%	9%	0%
A6.2.	Modeling and risk analysis	92	132	112		44	11	11	0	1	25%	100%	0%	9%
A6.3.	Impact induced mission effects and risks assessments	43	55	49		14	10	10	0	0	71%	100%	0%	0%
A6.4.	Mitigation and Standards	80	100	90		36	11	10	1	0	31%	91%	9%	0%
A6.5.	Post mission disposal and space debris removal (1)	50	90	70		54	10	10	0	0	19%	100%	0%	0%
A6.6.	Post mission disposal and space debris removal (2)	40	71	55,5		32	10	8	1	1	31%	80%	10%	10%
A6.7	Operations in Space Debris Environment, Situational Awareness	90	187	138,5		59	10	9	1	0	17%	90%	10%	0%
A6.8-E9.1	(Joint Session with Space Security Committee): Political, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal	80	140	110		72	12	7	1	2	17%	58%	8%	17%
A6.9	Orbit determination and propagation	75	115	95		28	10	8	2	0	36%	80%	20%	0%
A6.10-E9.4	Space carrying capacity	52	55	53,5		28	10	9	0	1	36%	90%	0%	10%
A6.11	Space debris detection, tracking and characterization II	85	133	109		0	10	9	0	1		90%	0%	10%
A6.IP	Interactive presentation					19	112							
	TOTAL without IP	**787**	**1228**	**1008**	**91,6**	**488**	**227**	**101**	**7**	**6**	**47%**	**44%**	**3%**	**3%**
2023	A6. SPACE DEBRIS													
A6.1.	Space debris detection, tracking and characterization	35	52	50		38	11	9	1	1	29%	82%	9%	9%
A6.2.	Modeling and risk analysis	60	130	95		29	10	10	0	0	34%	100%	0%	0%
A6.3.	Impact induced mission effects and risks assessments	30	54	35		12	10	8	1	1	83%	80%	10%	10%
A6.4.	Mitigation and Standards	35	43	42		26	10	7	0	3	38%	70%	0%	30%
A6.5.	Post mission disposal and space debris removal (1)	33	46	42		34	10	7	0	3	29%	70%	0%	30%
A6.6.	Post mission disposal and space debris removal (2)	40	40	40		16	10	9	1	1	63%	90%	10%	10%
A6.7	Operations in Space Debris Environment, Situational Awareness	31	77	68		29	10	7	3	0	34%	70%	30%	0%
A6.8-E9.1	(Joint Session with Space Security Committee): Political, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal	35	42	35		28	12	10	0	2	43%	83%	0%	17%
A6.9	Orbit determination and propagation	41	85	43		7	10	9	0	1	143%	90%	0%	10%
A6.IP	Interactive presentation					9								
	TOTAL without IP	**340**	**569**	**450**	**45,0**	**228**	**93**	**76**	**6**	**12**	**41%**	**82%**	**6%**	**13%**

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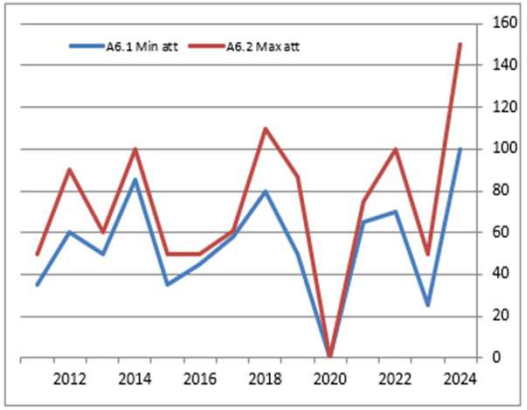
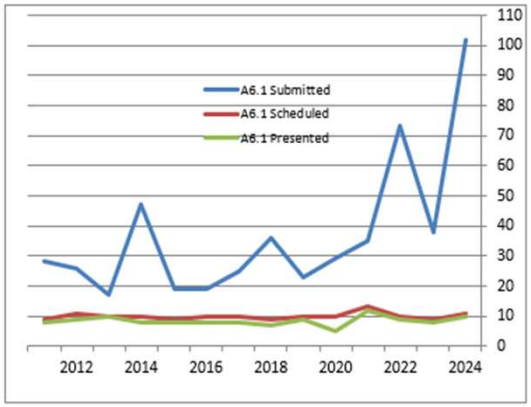
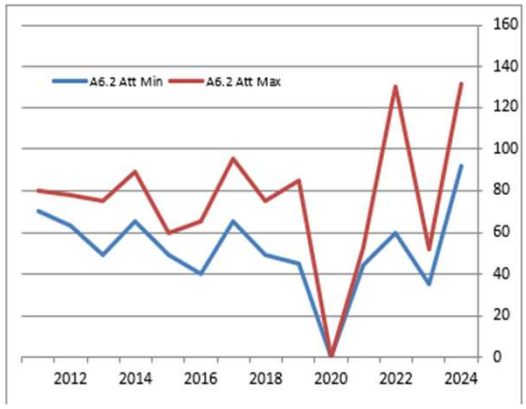
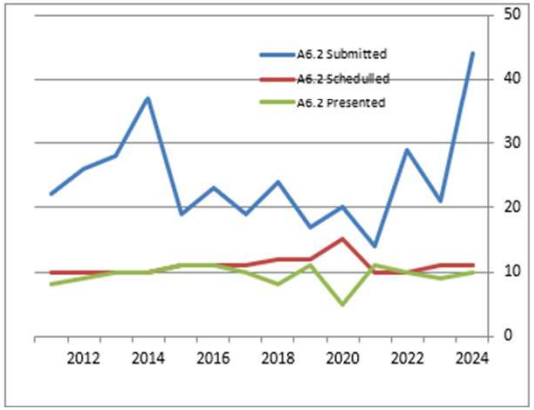
1.3 IAA Space Debris Committee General Statistics

SESSION	YEAR	Min Att	Max Att	Avg Att	Papers Subm	Papers Sched	Papers Pres	Notified Withdrawn	No Show	% Papers Selected	% Papers Present.	% Notified Withdrawn	% No Show
Space Debris Detection, Tracking and Characterization - SST													
A6.1.	2024	100	150	125	102	11	10	1	0	11%	91%	9%	0%
A6.1.	2023	25	50	30	38	9	8	0	1	24%	89%	0%	11%
A6.1.	2022	70	100	85	73	10	9	0	1	14%	90%	0%	10%
A6.1.	2021	65	75	70	35	13	12	3	0	37%	92%	23%	0%
A6.1.	2020	0	0	0	29	10	5	5	0	34%	50%	50%	0%
A6.1.	2019	50	87	67	23	10	9	1	0	43%	90%	10%	0%
A6.1.	2018	80	110	100	36	9	7	2	0	25%	78%	22%	0%
A6.1.	2017	58	61	60	25	10	8	2	0	40%	80%	20%	0%
A6.1.	2016	45	50	47,5	19	10	8	2	0	53%	80%	20%	0%
A6.1.	2015	35	50	42,5	19	9	8	1	0	47%	89%	11%	0%
A6.1.	2014	85	100	92,5	47	10	8	1	1	21%	80%	10%	10%
A6.1.	2013	50	60	55	17	10	10	2	0	59%	100%	20%	0%
A6.1.	2012	60	90	75	26	11	9	1	1	42%	82%	9%	9%
A6.1.	2011	35	50	42,5	28	**9**	**8**	**1**	0	32%	89%	11%	0%
A6.1.	Average	50,6	67,9	59,0	31,9	10,0	8,4	1,6	0,3	31%	84%	16%	3%
												16%	3%
Modeling and Risk Analysis													
A6.2.	2024	92	132	112	44	11	10	0	1	25%	91%	0%	9%
A6.2.	2023	35	52	50	21	11	9	1	1	52%	82%	9%	9%
A6.2.	2022	60	130	95	29	10	10	0	0	34%	100%	0%	0%
A6.2.	2021	44	53	49	14	10	11	2	0	71%	110%	20%	0%
A6.2.	2020	0	0	0	20	15	5	6	4	75%	33%	40%	27%
A6.2.	2019	45	85	60	17	12	11	1	0	71%	92%	8%	0%
A6.2.	2018	49	75	62	24	12	8	3	1	50%	67%	25%	8%
A6.2.	2017	65	95	80	19	11	10	1	0	58%	91%	9%	0%
A6.2.	2016	40	65	52,5	23	11	11	0	0	48%	100%	0%	0%
A6.2.	2015	49	60	54,5	19	11	11	0	0	58%	100%	0%	0%
A6.2.	2014	65	89	77	37	10	10	0	0	27%	100%	0%	0%
A6.2.	2013	49	75	62	28	10	10	0	0	36%	100%	0%	0%
A6.2.	2012	63	78	70,5	26	10	9	0	0	38%	90%	0%	0%
A6.2.	2011	70	80	75	22	**10**	**8**	**1**	**1**	45%	80%	10%	10%
A6.2.	Average	48,8	72,1	60,5	23,0	11,0	9,5	1,2	0,5	48%	86%	10%	5%









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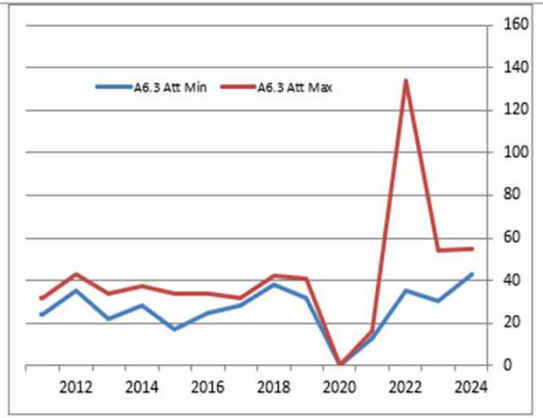
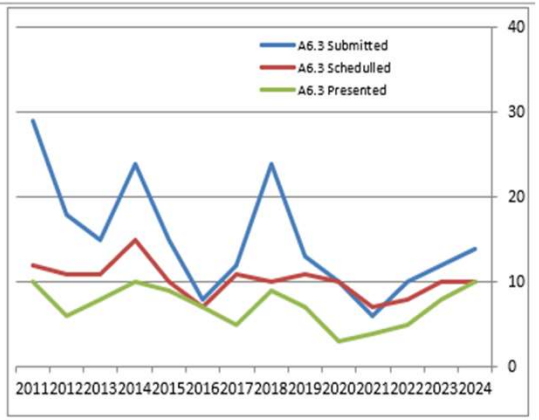
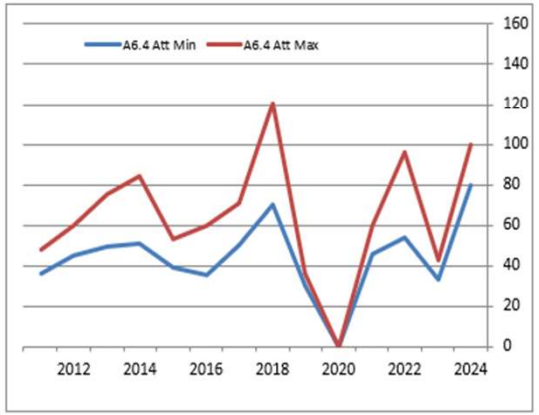
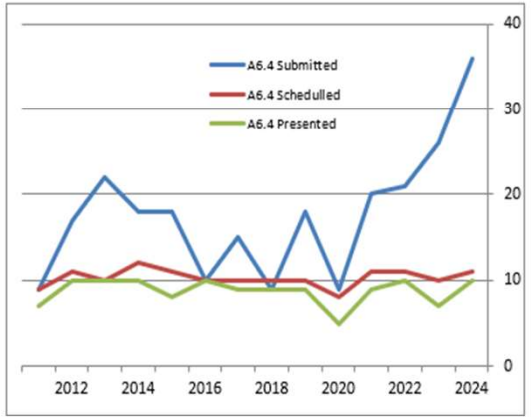
1.3 IAA Space Debris Committee General Statistics

SESSION	YEAR	Min Att	Max Att	Avg Att	Papers Subm	Papers Sched	Papers Pres	Notified Withdrawn	No Show	% Papers Selected	% Papers Present.	% Notified Withdrawn	% No Show
Impact-Induced Mission Effects and Risk Assessments													
A6.3.	2024	43	55	49	14	10	10	0	0	71%	100%	0%	0%
A6.3.	2023	30	54	35	12	10	8	1	1	83%	80%	10%	10%
A6.3.	2022	35	134	85	10	8	5	3	0	80%	63%	38%	0%
A6.3.	2021	13	16	15	6	7	4	3	0	117%	57%	43%	0%
A6.3.	2020	0	0	0	10	10	3	2	5	100%	30%	20%	50%
A6.3.	2019	32	41	35	13	11	7	1	3	85%	64%	9%	27%
A6.3.	2018	38	42	40	24	10	9	0	1	42%	90%	0%	10%
A6.3.	2017	28	32	30	12	11	5	4	2	92%	45%	36%	18%
A6.3.	2016	25	34	29,5	8	7	7	0	0	88%	100%	0%	0%
A6.3.	2015	17	34	25,5	15	10	9	1	0	67%	90%	10%	0%
A6.3.	2014	28	37	32,5	24	15	10	5	0	63%	67%	33%	0%
A6.3.	2013	22	34	28	15	11	8	0	3	73%	73%	0%	27%
A6.3.	2012	35	43	39	18	11	6	4	1	61%	55%	36%	9%
A6.3.	2011	24	32	28	29	**12**	**10**	**2**	**0**	41%	83%	17%	0%
A6.3.	Average	25,2	41,0	32,4	15,1	10,2	7,0	2,0	1,2	68%	68%	20%	12%
												19%	12%
Mitigation - Tools, Techniques and Challenges - SEM													
A6.4.	2024	80	100	90	36	11	10	1	0	31%	91%	9%	0%
A6.4.	2023	33	43	42	26	10	7	0	3	38%	70%	0%	30%
A6.4.	2022	54	96	75	21	11	10	0	1	52%	91%	0%	9%
A6.4.	2021	46	60	53	20	11	9	1	1	55%	82%	9%	9%
A6.4.	2020	0	0	0	9	8	5	3	0	89%	63%	38%	0%
A6.4.	2019	30	36	33	18	10	9	1	0	56%	90%	10%	0%
A6.4.	2018	70	120	90	9	10	9	1	0	111%	90%	10%	0%
A6.4.	2017	50	71	62	15	10	9	0	1	67%	90%	0%	10%
A6.4.	2016	35	60	47,5	10	10	10	0	0	100%	100%	0%	0%
A6.4.	2015	39	53	46	18	11	8	3	0	61%	73%	27%	0%
A6.4.	2014	51	84	67,5	18	12	10	2	0	67%	83%	17%	0%
A6.4.	2013	49	75	62	22	10	10	0	0	45%	100%	0%	0%
A6.4.	2012	45	60	52,5	17	11	10	0	1	65%	91%	0%	9%
A6.4.	2011	36	48	42	9	**9**	**7**	**2**	**0**	100%	78%	22%	0%
A6.4.	Average	41,4	62,0	51,7	16,3	10,2	8,7	1,0	0,5	63%	85%	10%	5%





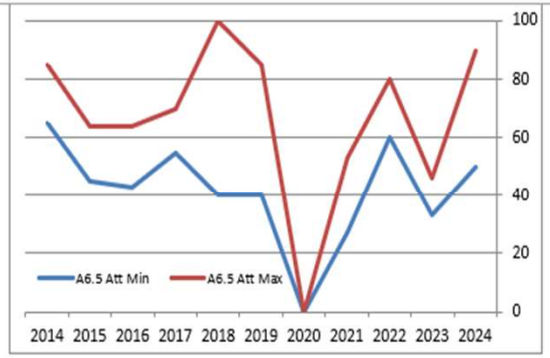


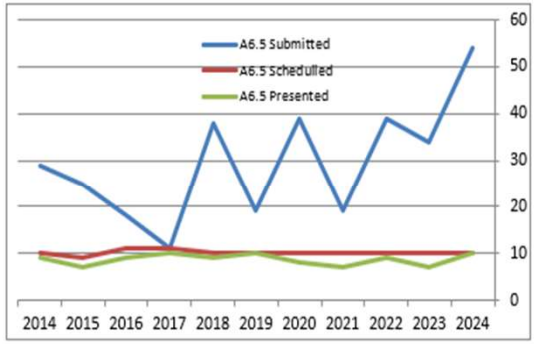


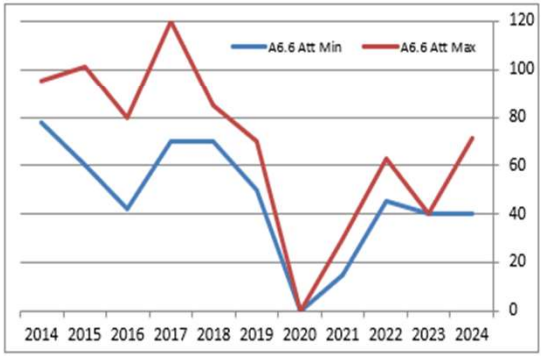
International Academy of Astronautics

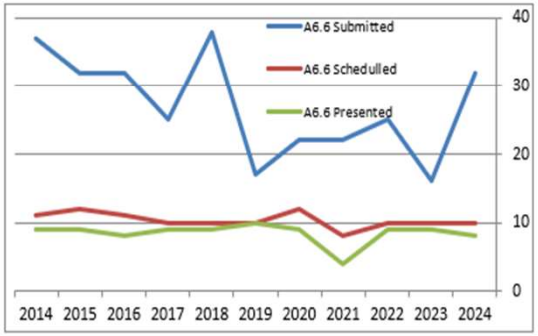
1.3 IAA Space Debris Committee General Statistics

SESSION	YEAR	Min Att	Max Att	Avg Att	Papers Subm	Papers Sched	Papers Pres	Notified Withdrawn	No Show	% Papers Selected	% Papers Present.	% Notified Withdrawn	% No Show
Post Mission Disposal and Space Debris Removal 1 - SEM													
A6.5.	2024	50	90	70	54	10	10	0	0	19%	100%	0%	0%
A6.5.	2023	33	46	42	34	10	7	0	3	29%	70%	0%	30%
A6.5.	2022	60	80	70	39	10	9	0	1	26%	90%	0%	10%
A6.5.	2021	27	53	40	19	10	7	0	2	53%	70%	0%	20%
A6.5.	2020	0	0	0	39	10	8	3	2	26%	80%	30%	20%
A6.5.	2019	40	85	55	19	10	10	0	0	53%	100%	0%	0%
A6.5.	2018	40	100	90	38	10	9	0	1	26%	90%	0%	10%
A6.5.	2017	55	70	63	11	11	10	1	0	100%	91%	9%	0%
A6.5.	2016	43	64	53,5	18	11	9	2	0	61%	82%	18%	0%
A6.5.	2015	45	64	54,5	25	9	7	2	0	36%	78%	22%	0%
A6.5.	2014	65	85	75	29	10	9	0	1	34%	90%	0%	10%
A6.5.	Average	40,8	64,7	54,3	27,1	10,1	8,5	0,8	1,0	37%	84%	8%	10%
												7%	9%
Post Mission Disposal and Space Debris Removal 2 - SEM													
A6.6.	2024	40	71	56	32	10	8	1	1	31%	80%	10%	10%
A6.6.	2023	40	40	40	16	10	9	1	1	63%	90%	10%	10%
A6.6.	2022	45	63	54	25	10	9	0	1	40%	90%	0%	10%
A6.6.	2021	15	30	23	22	8	4	3	3	36%	50%	38%	38%
A6.6.	2020	0	0	0	22	12	9	3	0	55%	75%	25%	0%
A6.6.	2019	50	70	60	17	10	10	0	0	59%	100%	0%	0%
A6.6.	2018	70	85	75	38	10	9	1	0	26%	90%	10%	0%
A6.6.	2017	70	120	95	25	10	9	1	0	40%	90%	10%	0%
A6.6.	2016	42	80	61	32	11	8	3	1	34%	73%	27%	9%
A6.6.	2015	60	101	80,5	32	12	9	2	1	38%	75%	17%	8%
A6.6.	2014	78	95	86,5	37	11	9	2	0	30%	82%	18%	0%
A6.6.	Average	47,0	68,4	57,5	26,6	10,4	8,5	1,6	0,7	39%	82%	15%	7%





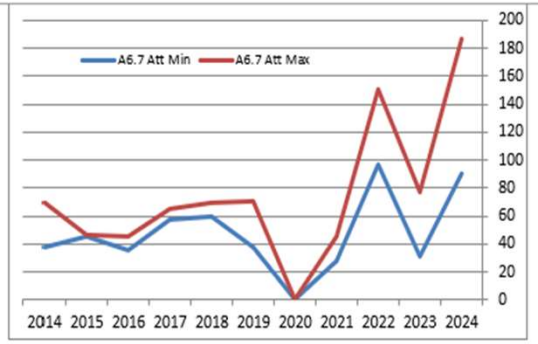


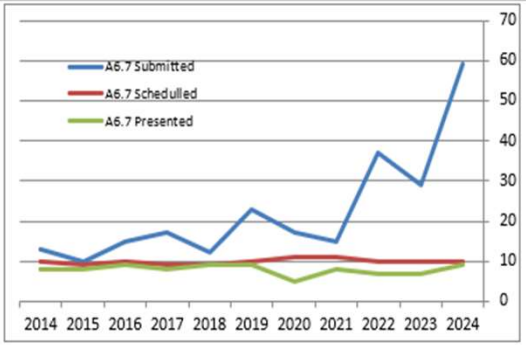


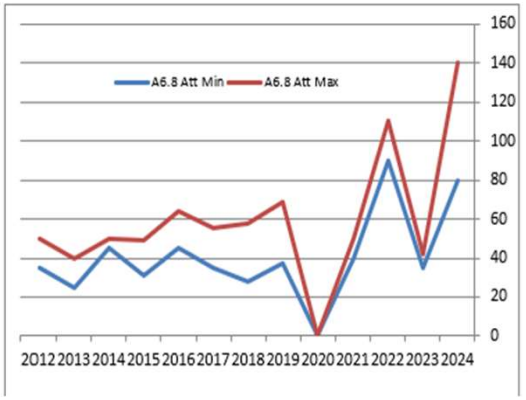
International Academy of Astronautics

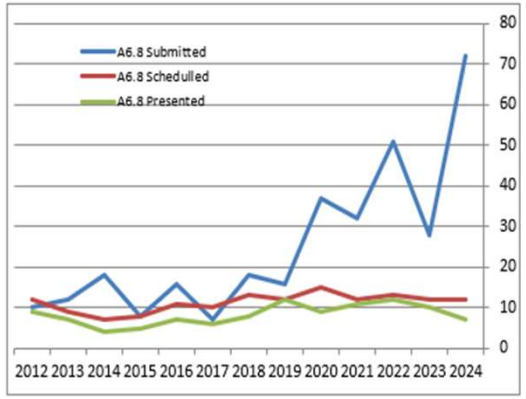
1.3 IAA Space Debris Committee General Statistics

SESSION	YEAR	Min Att	Max Att	Avg Att	Papers Subm	Papers Sched	Papers Pres	Notified Withdrawn	No Show	% Papers Selected	% Papers Present.	% Notified Withdrawn	% No Show
Operations in Space Debris Environment, Situational Awareness - SSA													
A6.7	2024	90	187	139	59	10	9	1	0	17%	90%	10%	0%
A6.7	2023	31	77	68	29	10	7	3	0	34%	70%	30%	0%
A6.7	2022	97	151	124	37	10	7	3	0	27%	70%	30%	0%
A6.7	2021	28	45	37	15	11	8	2	2	73%	73%	18%	18%
A6.7	2020	0	0	0	17	11	5	4	2	65%	45%	36%	18%
A6.7	2019	38	71	40	23	10	9	1	0	43%	90%	10%	0%
A6.7	2018	60	70	65	12	9	9	0	0	75%	100%	0%	0%
A6.7	2017	57	65	61	17	9	8	1	0	53%	89%	11%	0%
A6.7	2016	35	45	40	15	10	9	0	1	67%	90%	0%	10%
A6.7	2015	45	47	46	10	9	8	1	0	90%	89%	11%	0%
A6.7	2014	38	70	54	13	10	8	1	1	77%	80%	10%	10%
A6.7.	Average	42,9	64,1	53,5	18,8	9,9	7,8	1,6	0,6	53%	79%	16%	6%
												16%	6%
Political, Legal, Institutional and Economic Aspects of Space Debris Mitigation and Removal - STM Security													
A6.8.	2024	80	140	110	72	12	7	1	2	17%	58%	8%	17%
A6.8.	2023	35	42	35	28	12	10	0	2	43%	83%	0%	17%
A6.8.	2022	90	110	100	51	13	12	1	0	25%	92%	8%	0%
A6.8.	2021	40	50	45	32	12	11	1	1	38%	92%	8%	8%
A6.8.	2020	0	0	0	37	15	9	3	3	41%	60%	20%	20%
A6.8.	2019	37	69	44	16	12	12	0	0	75%	100%	0%	0%
A6.8	2018	28	58	44	18	13	8	4	1	72%	62%	31%	8%
A6.8	2017	35	55	45	7	10	6	3	1	143%	60%	30%	10%
A6.8	2016	45	64	54,5	16	11	7	3	1	69%	64%	27%	9%
A6.8	2015	31	49	40	8	8	5	3	0	100%	63%	38%	0%
A6.8	2014	45	50	47,5	18	7	4	2	1	39%	57%	29%	14%
A6.8	2013	25	40	32,5	12	9	7	2	0	75%	78%	22%	0%
A6.6.	2012	35	50	42,5	10	12	9	2	1	120%	75%	17%	8%
A6.8.	Average	37,2	53,1	44,2	21,1	11,2	8,3	2,0	0,9	53%	75%	18%	8%







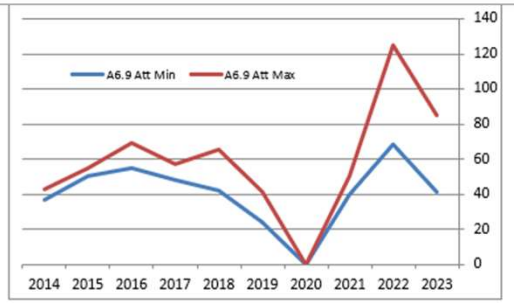


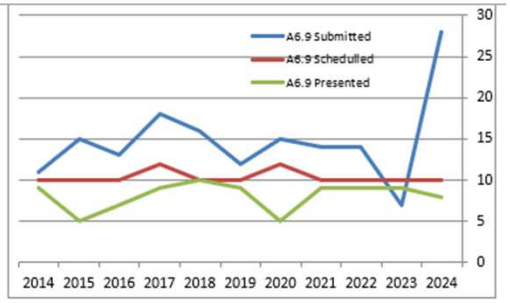
International Academy of Astronautics

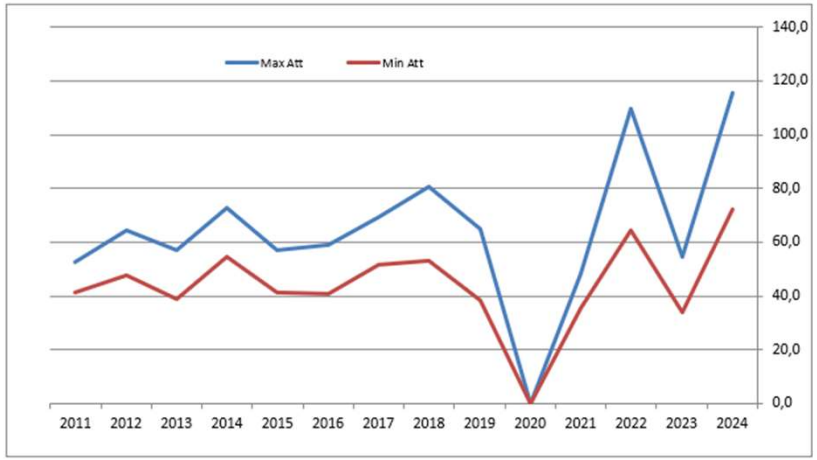
1.3 IAA Space Debris Committee General Statistics

SESSION	YEAR	Min Att	Max Att	Avg Att	Papers Subm	Papers Sched	Papers Pres	Notified Withdrawr	No Show	% Papers Selected	% Papers Present.	% Notified Withdrawn	% No Show
Orbit Determination and Propagation - SST													
A6.9.	2024	75	115	95	28	10	8	2	0	36%	80%	20%	0%
A6.9.	2023	41	85	43	7	10	9	0	1	143%	90%	0%	10%
A6.9.	2022	68	125	97	14	10	9	0	1	71%	90%	0%	10%
A6.9.	2021	40	50	45	14	10	9	1	1	71%	90%	10%	10%
A6.9.	2020	0	0	0	15	12	5	4	3	80%	42%	33%	25%
A6.9.	2019	24	41	32	12	10	9	1	0	83%	90%	10%	0%
A6.9	2018	42	65	48	16	10	10	0	0	63%	100%	0%	0%
A6.9	2017	48	57	53	18	12	9	3	0	67%	75%	25%	0%
A6.9	2016	55	69	62	13	10	7	3	0	77%	70%	30%	0%
A6.9	2015	50	55	52,5	15	10	5	5	0	67%	50%	50%	0%
A6.9	2014	37	43	40	11	10	9	1	0		90%	10%	0%
A6.9.	Average	40,5	59,0	47,2	13,5	10,4	8,1	1,8	0,6	77%	78%	17%	6%
												17%	6%
Overall	Average	41,6	60,7	50,9	21,3	10,4	8,3	1,5	0,7				

2024	72,2	115,6	94,0	49,0	10,6	9,1	0,8	0,4
2023	33,7	54,3	42,8	23,4	10,2	8,2	0,7	1,4
2022	64,3	109,9	87,1	33,2	10,2	8,9	0,8	0,6
2021	35,3	48,0	41,7	19,7	10,2	8,3	1,8	1,1
2020	0,0	0,0	0,0	22,0	11,4	6,0	3,7	2,1
2019	38,4	65,0	47,3	17,6	10,6	9,6	0,7	0,3
2018	53,0	80,6	68,2	23,9	10,3	8,7	1,2	0,4
2017	51,8	69,6	61,0	16,6	10,4	8,2	1,8	0,4
2016	40,6	59,0	49,8	17,1	10,1	8,4	1,4	0,3
2015	41,2	57,0	49,1	17,9	9,9	7,8	2,0	0,1
2014	54,7	72,6	63,6	26,0	10,6	8,6	1,6	0,4
2013	39,0	56,8	47,9	18,8	10,0	9,0	0,8	0,6
2012	47,6	64,2	55,9	19,4	11,0	8,6	1,4	0,8
2011	41,3	52,5	46,9	22,0	10,0	8,3	1,5	0,3



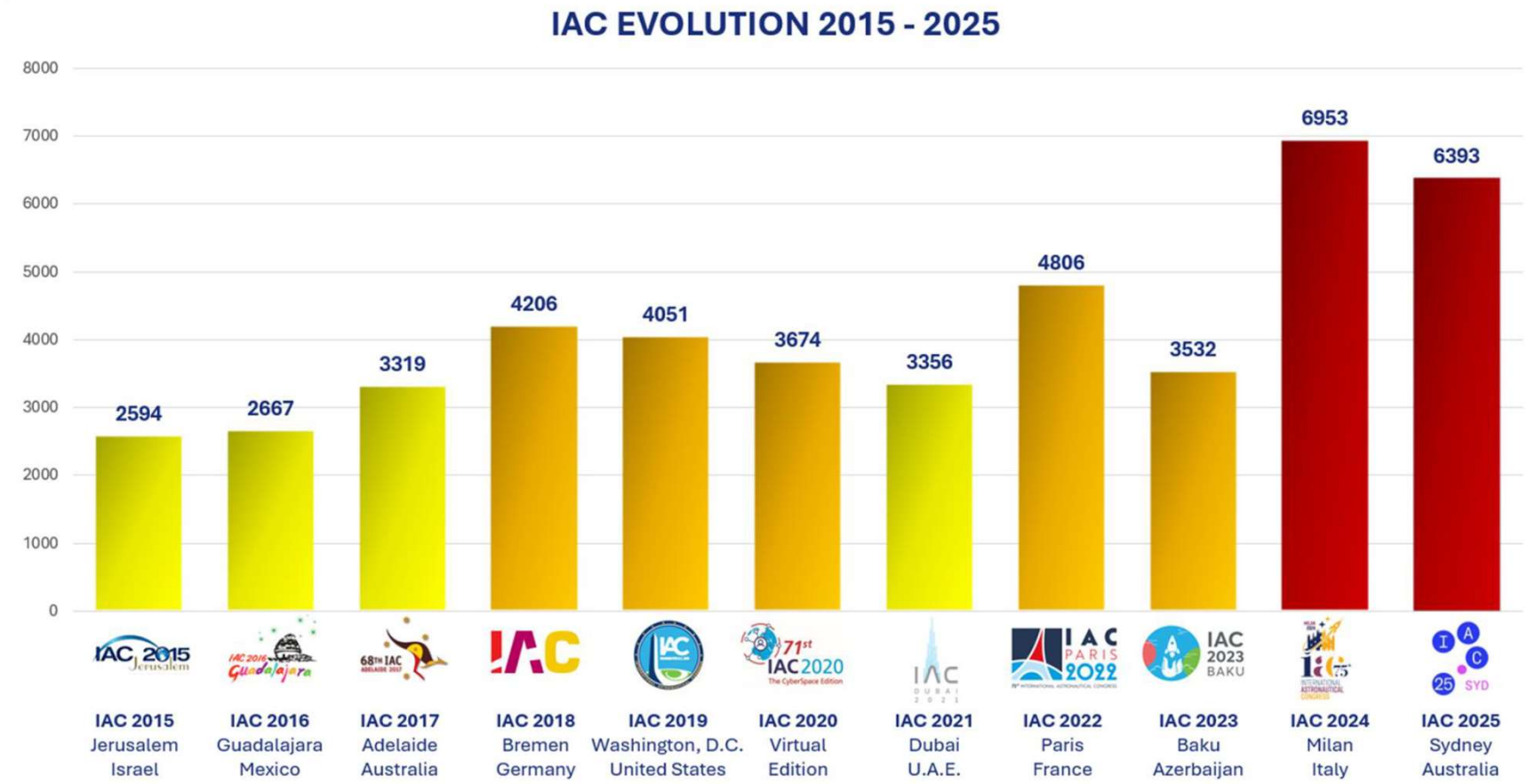




International Academy of Astronautics

1.4 Sydney 2025

Number of IAC abstracts since 2008



International Academy of Astronautics

1.4 Sydney 2025

Main countries

INTERNATIONAL ASTRONAUTICAL FEDERATION

3. IAC 2025

b. Status of the Technical Programme

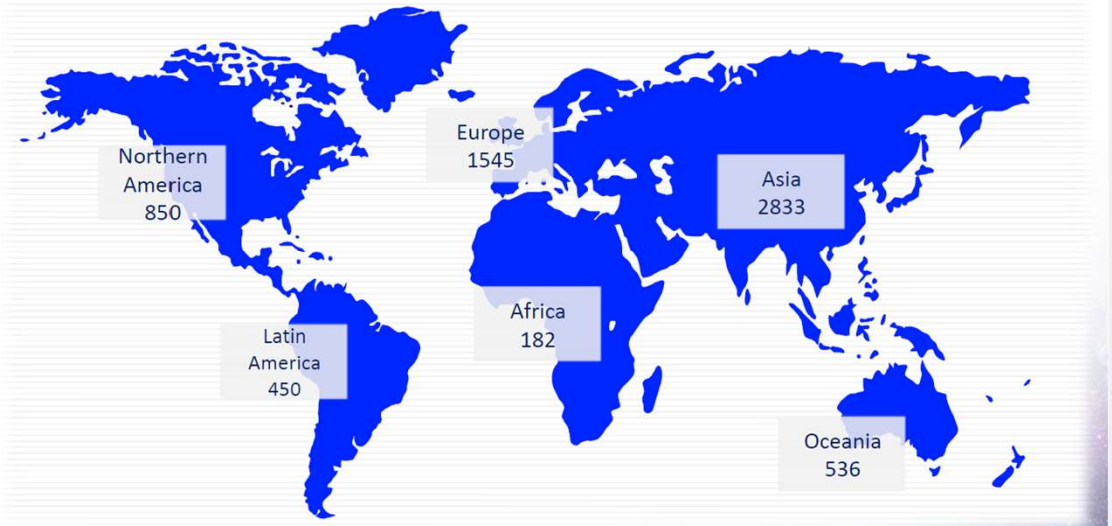
TP

I A C 25 SYD

- 721 United States
- 632 Azerbaijan
- 565 India
- 517 China
- 507 Australia

The IAC 2025 welcomed 6396 abstracts from 103 Countries

		2025	2024	
Asia	2833	44.29%	33.94%	+10.35%
Europe	1545	24.16%	40.36%	-16.20%
NA	850	13.29%	13.84%	-0.55%
Oceania	536	8.38%	2.01%	+6.37%
LA	450	7.04%	7.97%	-0.93%
Africa	182	2.85%	1.88%	+0.97%



Connecting @ll Space People

International Academy of Astronautics

1.4 Sydney 2025

Number of Students

INTERNATIONAL ASTRONAUTICAL FEDERATION

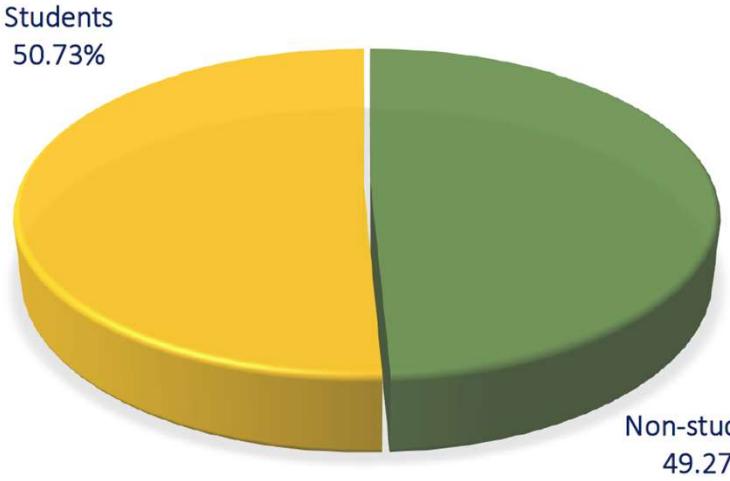
3. IAC 2025

b. Status of the Call for Abstracts

Students	3245
Non-students	3151

IAC students rate

- IAC 2024 – 43.61%
- IAC 2023 – 40.20%
- IAC 2022 – 38.94%
- IAC 2021 – 34.42%
- IAC 2020 – 34.76%
- IAC 2019 – 33.39%
- IAC 2018 – 30.60%



Connecting @ll Space People

1.4 Sydney 2025

Special Sessions

INTERNATIONAL ASTRONAUTICAL FEDERATION

3. IAC 2025

b. Special Sessions

SpS

110 Special Sessions proposal received.

Challenging selection by the IPC Steering Group due to innovation, originality, and audience engagement potential of the proposal

Only 18 slots available

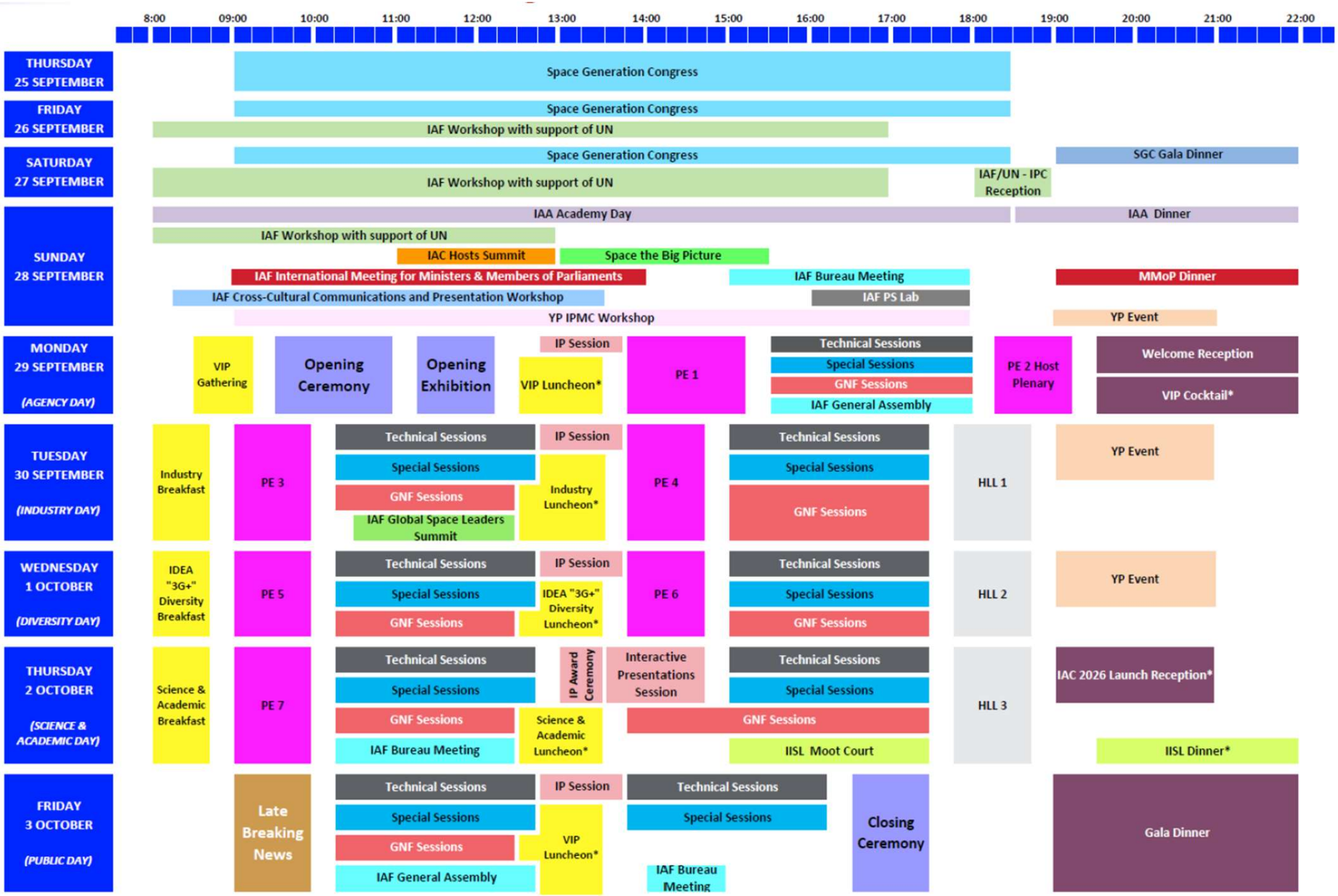
Interactive formats and interdisciplinary topics

International Academy of Astronautics

1.4 Sydney 2025

Special Sessions

Unfortunately, our A6 Special Session proposal didn't make it this year…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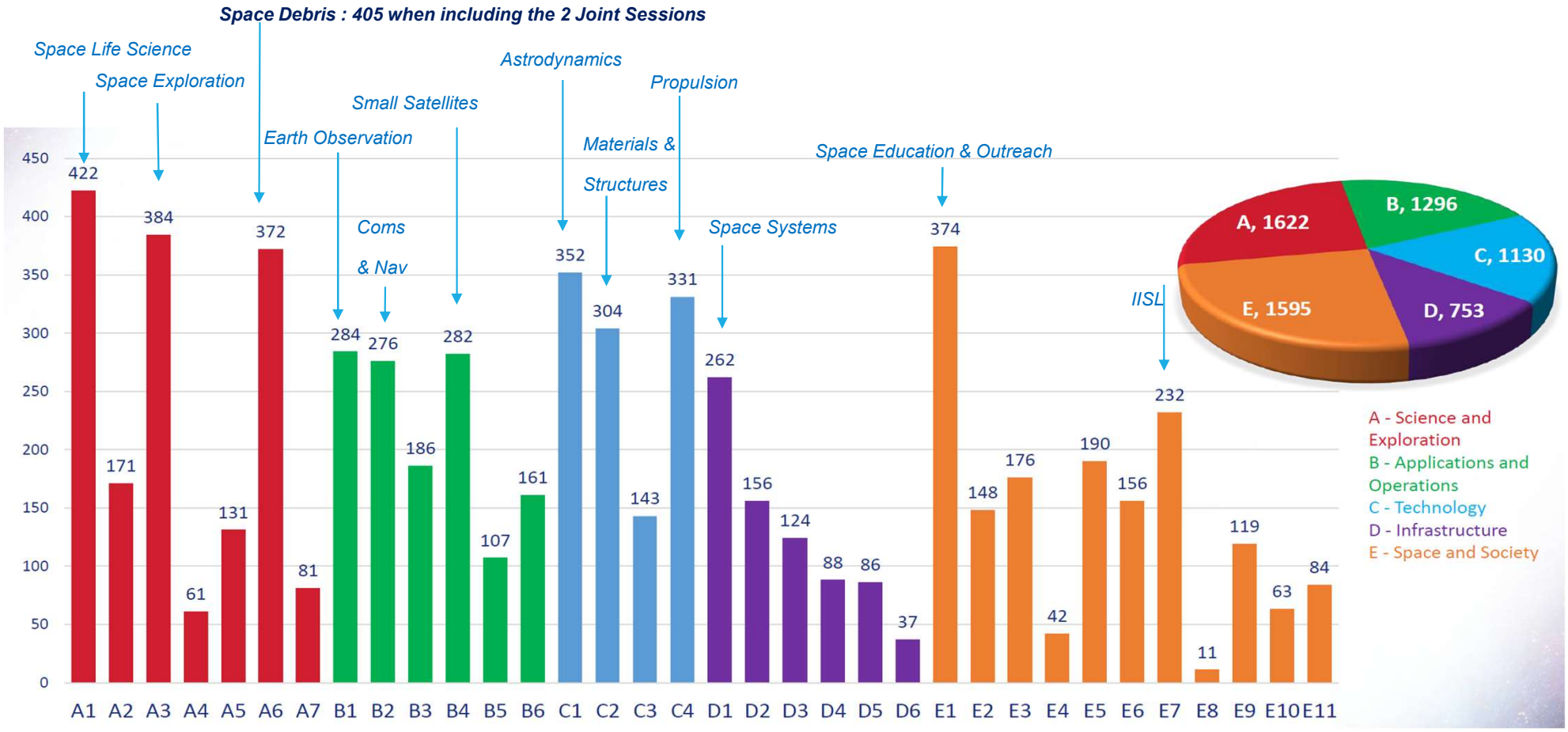
THURSDAY 25 SEPTEMBER
Space Generation Congress
FRIDAY 26 SEPTEMBER
Space Generation Congress
IAF Workshop with support of UN
SATURDAY 27 SEPTEMBER
Space Generation Congress
SGC Gala Dinner
IAF Workshop with support of UN
IAF/UN - IPC Reception
SUNDAY 28 SEPTEMBER
IAA Academy Day
IAA Dinner
IAF Workshop with support of UN
IAC Hosts Summit
Space the Big Picture
IAF International Meeting for Ministers & Members of Parliaments
IAF Bureau Meeting
MMoP Dinner
IAF Cross-Cultural Communications and Presentation Workshop
IAF PS Lab
YP IPMC Workshop
YP Event
MONDAY 29 SEPTEMBER (AGENCY DAY)
VIP Gathering
Opening Ceremony
Opening Exhibition
IP Session
VIP Luncheon*
PE 1
Technical Sessions
Special Sessions
GNF Sessions
IAF General Assembly
PE 2 Host Plenary
Welcome Reception
VIP Cocktail*
TUESDAY 30 SEPTEMBER (INDUSTRY DAY)
Industry Breakfast
PE 3
Technical Sessions
Special Sessions
GNF Sessions
IAF Global Space Leaders Summit
IP Session
Industry Luncheon*
PE 4
Technical Sessions
Special Sessions
GNF Sessions
HLL 1
YP Event
WEDNESDAY 1 OCTOBER (DIVERSITY DAY)
IDEA "3G+" Diversity Breakfast
PE 5
Technical Sessions
Special Sessions
GNF Sessions
IP Session
IDEA "3G+" Diversity Luncheon*
PE 6
Technical Sessions
Special Sessions
GNF Sessions
HLL 2
YP Event
THURSDAY 2 OCTOBER (SCIENCE & ACADEMIC DAY)
Science & Academic Breakfast
PE 7
Technical Sessions
Special Sessions
GNF Sessions
IAF Bureau Meeting
IP Award Ceremony
Interactive Presentations Session
Science & Academic Luncheon*
GNF Sessions
Technical Sessions
Special Sessions
IISL Moot Court
HLL 3
IAC 2026 Launch Reception*
IISL Dinner*
FRIDAY 3 OCTOBER (PUBLIC DAY)
Late Breaking News
Technical Sessions
Special Sessions
GNF Sessions
IAF General Assembly
IP Session
VIP Luncheon*
Technical Sessions
Special Sessions
IAF Bureau Meeting
Closing Ceremony
Gala Dinner

International Academy of Astronautics

1.4 Sydney 2025

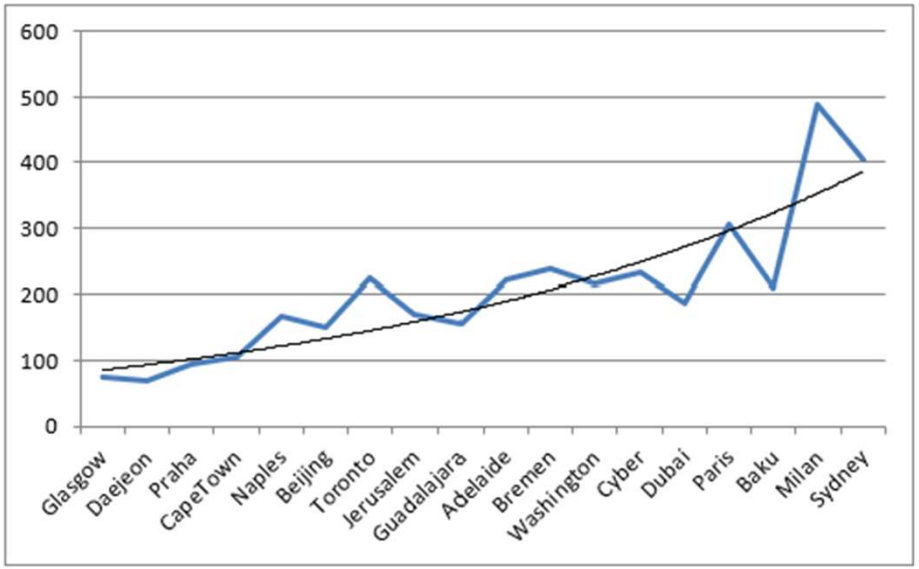
Number of IAC abstracts since 2008

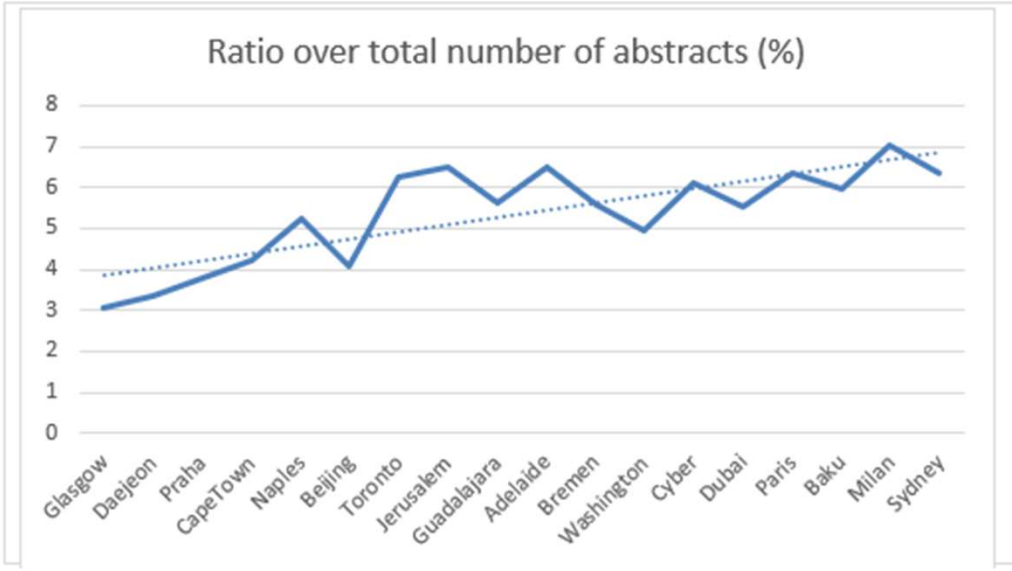


International Academy of Astronautics

1.4 Sydney 2025

Number of abstracts,
Space Debris Symposium,
since 2008





International Academy of Astronautics

1.4. Space Debris Symposium for Sydney 2025

A6: Space Debris Symposium: Skinner – Bonnal – Omaly

The Symposium will address the complete spectrum of issues associated to space debris, including orbital sustainability and operations in debris dominated environment.

It will cover every aspect of Space Environment Management (SEM) including Mitigation and Remediation measures, Space Surveillance and Tracking (SST), Space Situational Awareness (SSA), Space Traffic Management (STM), including all aspects of measurements, modelling, risk assessment in space and on the ground, re-entry, hypervelocity impacts and protection, mitigation and standards, post-mission disposal, remediation, debris removal, Space Surveillance, collision avoidance as well as non-technical topics associated to space debris dominated environment.

A6.1: Space Debris Detection, Tracking and Characterization - SST: Piergentili – Skinner – Schildknecht

This session will address every aspect of SST (Space Surveillance and Tracking), advanced ground and space-based measurement techniques, relating processing methods, and results of space debris characterization.

A6.2: Modelling and Risk Analysis: Oltrogge – Pardini – Sorge – Sanchez-Ortiz

This session will address the characterization of the current and future debris population and methods for in-orbit and on-ground risk assessments. The in-orbit analysis will cover collision risk estimates based on statistical population models and deterministic catalogues, and active collision avoidance.

A6.3: Impact-Induced Mission Effects and Risk Assessments: Prévereaud – Gong – Kitazawa

This session addresses disruptions of spacecraft operations induced by hypervelocity impacts including spacecraft anomalies, perturbation of operations, component failures up to mission loss , and spacecraft fragmentations. It includes risk assessments for impact vulnerability studies and corresponding system tools. Further topics are spacecraft impact protection and shielding studies, laboratory impact experiments, numerical simulations, and on-board diagnostics to characterize impacts such as impact sensors, accelerometers, etc.

International Academy of Astronautics

1.4. Space Debris Symposium for Sydney 2025

A6.4: Mitigation - Tools, Techniques and Challenges - SEM:

Kawamoto – Lemmens – Omaly – Liou

This session will focus on the Mitigation part of the SEM (Space Environment Monitoring), implementation of debris prevention and reduction measures; vehicle passive protection at system level including end of life strategies and tools to verify the efficiency of the implemented measures. The session will also address practical experiences in the planning and verification of measures and issues and lessons learnt in the actual execution of mitigation actions.

A6.5: Post Mission Disposal and Space Debris Removal 1 - SEM:

Opromolla – Bérend – Singh

This session will focus on the Remediation part of the SEM, dealing with ADR (Active Debris Removal), JCA (Just in time Collision Avoidance), LDTM (Large Debris Traffic Management) among solutions. It will address post-mission disposal and active removal techniques "ground and space based", review potential solutions and identify implementation difficulties.

A6.6: Post Mission Disposal and Space Debris Removal 2 - SEM:

Grishko – Forshaw– Francillout

This session will focus on the Remediation part of the SEM, dealing with ADR (Active Debris Removal), JCA (Just in time Collision Avoidance), LDTM (Large Debris Traffic Management) among solutions. It will address post-mission disposal and active removal techniques "ground and space based", review potential solutions and Identify implementation difficulties.

A6.7: Operations in Space Debris Environment, Situational Awareness - SSA:

Monham – Anilkumar – Zémoura - Bhatia

This session will address the multiple aspects associated to STM (Space Traffic Management) and SSA (Space Situational Awareness) including safe operations in space dealing with Space Debris, operational observations, orbit determination, catalogue build-up and maintenance, data aggregation from different sources, relevant data exchanges standards and conjunction analyses.

International Academy of Astronautics

1.4. Space Debris Symposium for Sydney 2025

A6.8 / E9.1 (joint with Space Security Committee): Policy, Legal, Institutional, Economic and Security Aspects of Debris Mitigation, Debris Remediation and STM:

Spencer – Plattard – Masson-Zwaan – Capurso – Samson – Kerr

This session will address all non-technical aspects of debris mitigation, debris remediation and STM. Papers may focus on aspects of responsibility, liability and registration, on the role of bodies such as UNCOPUOS or IADC, as well as on insurance, financial incentives and funding. In addition, security-related aspects and the role of international cooperation in addressing these issues may be considered

A6.9: Orbit Determination and Propagation - SST Marzioli – McKnight – Dolado-Perez

This session will address every aspect of orbit determination coming from the SST (Space Surveillance and Tracking), related to assessment of raw and derived data accuracy, optical measurements processing and modelling and risk analysis of space debris

A6.10 / E9.4 (joint with Space Security Committee): Space carrying capacity assessment and allocation

Colombo – Alary – Martinez – Rossi

This session covers the theoretical approaches, computational tools, and techniques to measure space environment thresholds and overall carrying capacity of space. It will discuss proxies for monitoring boundaries for the maximum capacity, such as space debris metrics. The application of these metrics to space debris evolution scenarios and their role in the definition of debris mitigation guidelines will be discussed. This session will also address the legal and policy implications, including relevance to regulation and licensing, the needed steps to enforce the implementation of capacity thresholds evaluation, and correlation with space debris mitigation measures. Finally, economic incentives or payments systems for ensuring sustainable space activities will be discussed.

A6.11: Space Debris Detection, Tracking and Characterization – SST (2): Martinot – Kunstadter – Nitta - Cattani

This session will address every aspect of SST (Space Surveillance and Tracking), advanced ground and space-based measurement techniques, relating processing methods, and results of space debris characterization.

A6.IP: Interactive Presentations, Kerr – Zémoura – Marzioli – Opromolla – Jankovic – Bonnal

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1.4. Space Debris Symposium for Sydney 2025

Selection of abstracts:

- **Technical Sessions 2.5 hours = 150 minutes**
  - An oral presentation should be 15 minutes, Q&A and Transfer included
    - Strict minimum: 10 minutes
    - Do not go above 12 presentations, as we will get plenty of complaints (quite usual…)
  - We **shall** select 5 Back-ups per Session
    - Automatically “promoted” in case of Withdrawn: very efficient!
    - Automatic transfer to IP for the non promoted (except if explicitly asking for Oral)
  - We can have as many IPs as we want: up to 60 screens = 1920 IP: **Probable need for additional Chairs for A6.IP**
    - 5 Sessions planned in Sydney
    - An author asking explicitly for Oral can be selected as IP and vice versa
    - When proposing a transfer from an Oral session to IP, please check quality: The IP chairs do not want to redo the selection
    - If a paper is transferred to IP, it will be selected
  - Please make sure to keep a good “IAF 3G” balance, but no strict rules of course
    - Generation: Select some student papers but not more than 30% typically
    - Geography: Usually, too many Europeans and US
    - Gender

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1.4. Space Debris

Selection process:

One excel file per session

Coordinate among chairs & rapporteurs

Stick to Excel sheets as long as the process is not over

- Transfer: contact the others before proposing, except if transfer to A6-IP
- Reject: must explain briefly why
- Paper order for the session
- Select 5 Back-ups per session, with order
- Paper length = 150 minutes / Number
- Nominal: 10 papers x 15 minutes

IP: lets wait until everyone is finished

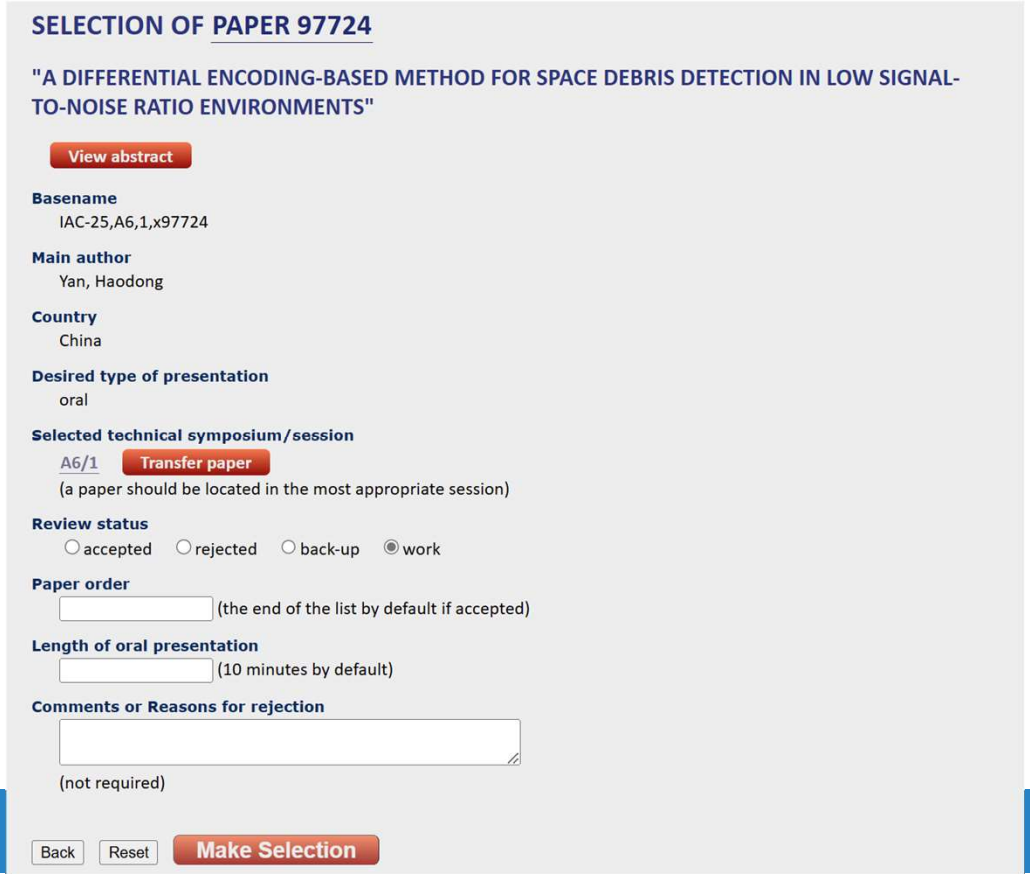
Formalization on the web site:

Classical under “Responsibility areas”

Beware: operation cannot be undone

Do not leave the meeting before selection is completed and checked with me

Selected Technical Session	Abstract ID	Abstract Title	Author Last Name	Accepted Session	Paper Order	O=Oral I=Interactive R=Rejected T=Transferred B=Back-up	Oral Presentation length	Comments/Reasons for rejection
A6.9.	69035	Lunar observer efficacy for NRHO target tracking	Fedeler					
A6.9.	69305	SSA observation campaign of the ELSA-d mission	Harris					
A6.9.	69365	Applying Graph-based Clustering to Tracklet-Tracklet Correlation	Schmitz					
A6.9.	69481	Polynomial Algebra for Uncertainty Propagation in Equinoctial Orbital Elements	Hallgarten La Casta					
A6.9.	69683	A cython bound tracklet-tracklet correlation for resident space objects	Rack					



SELECTION OF PAPER 97724

"A DIFFERENTIAL ENCODING-BASED METHOD FOR SPACE DEBRIS DETECTION IN LOW SIGNAL-TO-NOISE RATIO ENVIRONMENTS"

View abstract

Basename
IAC-25,A6,1,x97724

Main author
Yan, Haodong

Country
China

Desired type of presentation
oral

Selected technical symposium/session
A6/1 Transfer paper
(a paper should be located in the most appropriate session)

Review status
○ accepted ○ rejected ○ back-up ◉ work

Paper order
(the end of the list by default if accepted)

Length of oral presentation
(10 minutes by default)

Comments or Reasons for rejection
(not required)

Back Reset Make Selection

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1.4. Space Debris Symposium for Sydney 2025

Paris Selection		Sidney		A6	Submitted	Oral	Backup	Rejected
mark.a.skinner@aero.org		mark.a.skinner@aero.org						
christophe.bonnal@maia-space	1	christophe.bonnal@maia-space.com						
p.omaly@astroscale.com	1	p.omaly@astroscale.com						
fabrizio.piergentili@uniroma1.it		fabrizio.piergentili@uniroma1.it		1	76	10	5	13
mark96732@gmail.com		mark96732@gmail.com						
thomas.schildknecht@aiub.unibe.c		thomas.schildknecht@aiub.unibe.ch						
dan@comspoc.com		dan@comspoc.com		2	36	11	5	6
carmen.pardini@isti.cnr.it		carmen.pardini@isti.cnr.it						
noelia.sanchez.ortiz@gmail.com		noelia.sanchez.ortiz@gmail.com						
Marlon.E.Sorge@aero.org		Marlon.E.Sorge@aero.org						
ysolde.prevereaud@onera.fr		ysolde.prevereaud@onera.fr		3	11	8	0	1
gongzz@263.net		gongzz@263.net						
kitazawa.yukihito@nihon-u.ac.jp		kitazawa.yukihito@nihon-u.ac.jp						
kawamoto.satomi@jaxa.jp		kawamoto.satomi@jaxa.jp		4	44	11	4	12
stijn.lemmens@esa.int		stijn.lemmens@esa.int						
jer-chyi.liou-1@nasa.gov		jer-chyi.liou-1@nasa.gov						
pierre.omaly@cnes.fr	1	pierre.omaly@cnes.fr						
roberto.opromolla@unina.it		roberto.opromolla@unina.it		5	44	10	5	17
nicolas.berend@onera.fr		nicolas.berend@onera.fr						
balbir.s@manipal.edu		balbir.s@manipal.edu						
dim.gr@mail.ru		dim.gr@mail.ru		6	33	10	5	8
j.forshaw@astroscale.com		j.forshaw@astroscale.com						
laurent.francillout@cnes.fr		laurent.francillout@cnes.fr						
marko.m.jankovic@airbus.com		marko.m.jankovic@airbus.com						
andrew.monham@eumetsat.int		andrew.monham@eumetsat.int		7	43	10	4	11
ak_anilkumar@istrac.gov.in		ak_anilkumar@istrac.gov.in						
melissa.zemoura@cnes.fr		melissa.zemoura@cnes.fr						
rachitbhatia31@gmail.com		rachitbhatia31@gmail.com						

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1.4. Space Debris Symposium for Sydney 2025

Paris Selection		Sidney		A6	Submitted	Oral	Backup	Rejected
dbs9@psu.edu s.plattard@ucl.ac.uk t.l.masson@law.leidenuniv.nl acapurso@luiss.it vsamson@swfound.org emelkerr@gmail.com		dbs9@psu.edu s.plattard@ucl.ac.uk t.l.masson@law.leidenuniv.nl acapurso@luiss.it vsamson@swfound.org emelkerr@gmail.com		8 - E9.1	54	12	6	32
paolo.marzioli@uniroma1.it darren@leolabs.space J. Siminski@esa.int jc.dolado@lookupspace.com		paolo.marzioli@uniroma1.it darren@leolabs.space J. Siminski@esa.int jc.dolado@lookupspace.com		9	17	10	3	2
camilla.colombo@polimi.it didier.alary@gmail.com pmartinez@swfound.org a.rossi@ifac.cnr.it		camilla.colombo@polimi.it didier.alary@gmail.com pmartinez@swfound.org a.rossi@ifac.cnr.it		10 - E9.4	23	10	4	3
		vincent.martinot@thalesaleniaspace.com chris@tritonspace.com nitta.kumi@jaxa.jp benedetta.cattani@ecosmic.space		11	0	10	5	2
emelkerr@gmail.com meliaas.zemoura@cnes.fr paolo.marzioli@uniroma1.it roberto.opromolla@unina.it marko.m.jankovic@airbus.com christophe.bonnal@maia-space	1	emelkerr@gmail.com meliaas.zemoura@cnes.fr paolo.marzioli@uniroma1.it roberto.opromolla@unina.it marko.m.jankovic@airbus.com christophe.bonnal@maia-space.com		IP	25	142	0	13
					381	112	46	107
					406	254	46	120

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1.4 Sydney 2025

Room number for Technical Sessions

29/09/2025	30/09/2025	30/09/2025	01/10/2025	01/10/2025	02/10/2025	02/10/2025	03/10/2025	03/10/2025
15:30-18:00	10:15-12:45	15:00-17:30	10:15-12:45	15:00-17:30	10:15-12:45	15:00-17:30	10:15-12:45	13:45-16:15
A3.1	A3.2A	A3.2B	A3.3A	A3.3B	A3.4A	A3.5	A3.4B	A3.2C
D2.1	D2.3	D2.2	D2.4	D2.5	D2.6	D2.7	D2.8	D2.9/D6.2
C1.6	C1.7	C1.8	C1.9	C1.1	C1.2	C1.3	C1.4	C1.5
A6.8/E9.1	A6.1	A6.7	A6.9	A6.4	A6.3	A6.2	A6.5	A6.6
B3.1	B3.2	B3.3	B3.4/B6.4	B3.7	B3.5	B3.6/A5.3	B3.8	E10.2
B4.2	B4.1	B4.7	B4.4	B4.5	B4.6A	B4.6B	B4.8	B4.3
E7.1	E7.2	E7.3	E7.4	E7.5	E7.6/E3.5	E10.1	E7.7	
C4.1	C4.3	C4.5	C4.2	C4.6	C4.7	C4.8/B4.5A	C4.9	C4.10/C3.5
C2.1	C2.2	C2.3	C2.4	C2.5	C2.6	C2.7	C2.8	C2.9
A1.1	A1.2	A1.3	C4.4	A1.4	A1.5	A1.6	A1.7	A1.8
A2.1	A4.1	A4.2	A2.2	A2.3	A2.4	A2.5	A2.6	A2.7
D1.1	D1.2	D1.3	A5.1	A5.2	D1.4	D1.5	D1.6	D1.7
B1.1	C3.1	B1.7		B1.4	B1.5	B1.6	C3.3	C3.4
E9.2	E3.1	E3.2	E3.3	E3.4	A5.4	E3.6		B1.3
E5.1	D5.2	E5.2	D5.1	E5.3	D5.3	E5.4	E5.5	E5.6
C3.2	B2.6	B2.7	B2.1	B2.2	B2.3	B2.4	B2.5	E8.1
E1.1	E1.2	E1.3	E1.4	E1.5	E1.6	E1.7	B1.2	E1.9
D4.1	D4.2	D4.3	D3.1	D3.2A	D4.4	D4.5	D3.2B	D3.3
E2.1	E2.2	B6.2	E2.4	B5.2	B5.3	B6.5	B6.1	B6.3
B2.8/GTS.3	D6.1	E2.3/GTS.4	B5.1	E6.4/GTS.1	D6.3	B4.9/GTS.5	D5.4	B3.9/GTS.2
	E9.5	E6.3	E6.2	E4.1	E4.2	E6.1	E4.3	A6.10/E9.4
A7.1	A7.2	A2.8	E11.1	A7.3	E9.3		E1.8	

Additional session A6.11, probably Tuesday – Waiting for precisions

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1.5. Report from the SDC Improvement Working Group

Reminder:

- Spring meeting 2023:
  Decision to have a small Working Group within A6 to identify possible changes in organization of the Symposium, session rotations, number of presentations, structure of the sessions…
  Dmitriy (chair), Darren, Emma, Camilla, Roberto, Paolo, Ysolde

- Discussions on the proposals made today ⇨ Decision to implement

- First implementation during IAC 2025 meeting for application during Antalya 2026

- See Appendix

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1.6. Election of a new co-chair

In addition to Mark Skinner co-chair and Pierre Omaly Secretary

Co-chair shall be IAA Member, or Corresponding Member, or Election process ongoing

Candidates?

- **Noelia Sanchez-Ortiz (M2)**
- **?**

Election process

Will become effective for Spring Meeting 2026 (help welcome during IAC 2025 😊)

Congratulations to Noelia, elected unanimously by the members!

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1.6. Past Chairs & Rapporteurs

IAC	Year	Location	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Session 9	Session 10	Session 11	Interactive Presentations
68th	2017	Adelaide	F. DiPentino [C]	C. Pardini [C]	F. Schaefer [C]	C. Cazaux [C]	B. Bastida-Virgili [C]	N. Berend [C]	T.S. Kelso [C]	D. McKnight [C]	H. Klinkrad [C]	D. Oltrogge [C]		T. Yasaka
			T. Schildknecht [C]	D. Oltrogge [C]	N. Fitz Coy [C]	D. Finkleman [C]	F. Santoni [C]	L. Innocenti [C]	J-C. Dolado-Perez [C	*S. Plattard [C]*	M. Jah [C]	L. Rossettini [C]		D. McKnight
			V. Agapov [R]	M. Sorge [R]	A. Francesconi [R]	H. Krag [R]	F. Piergentili [R]	B. Singh [R]	C Wiedemann [R]	A. Soucek [R]	H. Lewis [R]	C. Cazaux [R]		C. Bonnal
69th	2018	Bremen	F. DiPentino [C]	L. Anselmo [C]	N. Fitz Coy [C]	H. Krag [C]	F. Piergentili [C]	N. Berend [C]	C Wiedemann [C]	D. Spencer [C]	S. Kibe [C]	M. Jah [C]		T. Yasaka
			T. Schildknecht [C]	D. Oltrogge [C]	F. Schaefer [C]	P. Omaly [C]	B. Bastida-Virgili [C]	B. Singh [C]	T.S. Kelso [C]	S. Lemay [R]	H. Lewis [C]	Anilkumar [C]		D. McKnight
			V. Agapov [R]	M. Sorge [R]	D. McKnight [R]	Y. Usovik [R]	F. Santoni [R]	L. Rossettini [R]	J-C. Dolado-Perez [R]		H. Klinkrad [R]	Kitazawa [R]		C. Bonnal
70th	2019	Washington	M. Skinner [C]	M. Sorge [C]	JC Traineau [C]	H. Krag [C]	F. Santoni [C]	L. Rossettini [C]	C Wiedemann [C]	D. Spencer [C]	H. Klinkrad [C]	U. Dasgupta [C]		T. Yasaka
			T. Schildknecht [C]	C. Pardini [C]	M. Jah [C]	S. Kawamoto [C]	A. Nassisi [C]	E. Kerr [C]	N. Sanchez-Ortiz [C]	S. Lemay [R]	J-C. Dolado-Perez [C	Y. Usovik [C]		D. McKnight
			V. Agapov [R]	D. Oltrogge [R]	N. Fitz Coy [R]	P. Omaly [R]	L. Francillout [R]	N. Berend [R]	TS. Kelso [R]		F. Piergentili [R]			C. Bonnal
71st	2020	Cyber	T. Schildknecht [C]	C. Pardini [C]	Z. Gong [C]	S. Kawamoto [C]	B. Singh [C]	J. Auburn [C]	T.S. Kelso [C]	*S. Plattard [C]*	H. Klinkrad [C]	D. McKnight [C]		T. Yasaka
			M. Skinner [C]	D. Oltrogge [C]	E. Kerre [C]	P. Omaly [C]	L. Francillout [C]	N. Berend [C]	N. Sanchez-Ortiz [C]	S. Lemay [C]	J-C. Dolado-Perez [C	H. Tung [C]		D. McKnight
			V. Agapov [R]	M. Sorge [R]	JC Traineau [R]	H. Krag [R]	R. Opromolla [R]	C. Wiedemann [R]	V. Martinot [R]	*A. Soucek [R]*	F. Santoni [R]	A. Anilkumar [R]		M. Jankovic
										D. Spencer [R]				
72nd	2021	Dubai	M. Skinner [C]	M. Sorge [C]	D. McKnight [C]	P. Omaly [C]	B. Singh [C]	M. Jankovic [C]	V. Martinot [C]	D. Spencer [C]	H. Klinkrad [C]	V. Agapov [C]		E. Kerr
			M. Jah [C]	D. Oltrogge [C]	Z. Gong [C]	S. Kawamoto [C]	R. Opromolla [C]	C. Wiedemann [C]	T.S. Kelso [C]	T. Masson-Zwaan [(	F. Santoni [C]	H. Tung [C]		S. Lemay
			T. Schildknecht [R]	C. Pardini [R]	JC Traineau [R]	H. Krag [R]	L. Francillout [R]	J. Auburn [R]	N. Sanchez-Ortiz [R]	S. Lemay [R]	J-C. Dolado-Perez [R	A. Anilkumar [R]		F. Santoni
														R. Opromolla
														M. Jankovic
73rd	2022	Paris	M. Skinner [C]	M. Sorge [C]	D. McKnight [C]	P. Omaly [C]	B. Singh [C]	M. Jankovic [C]	V. Martinot [C]	D. Spencer [C]	J. Siminski [C]	T. Schildknecht [C]		E. Kerr
			V. Agapov [C]	D. Oltrogge [C]	Z. Gong [C]	S. Kawamoto [C]	R. Opromolla [C]	D. Grishko [C]	T.S. Kelso [C]	T. Masson-Zwaan [(	J-C. Dolado-Perez [R	D. McKnight [C]		F. Letizia
			T. Schildknecht [R]	C. Pardini [R]	JC Traineau [R]	H. Krag [R]	L. Francillout [R]	J. Auburn [R]	N. Sanchez-Ortiz [R]	E. Kerr [R]	P. Marzioli [R]	C. Colombo [R]		F. Santoni
														R. Opromolla
														M. Jankovic
														P. Marzioli
74th	2023	Baku	M. Skinner [C]	M. Sorge [C]	D. McKnight [C]	P. Omaly [C]	M. Jankovic [C]	M. Jankovic [C]	V. Martinot [C]	D. Spencer [C]	E. Cordelli [C]			E. Kerr
			F. Piergentili [C]	D. Oltrogge [C]	Z. Gong [C]	S. Kawamoto [C]	R. Opromolla [C]	D. Grishko [C]	T.S. Kelso [C]	T. Masson-Zwaan [(	J-C. Dolado-Perez [R]			F. Letizia
			T. Schildknecht [R]	C. Pardini [R]	JC Traineau [R]	C. Colombo [R]	L. Francillout [R]	J. Auburn [R]	N. Sanchez-Ortiz [R]	E. Kerr [R]	P. Marzioli [R]			R. Opromolla
														M. Jankovic
														P. Marzioli
75th	2024	Milan	M. Skinner [C]	M. Sorge [C]	Y. Kitazawa [C]	P. Omaly [C]	B. Singh [C]	D. McKnight [C]	V. Martinot [C]	D. Spencer [C]	I. Siminski [C]	C. Colombo [C]	K. Nitta [C]	F. Letizia
			F. Piergentili [C]	D. Oltrogge [C]	Z. Gong [C]	S. Kawamoto [C]	R. Opromolla [C]	D. Grishko [C]	A. Monham [C]	S. Plattard [C]	J-C. Dolado-Perez [C	F. Letizia [C]	B. DelCampo [R]	P. Marzioli
			T. Schildknecht [R]	C. Pardini [R]	Y. Prévereaud [R]	H. Krag [R]	L. Francillout [R]	J. Forshaw [R]	N. Sanchez-Ortiz [R]	T. Masson-Zwaan [(	R. Bahtia [R]	P. Martinez [C]		R. Opromolla
										A. Capurso [C]	P. Marzioli [R]	A. Rossi [R]		E. Kerr
										V. Samson [R]				Ch. Bonnal
										E. Kerr [R]				
76th	2025	Sydney	M. Skinner [C]	C. Pardini [C]	Y. Prévereaud [C]	S. Kawamoto [C]	N. Bérend [C]	D. McKnight [C]	A. Monham [C]	D. Spencer [C]	P. Marzioli [C]	C. Colombo [C]	Martinot [C]	M. Zémoura
			F. Piergentili [C]	D. Oltrogge [C]	Z. Gong [C]	S. Lemmens [C]	R. Opromolla [C]	J. Forshaw [C]	Anilkumar [C]	S. Plattard [C]	D. McKnight [C]	D. Alary [C]	Kunstadter [C]	P. Marzioli
			T. Schildknecht [R]	N. Sanchez-Ortiz [R]	Y. Kitazawa [R]	J.C.Liou [R]	L. Francillout [R]	M. Jankovic [R]	M. Zémoura [R]	T. Masson-Zwaan [(	J. Siminski [R]	P. Martinez [C]	Nitta [R]	R. Opromolla
				M. Sorge [R]		P. Omaly [R]	B. Singh [R]	L. Francillout [R]	R. Bahtia [R]	A. Capurso [C]	J.C. Dolado-Perez [R	A. Rossi [R]	Cattani [R]	E. Kerr
										V. Samson [R]				M. Jankovic
										E. Kerr [R]				Ch. Bonnal

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1.7. Space Debris Symposium for Antalya 2026

Evolutions of the text – Evolutions of the Chairs & Rapporteurs Based on Sydney 2025

A6: Space Debris Symposium: Skinner – Sanchez-Ortiz – Omaly

The Symposium will address the complete spectrum of issues associated to space debris, including orbital sustainability and operations in debris dominated environment.

It will cover every aspect of Space Environment Management (SEM) including Mitigation and Remediation measures, Space Surveillance and Tracking (SST), Space Situational Awareness (SSA), Space Traffic Management (STM), including all aspects of measurements, modelling, risk assessment in space and on the ground, re-entry, hypervelocity impacts and protection, mitigation and standards, post-mission disposal, remediation, debris removal, Space Surveillance, collision avoidance as well as non-technical topics associated to space debris dominated environment.

A6.1: Space Debris Detection, Tracking and Characterization - SST: Piergentili – Skinner – Schildknecht

This session will address every aspect of SST (Space Surveillance and Tracking), advanced ground and space-based measurement techniques, relating processing methods, and results of space debris characterization.

A6.2: Modelling and Risk Analysis: Oltrogge – Pardini – Sorge – Sanchez-Ortiz

This session will address the characterization of the current and future debris population and methods for in-orbit and on-ground risk assessments. The in-orbit analysis will cover collision risk estimates based on statistical population models and deterministic catalogues, and active collision avoidance.

A6.3: Impact-Induced Mission Effects and Risk Assessments: Prévereaud – Gong – Kitazawa

This session addresses disruptions of spacecraft operations induced by hypervelocity impacts including spacecraft anomalies, perturbation of operations, component failures up to mission loss , and spacecraft fragmentations. It includes risk assessments for impact vulnerability studies and corresponding system tools. Further topics are spacecraft impact protection and shielding studies, laboratory impact experiments, numerical simulations, and on-board diagnostics to characterize impacts such as impact sensors, accelerometers, etc.

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1.7. Space Debris Symposium for Antalya 2026

Evolutions of the text – Evolutions of the Chairs & Rapporteurs Based on Sydney 2025

A6.4: Mitigation - Tools, Techniques and Challenges - SEM: Kawamoto – Lemmens – Omaly – Liou

This session will focus on the Mitigation part of the SEM (Space Environment Monitoring), implementation of debris prevention and reduction measures; vehicle passive protection at system level including end of life strategies and tools to verify the efficiency of the implemented measures. The session will also address practical experiences in the planning and verification of measures and issues and lessons learnt in the actual execution of mitigation actions.

A6.5: Post Mission Disposal and Space Debris Removal 1 - SEM: Bonnal - Opromolla – Bérend – Singh - Bonnal

This session will focus on the Remediation part of the SEM, dealing with ADR (Active Debris Removal), JCA (Just in time Collision Avoidance), LDTM (Large Debris Traffic Management) among solutions. It will address post-mission disposal and active removal techniques "ground and space based", review potential solutions and identify implementation difficulties.

A6.6: Post Mission Disposal and Space Debris Removal 2 - SEM: Grishko – Forshaw – Jankovic – Francillout

This session will focus on the Remediation part of the SEM, dealing with ADR (Active Debris Removal), JCA (Just in time Collision Avoidance), LDTM (Large Debris Traffic Management) among solutions. It will address post-mission disposal and active removal techniques "ground and space based", review potential solutions and Identify implementation difficulties.

A6.7: Operations in Space Debris Environment, Situational Awareness - SSA: Monham – Anilkumar – Zémoura - Bhatia

This session will address the multiple aspects associated to STM (Space Traffic Management) and SSA (Space Situational Awareness) including safe operations in space dealing with Space Debris, operational observations, orbit determination, catalogue build-up and maintenance, data aggregation from different sources, relevant data exchanges standards and conjunction analyses.

1.7. Space Debris Symposium for Antalya 2026

Evolutions of the text – Evolutions of the Chairs & Rapporteurs Based on Sydney 2025

A6.8 / E9.1 (joint with Space Security Committee): Policy, Legal, Institutional, Economic and Security Aspects of Debris Mitigation, Debris Remediation and STM:

Spencer – Plattard – Masson-Zwaan – Capurso – Samson – Kerr

This session will address all non-technical aspects of debris mitigation, debris remediation and STM. Papers may focus on aspects of responsibility, liability and registration, on the role of bodies such as UNCOPUOS or IADC, as well as on insurance, financial incentives and funding. In addition, security-related aspects and the role of international cooperation in addressing these issues may be considered

A6.9: Orbit Determination and Propagation - SST

Marzioli – McKnight – Siminski – Dolado-Perez

This session will address every aspect of orbit determination coming from the SST (Space Surveillance and Tracking), related to assessment of raw and derived data accuracy, optical measurements processing and modelling and risk analysis of space debris

A6.10 / E9.4 (joint with Space Security Committee): Space carrying capacity assessment and allocation

Colombo – Alary – Martinez – Rossi

This session covers the theoretical approaches, computational tools, and techniques to measure space environment thresholds and overall carrying capacity of space. It will discuss proxies for monitoring boundaries for the maximum capacity, such as space debris metrics. The application of these metrics to space debris evolution scenarios and their role in the definition of debris mitigation guidelines will be discussed. This session will also address the legal and policy implications, including relevance to regulation and licensing, the needed steps to enforce the implementation of capacity thresholds evaluation, and correlation with space debris mitigation measures. Finally, economic incentives or payments systems for ensuring sustainable space activities will be discussed.

A6.11 / B4.X (joint with Small Satellites Committee): Title to be defined

To be determined with Alex DaSilva

This session covers the theoretical

A6.IP: Interactive Presentations, Kerr – Zémoura – Marzioli – Opromolla – Jankovic – Bonnal

2. Exchanges

2.1. Past events: workshops, conferences, congresses, …
2.2. On the Agenda
2.3. General information
2.4. Round table – Open discussion

2. Exchanges

2.1. Past events: workshops, conferences, congresses, …

2. Exchanges

2.2. On the Agenda

- 11th EUCASS

International Academy of Astronautics

Agenda

3.1 SG 5.17 IAA Situation Report on Space Debris – Update

Study Group is cancelled by lack of convergence

Still, the interest for such a document is obvious,
So, if there is a volunteer interested in leading a new action in that sense, please tell me

3.2 SG 5.20 Establishing "Rules of the Road" for Satellite Collision Avoidance Maneuver Planning"

Ongoing

3.3 Any proposal for a new SG ? 😁