

MINUTES OF THE
SATELLITE DIVISION EXECUTIVE COMMITTEE MEETING
(September 20, 2020)

Subject to the approval of the ION Satellite Division Executive Committee, the following minutes are submitted. The Satellite Division Executive Committee Meeting was called to order on September 25, 2020 via Zoom at 6:00 p.m. CDT. Those present were:

VOTING MEMBERS:

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| Chris Hegarty | Chair |
| Patricia Doherty | Vice Chair |
| Jason Rife | Secretary |
| José-Ángel Ávila-Rodríguez | European Technical Advisor |
| Frank van Diggelen | Immediate Past Chair |
| Y. Jade Morton | ION President |

NON-VOTING PARTICIPANTS:

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| Sherman Lo | ION Meetings Chair |
| André Hauschild | ION GNSS+ 2020 & 2021 Program Co-chair (Research) |
| Di Qiu | ION GNSS+ 2020 & 2021 Program Co-chair (Commercial) |
| Jihye Park | ION GNSS+ 2020 Publications Co-chair |
| Sandy Kennedy | Incoming Satellite Division Vice Chair |
| Mohammed Khider | Incoming Satellite Division Secretary |
| Demoz Gebre-Egziabher | Incoming Satellite Division Treasurer |
| Jiyun Lee | Incoming Asian Technical Advisor |
| Stefan Schlueter | Incoming European Technical Advisor |
| Lisa Beaty | ION Executive Director |

AGENDA

1. Document Motions Approved by Email Since the Last Meeting
 - a. Approval of the September 2019 Minutes
 - b. Approval of Baltimore, MD as Location for ION GNSS+ 2024 and 2025
 - c. Approval Kepler and Parkinson Chairs
 - d. Recommendation to Transition ION GNSS+ 2020 to Virtual Platform

2. Outreach Activity Status
 - a. Funding Autonomous Snowplow Competition
 - b. Africa Program: P. Doherty

3. Lessons Learned 2020
 - a. ION National Office Review: L. Beaty
 - b. Technical Program, Research Tracks: A. Hauschild
 - c. Commercial and Policy Tracks: D. Qiu

- d. Peer Review Process: T. Moore, A. Kealy, J. Park
- 4. Appointment of ION GNSS+ 2021 Program Co-Chairs: C. Hegarty
- 5. Election Results Satellite Division Officers Serve September 2020-2022: F. van Diggelen

AGENDA

Document Motions Approved by Email Since the Last Meeting

Approval of the September 2019 Minutes:

Motion: Minutes from the September 20, 2019 meeting of the Satellite Division Executive Committee were approved by email vote. The motion passed by email vote in October 2019.

Approval of Baltimore, MD as Location for ION GNSS+ 2024 and 2025:

MOTION: The Satellite Division Executive Committee approves Baltimore, Maryland as the site location for ION GNSS+ 2024 and ION GNSS+ 2025, to be held September 16-20, 2024 and September 8-12, 2025 at the Hilton Baltimore Inner Harbor. The motion passed by email vote in December 2019.

Approval of Parkinson and Kepler Chairs:

Motion: The Satellite Division Executive Committee approves the following 2020 Awards Chairs: Dr. Todd Walter as Kepler Committee Chair and Dr. Jason Rife as the Parkinson Committee Chair. The motion passed by email vote in July 2020.

Subsequent to the above motion and per the awards policy and per the authority granted in the Satellite Division bylaws, Chris Hegarty, Satellite Division Chair, approved the following to serve on the Satellite Division Award Committees:

Kepler Awards Committee: Todd Walter (Chair)
Gary McGraw
Oliver Montenbruck
Pratap Misra

Parkinson Awards Committee: Jason Rife (Chair)
Anthea Coster
Pau Closas
Zhen Zhu

Recommendation to Transition ION GNSS+ 2020 to Virtual Platform:
See Attached File: [Beaty Virtual Meeting Charts 6-2-20 Sat Div Charts](#)

In light of current restrictions in place in the USA, the meeting's large international participation, and the likelihood the USA's borders would not be open to international travelers prior to ION GNSS+ in September, the ION Executive Committee recommended that ION GNSS+ transition to a fully virtual event in July.

- The plenary session and all panel sessions would be live streamed. Panel participants would interact in a webinar-type environment for the virtual audience to view. Questions would be posed and responded to virtually in real time.
- Presentations for all other sessions (non-panel sessions) would require authors to submit pre-recorded presentations to the ION's Abstract Management Portal. Instructions will be provided to authors (video of the speaker along with charts will be encouraged).
 - Presentations would be required by September 10. Failure to upload the recorded presentation by September 10 will result in the presentation being cancelled and the presentation slot being allocated to an alternate presenter. Cancelled presentations will not be included in the meeting's conference proceedings.
 - Recorded presentations may not exceed 20 minutes in length.
 - Authors will be required to log in to answer questions from attendees. Authors will receive a notification email when a question has been asked. The questions and answers will be viewable by all attendees for 30 days.
 - Authors are required to register and pay the conference registration fee.
- Beaty will contact ION GNSS+ tutorial instructors (Tuesday tutorials) to see if they would be able to provide/teach tutorials virtually (for the regular tutorial fee).
- Monday's short course program (masters courses) would be deferred to 2021.
- Kepler and Parkinson Awards will be selected. Method/time for awarding to be determined.
- ION GNSS+ 2020 exhibitors would be offered a free virtual exhibit if they agree to roll over their booth reservation and payment to 2021. Exhibitors requesting refunds will receive a full refund, but receive no virtual exhibit services for 2020 or advance reservation for 2021.
- CGSIC would be hosted Monday and Tuesday on ION's virtual platform if they so desire.
- ION GNSS+ 2020 registration page will be modified to a virtual-only registration option of \$499 per attendee. Beaty would adjust language for registration grants for first-time attendees.

- The IEEE/ION PLANS sessions that were to be hosted live in St. Louis at ION GNSS+ would not be hosted on the virtual platform.

In July 2020, the Satellite Division Executive Committee participated in a joint Satellite Division and ION GNSS+ motion and approved the following motion:

Motion: The Satellite Division concurs with the ION Executive Committee's recommendation that ION GNSS+, September 21-25, 2020, transition to a fully virtual event at this time. The motion passed by email vote in July 2020.

Outreach Activity Status

Lisa Beaty reported that the Satellite Division had provided \$5,000 sponsorship funding for the 2020 Snowplow Competition that had been fully assumed by Dunwoody College of Technology in January 2020. The competition continued to be supported with manpower from the ION's North Star Section. See Attached File: [ASC_Handout Jan 2020](#)

Beaty reported that the Autonomous Snowplow Competition organizers, in cooperation with the competition host and sponsor (Dunwoody College of Technology), had come to the mutual decision to host a virtual design competition in January 2021. The focus of the 2021 competition would be "Cooperation and Coordination" as the organizers would be asking student teams to design a solution that used two (or more) vehicles to plow the same snow field together.

The competition organizers had requested the Division make a financial contribution to student prize money. Beaty suggested a 50% contribution of the 2020 level, or \$2,500. There was a suggestion to increase the amount to \$3,000, though concern was expressed by other committee members that this was a time of austerity for ION and it was unsure the level of funding the Division would be able to provide in future years beyond 2021 given current revenue sources and other existing Division outreach programs.

Motion: The Satellite Division approves a donation of \$3,000 to the Autonomous Snowplow Competition, hosted and sponsored by Dunwoody Technical College. Motion made by Patricia Doherty, seconded by Chris Hegarty and passed by the Committee.

Patricia Doherty reported that the 2020 Africa Outreach program, originally scheduled for October 2020 in Morocco, had been postponed until 2021 due to COVID-19. Doherty requested the \$25K in funded that had been approved for funding for 2020 be rolled forward to 2021.

Motion: The Satellite Division approves \$25K in funding for the 2021 Africa Outreach Program (rolled forward from 2020). Motion made by Patricia Doherty, seconded by Frank van Diggelen and passed by the Committee.

Additionally, Doherty reported that the Africa Outreach Program had been asked to potentially host a program in Kenya and the local organizers had already obtained local governmental support. Doherty was currently trying to get the Kenya organizers to delay this program until 2022 as it would be difficult (both financially and programmatically) to support two programs in one year.

Lessons Learned 2020

Beaty started the discussion with an overview of initial/early statistics of ION GNSS+ 2020 virtual with the disclaimers that many of these statistics would change as the online meeting content was all in circulation the same amount of time etc. (For example, as of Friday afternoon, the most popular sessions and papers were on Wednesday but this content had been online three times longer than Friday's content etc.)

See Attached File: [SatDivCharts for 9-25-20](#)

André Hauschild, ION GNSS+ 2020 & 2021 Program Co-chair (Research Track), shared the following insights:

- Being able to watch the video presentations at the viewer's own pace was a positive aspect of the virtual meeting.
- Dr. Xiaochun Lu noted that virtual presentation was an excellent way for international authors to participate regardless of their ability to get a visa. She did report some webpage access lags, but Beaty reported she believed this was an issue from China as we did not have any other issues reported.
- Hauschild suggested that ION follow-up with attendees in a post-conference survey to determine what was and was not successful. Beaty reported that an attendee survey would be sent approximately two weeks following the meeting, reminding the group that attendees had access to online content for 30 days. Additionally, Beaty reported she planned to divide the surveys by paid attendees and first-time complimentary attendees so as to evaluate the survey results based on experience.

Di Qiu, ION GNSS+ 2020 & 2021 Program Co-chair (Commercial Track), shared the following insights:

- She noted the high quality of video presentations and the perception that the majority of authors were willing to deliver their best product with a virtual presentation.
- There was a lack of interaction between attendees and all were missing networking and collaboration.
- It was noted that the time zone in which the session was presented was believed to be directly related to the number of live viewers as morning live stream sessions were all more popular (still waking hours for Asia and Europe) and we would not have good session statistics until after we had all the view/on demand results for panel sessions.

There was some conversation as to why ION did not change the timing for the sessions. Beaty reported that had the meeting been initially scheduled as a virtual event she would have probably only streamed one live session per day and varied the time (streamed in the morning one day, mid-morning the next) to try to accommodate the greatest number of international participants possible. But because the meeting had already been scheduled, the decision was made to stick with the original schedule in order to avoid confusion for invited speakers and viewing participants.

Appointment of ION GNSS+ 2021 Program Co-Chairs: C. Hegarty

It was reported that Dr. Chris Hegarty, Satellite Division Chair, had invited the 2020 program committee to serve again in 2021 so that they would have the opportunity to have the on-site experience in St. Louis in 2021. The ION GNSS+ 2021 Program Co-chairs: Dr. Di Qiu to oversee the Commercial and Policy tracks, Dr. Andre Hauschild to oversee the Research Tracks and Dr. John Raquet shall oversee the tutorial program. Sandy Kennedy, Satellite Division Vice Chair, shall have primary responsibility for the plenary session and Dr. Chris Hegarty, Immediate Past Satellite Division Chair, shall lead the selection of the sponsored student program. Dr. Terry Moore, Dr. Allison Kealy and Dr. Jihye Park shall serve on the Peer Review Committee and supervise/referee the peer review process.

Election Results Satellite Division Officers Serve September 2020-2022: F. van Diggelen

Dr. Frank van Diggelen, Satellite Division Nominating Chair, reported the following Satellite Division election results:

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| Chair: | Patricia Doherty |
| Vice Chair: | Sandy Kennedy |
| Secretary: | Dr. Mohammed Khider |
| Treasurer: | Dr. Demoz Gebre-Egziabher |

The following will also serve an additional two-year term:

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| Immediate Past Chair: | Dr. Chris Hegarty |
| ION President: | Dr. Y. Jade Morton (through January 2021) |
| International Tech Rep #1: | Dr. Jiyun Lee |
| International Tech Rep #2: | Dr. Stefan Schlueter |

The meeting adjourned at 8:45 p.m.