

**MINUTES OF THE  
SATELLITE DIVISION EXECUTIVE COMMITTEE MEETING  
(September 29, 2017)**

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 29, 2017 at Jackrabbit Restaurant, Duniway Portland (A Hilton Hotel), Portland, Oregon at 6:30 p.m. Those present were:

Frank van Diggelen	Chair
Chris Hegarty	Vice Chair
Sandra Kennedy	Secretary/ION GNSS+ 2018 Program Co-chair (commercial)
Sanjeev Gunawardena	Treasurer
John Betz	Immediate Past Chair
Jiyun Lee	Pacific Technical Advisor
José-Ángel Ávila-Rodríguez	European Technical Advisor
John Raquet	ION President

**NON-VOTING PARTICIPANTS:**

Patricia Doherty	ION GNSS+ 2017 Tutorials Chair
Michael Veth	ION GNSS+ 2017 Program Co-chair (academic track)
Alex Stratton	ION GNSS+ 2017 Program Co-chair (commercial track)
Terry Moore	ION GNSS+ 2017 Publications Co-chair
Allison Kealy	ION GNSS+ 2017 Publications Co-chair
Jason Rife	ION GNSS+ 2018 Program Co-chair
Sherman Lo	ION Meetings Chair
Lisa Beaty	ION Executive Director

**AGENDA**

1. Record Approval of the January 2017 Minutes by Email: F. van Diggelen
2. Document Motions Approved by Email Since the Last Meeting
3. Outreach Activity Status, Autonomous Snowplow Competition: S. Sheikh
4. Outreach Activity Status, Africa Program: P. Doherty
5. Lessons Learned 2017 Tutorial Program & Recommendations for 2018: P. Doherty
6. Lessons Learned 2017 Technical Program & Recommendations for 2018
  - a. Research and Innovations Tracks: M. Veth
  - b. Applications and Advances Session: A. Stratton
  - c. Peer Review Process: T. Moore & A. Kealy
7. Approval of ION GNSS+ 2018 Program Co-Chairs: F. van Diggelen
8. Other/New Business

Record Approval of the January 2017 Minutes by Email

Motion: Minutes from the January 31, 2017 meeting of the Satellite Division Executive Committee were approved by email vote. (February 2017)

Document Motions Approved by Email since the Last Meeting

The following motion had been approved by email since the last Satellite Division Executive Committee meeting:

**ION GNSS+ 2020 and 2021 Site Location:**

Motion: The Satellite Division approved St. Louis, Missouri as the site location for ION GNSS+ in September 2020 and 2021; and authorized Lisa Beaty to execute all required facility, vendor, city and regulatory contracts and filing to accommodate ION GNSS+. (May 2017)

**Awards Chairs:**

Motion: Dr. Todd Walter was approved as the 2017 Kepler Award Chair and Dr. Gerard Lachapelle was approved as the 2017 Parkinson Award Chair. Subsequent to these approvals, the Satellite Division Chair approved the committees' membership. (July 2017)

Outreach Activity Status, Autonomous Snowplow Competition: S. Sheikh

It was reported that the 2017 Snowplow Competition was successful, and the committee kept to the budget allocated to them by the Satellite Division Executive Committee. Additionally, it was reported that the winners of the 2017 competition presented a technical paper on the winning snowplow at the ION GNSS+ meeting (session A5, paper #7).

The 2018 Snowplow Committee started work early on the 2018 competition and requested the Satellite Division Executive Committee approve funding for the January 2018 competition as follows:

Motion: The Satellite Division approves \$15,000 for the 2018 snowplow competition expenses; with an additional \$5,000 contingency fund for emergencies, loss of sponsors etc. for a maximum expenditure of no more than \$20,000 with the expectation that the additional \$5,000 should be for emergencies and unexpected loss of sponsorship only. It is agreed that of the \$15,000 allocated to competition expenses, \$12,000 will be committed to operations and \$3,000 will be reserved as an expense and travel stipend for a student(s) from the winning team to attend the ION GNSS+ September meeting and present a technical paper on the winning snowplow design. These funds shall be remitted to the winning school following their attendance at the conference to

reimburse the student's expenses. Motion made by Frank van Diggelen, seconded by Sanjeev Gunawardena and passed by the Satellite Division Executive Committee.

Outreach Activity Status, Africa Program: P. Doherty

Patricia Doherty was unable to be present but submitted the following report that was read into the minutes:

First, I would like to thank the ION for their support of the African Outreach Program and to the ION experts who have donated their time and shared their knowledge with the many participants in the program since 2009.

The program has been extremely successful with apparent development of a knowledgeable GNSS African workforce. Our measure of success is the significant rise in the number of papers published from Africa on space science using GNSS. Most of the authors have participated in one or more of our workshops. There are also success stories in Africa with new PhD graduates using GNSS in their research and in programs of study being developed on GNSS and its applications. One of the student paper winners from GNSS 2016+ was a student in one of our early workshops too. A most interesting development we have seen over the last couple of years is the strong increase in participation by women. In fact, 50% of our 2017 workshop participants were women. Another important development over the years is the apparent interest from the developing countries outside of Africa. For our 2017 event, we had over 200 applications for 40 places in the workshop. Although most of them were from African nations, we have seen a strong increase in applications from developing nations in Central America, South America, India and China. Thus, for the 2017 workshop we selected a few of people from other developing countries.

I think prime reasons for the success of the outreach program are the lecturers who generously share their time, their knowledge and their zeal for GNSS to teach at the workshop. Since the inception of the program, the Institute of Navigation has sponsored the cost of travel for a number of ION experts to participate in the workshop. Since each workshop has a specific focus, various ION experts are asked to support the workshop based on their background and availability. ION experts who supported workshops over the years include John Raquet, Todd Walter, Chris Hegarty, Frank Van Gras, Frank van Diggelen, Sam Pullen, Jade Morton, Mike Miller, Phil Ward, Pratap Misra, Dorota Brzezinska, Anthea Coster, Keith Groves, Endawoke Yizengaw, Susan Skone – and more. These experts were joined by a number of GNSS experts from Europe and Africa to carry out the full program. Together with the international participants, this group contributed to a successful international event supporting scientific exploration using GNSS and social understanding with long reaching benefits.

Due to the apparent success of the program, we are making plans to continue this worthy endeavor with a plan for three more workshops to be held in 2018, 2019 and 2020. Our next workshop is scheduled for April 23- May 4, 2018. It will be held, once

again, at the International Centre for Theoretical Physics in Trieste, Italy. This has been the venue for all but one of our workshops. In 2014, we hosted a workshop in Kigali, Rwanda. It was our hope to bring the 2018 workshop to Africa once again but the planning process was much longer than we anticipated. We will try to do this in the next three years.

At this time, I am requesting that the Satellite Division once again consider supporting this outreach program for the next three years. The cost will be less than \$25,000/year.

Finally, I want to thank the Satellite Division once again for their support of this outreach program. I also thank the many ION experts who have dedicated their time and knowledge in our workshops. This support has made an impact on the use of GNSS for research and for applications with societal benefits in Africa. It has also aided in the development of a knowledgeable African GNSS workforce.

Based on the report the following motion was made:

**Motion: The Satellite Division approves up to \$25,000 per year, for the next three years, for the Africa Outreach Program, to fund the reimbursement of ION member instructor travel expenses.** Motion made by Frank van Diggelen, seconded by John Betz and passed by the Satellite Division Executive Committee.

#### Lessons Learned 2017 Tutorial Program & Recommendations for 2018: P. Doherty

Beaty reported that attendance numbers from Monday afternoon's Masters Short Courses (counted 30 minutes after the start of each course, with the acknowledgement that students continued to add as the courses progressed):

GNSS 101 – An Introduction, Misra: 30  
 Fundamentals of GNSS Receiver Design, Gunawardena: 50  
 Precise Time and Time Interval (PTTI) Services from GPS and GNSS Systems, Powers: 22  
 Image Aided Navigation, Raquet: 44  
 Assisted GNSS (A-GNSS), Dr. Frank van Diggelen: 38  
 Resilient Position Navigation and Time, Enge: 60  
 A Practical Introduction to GNSS/INS Integration, Kennedy: 38  
 Nonlinear Estimation Techniques for Navigation Systems, Veth: 50

It was noted that overall attendance represented approximately twenty-percent of the conference participants traveled early to attend these courses. Based on the numbers the group agreed that as a first year effort this was a resounding success and one that should be continued next year.



The program generally was discussed. Lisa Beaty agreed to get session counts to Rife and Kennedy soon so they could begin working on the 2018 program and it was reported that they had already begun working on inviting track chairs.

There was discussion over the issue of having moved an abstract from an academic session (first choice) into a commercial session (second choice) where the author had requested peer review and whether or not peer review should be made available. Stratton explained when and why this had happened in 2017. Beaty pointed out these abstracts had only been moved when the commercial session was included in the submitters list of acceptable sessions and when the abstract had been moved it had exponentially increased that author's chance of acceptance. There was thought among the committee that authors were often confused about what sessions allowed for peer review and what sessions did not at the time abstracts were submitted. The opinion was expressed by some that the meeting should allow for peer-reviewed papers in all sessions, regardless of the track. The argument was made against this in that this would make it more difficult to preserve commercial presentation opportunities for commercial participants who did not want to write papers and commercial sessions had been designed for commercial participants who wanted to make presentations only. It was generally agreed that commercial sessions designed with presentations only added value to the conference and were important to maintain the relationship between the technical program and the exhibit program and should be maintained.

**Action: Modify AMP to create a warning message for authors who have requested peer review that displays when they select a session that does not offer peer review so that they understand that if their abstract is selected for that session peer review for their paper will not be made available.**

There was significant discussion over the peer review process. Terry Moore reported that the recommendation for next year was that they return to the 2016 methodology of having the peer reviews accomplished by the ION GNSS+ session chairs. Additionally it was agreed that:

- a) Each paper will be sent to two reviewers.
- b) The session co-chairs will be responsible for peer review in 2018 and should be notified of this at the time they are invited by track chairs. Session co-chairs are not required to accomplish the peer reviews personally (they can delegate it to others) but they are responsible for the quality of the review and to ensure the review is done on a timely basis.
- c) A paper may be passed with one "passed" review.
- d) A paper failing peer review by one reviewer will be required to be reviewed by a second reviewer.
- e) A paper will only go through the formal process once. A member of the Publications Committee will resolve any conflicts between pass/fail. A paper will not be re-reviewed after it has been revised. Authors may revise papers based on comments and suggestions made by reviewers before the final paper is submitted for publication in the proceedings; but only those papers that pass peer review the first time will be designated as peer reviewed in the proceedings.

- f) The Conference Program/Publications Committee and/or the National Office are authorized to make final decisions regarding the final designation of conference papers as peer reviewed in conference proceedings.

Action: Update AMP to include two boxes under the “Revisions Required Tab”; one box for “Grammar/English Edits” and one for “Technical Corrections/Edits Required”. The reviewer can check one or both boxes; the checking of either box will result in the paper failing the peer review for receiving a peer review designation in the proceedings.

There was a desire expressed by some to have presentation selection in academic sessions based on full paper review (similar to ITM and PLANS) instead of presentation slots as primary or alternate based at the time of abstract selection. Beaty expressed significant concern over this referencing the fact that for the past number of years we had been unable to accomplish all the peer reviews prior to the meeting, let alone six to eight weeks in advance of the meeting in time to produce the onsite program. Beaty reminded the group that we had tried this one year and 1) it had necessitated rolling back the schedule to accommodate with the abstract deadline into February, which had negatively impacted the overall abstract submission rate; and 2) when authors were notified they were assigned to an alternate slot they had cancelled only weeks before the meeting resulting in a disproportionate number of no-shows and short-term paper cancellations. After this, the decision had been made to determine the presentation schedule based on abstracts so that programs could be produced and visa/travel authorizations obtained with sufficient lead-time.

For 2018, Terry Moore and Allison Kealy have agreed to stay on for one more year, adding Jihye Park to the committee with the idea that she will participate in the process in 2018 and then replace Kealy in 2019 as the committee starts to rotate/transition leadership.

Approval of ION GNSS+ 2018 Program Co-Chairs: F. van Diggelen

Motion: The Satellite Division approves the following ION GNSS+ 2018 Program Co-chairs: Sandra Kennedy to oversee the Applications and Advances tracks, Dr. Jason Rife oversee the Research and Innovation tracks and Patricia Doherty shall oversee the tutorial program. Dr. Chris Hegarty, Satellite Division Vice Chair, shall have primary responsibility for the plenary session and Dr. John Betz, 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 Publication Committee and supervise/referee the peer review process. Motion made by Frank van Diggelen, seconded by John Raquet and passed by the Satellite Division Executive Committee.

#### Other/New Business

Gunawardena asked the Satellite Division officers if they would be willing to sponsor a free student registration program for ION GNSS+, similar to the Military Division’s Local Military Grant program. Beaty responded that the Division was certainly free to entertain any such program, but the Division currently funded several student programs including the Student

Awards Program, Autonomous Snowplow Competition and the Africa Outreach Program. Additionally student rates were made available at ION GNSS+. Additionally, it was noted that to make registration at ION GNSS+ free to students would result in the subsidy of these registrations by other attendees at a time exhibit revenue was declining and meeting services were currently being squeezed. It was the consensus not to pursue new student programs at this time.

The meeting adjourned at 9:50 p.m.