

**MINUTES OF THE  
SATELLITE DIVISION EXECUTIVE COMMITTEE MEETING  
(September 28, 2018)**

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 28, 2018 at Alloy Restaurant, Miami, Florida at 6:30 p.m. Those present were:

Frank van Diggelen	Chair
Sanjeev Gunawardena	Treasurer
José-Ángel Ávila-Rodríguez	European Technical Advisor
Y. Jade Morton	proxy for ION President John Raquet

**NON-VOTING PARTICIPANTS:**

Patricia Doherty	ION GNSS+ 2018 Tutorials Chair, incoming Vice Chair
Jason Rife	ION GNSS+ 2018 Program Co-chair, incoming Secretary
Terry Moore	ION GNSS+ 2018 Publications Co-chair
Allison Kealy	ION GNSS+ 2018 Publications Co-chair
Jihye Park	ION GNSS+ 2018 Publications Co-chair
Tim Murphy	incoming Treasurer
Lisa Beaty	ION Executive Director

**AGENDA**

1. Record Approval of the September 26, 2017 Minutes by Email: F. van Diggelen
2. Satellite Division Election Results: J. Betz
3. Document Motions Approved by Email Since the Last Meeting
4. Outreach Activity Status, Autonomous Snowplow Competition: S. Sheikh
5. Outreach Activity Status, Africa Program: P. Doherty
6. Lessons Learned 2018 Tutorial Program & Recommendations for 2019: P. Doherty
7. Lessons Learned 2018 Technical Program & Recommendations for 2019
  - a. Research Tracks: J. Rife
  - b. Commercial and Policy Tracks: S. Kennedy
  - c. Peer Review Process: T. Moore, A. Kealy, J. Park
8. Approval of ION GNSS+ 2019 Program Co-Chairs: F. van Diggelen
9. Other/New Business
  - a. Record Authorizes Signers Satellite Division Bank Account

**Record Approval of the Motions Made by Email**

Motion: Minutes from the September 26, 2017 meeting of the Satellite Division Executive Committee were approved by email vote. (October 2017)

Satellite Division Election Results: J. Betz

It was reported that the Satellite Division Nominating Committee, chaired by John Betz, Nominating Chair, had submitted the following nominations for Satellite Division Officers:

Chair:

- Dr. Chris Hegarty, The MITRE Corporation

Vice Chair:

- Ms. Patricia Doherty, Boston College
- Ms. Sandy Kennedy, NovAtel, Canada

Secretary:

- Dr. Zak Kassas, The University of California, Riverside
- Dr. Jason Rife, Tufts University

Treasurer:

- Mr. Tim Murphy, Boeing
- Dr. Alex Stratton, Rockwell Collins

Nominations were circulated to eligible membership in advance by email and in the *ION Newsletter*. Online voting was held in July/August and it was reported that the following were elected:

Chair: Dr. Chris Hegarty, The MITRE Corporation  
 Vice Chair: Ms. Patricia Doherty, Boston College  
 Secretary: Dr. Jason Rife, Tufts University  
 Treasurer: Mr. Tim Murphy, Boeing

Newly elected officers will take office on September 28, 2018 at the conclusion of the ION GNSS+ meeting and will serve for two years. Election results will be reported in the *ION Newsletter*.

Document Motions Approved by Email since the Last Meeting

The following motions have been approved by email since the last Satellite Division Executive Committee meeting and are recorded as follows:

**Increase Travel Subsidy Amounts for the ION GNSS+ Student Awards Program:**

Motion: The Satellite Division approve the following travel subsidy amounts for the ION GNSS+ Student Awards Program:

USA	\$ 1,800
Canada	\$ 1,800

Europe	\$ 2,200
China, Japan, Korea	\$ 2,500
Australia	\$ 2,800
Other	Qualify for special arrangements.

Motion approved by email vote October 2017.

#### **ION GNSS+ 2022 and 2023 Site Location:**

Motion: The Satellite Division approved Denver, Colorado as the site location for ION GNSS+ in September 2022 and 2023; and authorized Lisa Beaty to execute all required facility, vendor, city and regulatory contracts and filing to accommodate ION GNSS+. (June 2018)

#### **Awards Chairs:**

Motion: Dr. Terry More was approved as the 2018 Kepler Award Chair and Dr. Chris Bartone was approved as the 2018 Parkinson Award Chair. Subsequent to these approvals, the Satellite Division Chair approved the committees' memberships. (July 2018)

#### Outreach Activity Status, Autonomous Snowplow Competition: S. Sheikh

It was reported that the 2018 Snowplow Competition was successful. The committee had gone slightly into the excess budget allocated to them by the Satellite Division Executive Committee, spending \$18,275, but stayed under \$20K. Additionally, it was reported that the winners of the 2018 competition presented a technical paper on the winning snowplow at the ION GNSS+ meeting (session C1, paper #8).

Lisa Beaty reported that the 2019 Snowplow Committee had started work on the 2019 competition and requested the Satellite Division Executive Committee approve funding for the January 2019 competition at the same level as in prior years as follows:

Motion: The Satellite Division approves \$15,000 for the 2019 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.

Action: Beaty was directed to extend a complimentary one-year student membership to the student winning the snowplow competition who presents at ION GNSS+.

Outreach Activity Status, Africa Program: P. Doherty

See Attached File: Africa Outreach Report Doherty 9-28-18

Patricia Doherty reported that in September 2017 the Division had approved \$25,000 per year, for the next three years, for the reimbursement of instructor travel funding for the Africa program (\$25K per year each for 2018, 2019 and 2020).

Doherty reported that the tenth ICTP/Boston College Africa Workshop was held April 23-May 4, 2018 in Trieste, Italy at The Abdus Salam ICTP. It was reported that this past year, students were coming from more parts of the world, and they were now being funded by their organizations.

Doherty reported that she was also receiving The 2018 AGU Space Physics and Aeronomy Richard Carrington (SPARC) Education and Public Outreach Award – For Bringing GNSS Technology and Space Research to Developing Countries.

It was reported the next workshop would be May 27-31, 2019 in Trieste (only one week in 2019 due to an ISWI school held one week before). It was also reported that Doherty was currently working with Ms. Sharafar Gadimova, United Nations, to hold the 2020 workshop in April 2020 in Morocco.

Lessons Learned 2018 Tutorial Program & Recommendations for 2019: P. Doherty

Beaty reported that attendance numbers from Monday afternoon's Masters' Short Courses (counted 30 minutes after the start of each course and 30 minutes prior to conclusion):

GNSS 101 – An Introduction, Misra: 66  
 Using a Sextant, Hartnett: 47  
 Sensor Integration for Personal Navigation, Brzezinska: 58  
 GNSS 102 – Measurement from Phones – van Diggelen: 101  
 Resilient PNT – Scott: 62  
 Vision Navigation Using OpenCV – Raquet: 36

It was noted that overall attendance represented approximately 200 (20%) of the conference participants (20% in 2017). The group agreed that this should be continued next year.

Suggestions for 2019 Masters courses included:

- Galileo Second Generation (Ávila-Rodríguez)
- “What the Hell is BOC Anyway” (van Diggelen)
- Minotaur Search and Rescue (Murphy)

There was some discussion on survey questions regarding the masters' courses and the operation of onsite/immediate survey feedback vehicles.

It was reported that John Raquet would assume the position of the ION GNSS+ Tutorials Chair.

#### Lessons Learned 2018 Technical Program & Recommendations for 2019:

Jason Rife, ION GNSS+ Program Chair Research Track reviewed his tracks. He noted the following:

- The GNSS track got more abstracts than others, which resulted in an extra track of sessions on Wednesday.
- It was recommended for future years that when double sessions are created (part 1 and 2) it is highly recommended the original session chairs each be assigned to one session and new co-chairs be obtained to assist them so that no one has more than one session to chair/review. New session chairs can be from co-chair recommendations, ION Council Technical Representatives or recommendations from the National Office.
- It was noted that Mike Veth had pushed hard for an autonomy track the prior year. Rife sensed this was aspirational as this track ended up with integrity, but not lots of robotics or autonomy.
- It was suggested that machine learning be emphasized more, but there was discussion as to how to define this. It was suggested machine learning be added to individual session descriptions by topic instead of standing on its own.
- Frank van Diggelen noted that the chip manufacturer showcase was very good and it was recommended that this be repeated.

Terry Moore reported on the peer review process. It was reported that in 2018 it was only necessary to obtain one endorsement by one peer reviewer to have a paper received a peer reviewed designation. Moore reported that the committee wanted to increase the rigor of this process in order to ensure the technical credibility of the peer review designation, with the goal of increasing the quality of the technical content.

The following was agreed to for the peer review process for 2019:

1. Every eligible paper would require a minimum of two reviews.
2. To receive a peer reviewed designation, a paper must be passed by two reviewers.
3. A paper receiving one "pass" vote and one "fail" vote would be passed to the Publications/Peer Review Committee for a third review.
4. As in the past, authors would not be able to make revisions and have a paper re-reviewed.
5. The following questions would be adding to ION's Peer Review Form:
  - a. Did you conduct this review personally or delegate it to another?
  - b. If you performed the review yourself, please assess the level of expertise and experience of the reviewer (yourself or your delegate) to evaluate the manuscript. (Have a sliding scale or rating table available.)

6. The ION National Office shall provide a fillable PDF form of the review questions that session co-chairs can email to others completing the review on their behalf.
7. Add the instructions to the online Session Chair resources advising them that any questions or concerns they may have regarding peer review, or completing the peer review process, should be referred to the Publications/Peer Review Committee. Instructions should include a list of committee members and contact information.

It was agreed that Moore and Kealy would continue to serve for an additional year, with Park shadowing while the process is refined.

Lisa Beaty and Jason Rife reported on the actions taken for this past meeting concerning plagiarism, both of which resulted in the withdrawal of papers from the conference. It was agreed that the Publications Committee would review the issue and make a recommendation to the committee.

Action: The ION GNSS+ Publication Committee shall review the process/issues surrounding plagiarism and make any suggested revisions/recommendations.

#### Approval of ION GNSS+ 2019 Program Co-Chairs: F. van Diggelen

Motion: The Satellite Division approves the following ION GNSS+ 2019 Program Co-chairs: Tim Murphy to oversee the Commercial and Policy tracks, Dr. Heidi Kuusniemi to oversee the Research tracks and Dr. John Raquet shall oversee the tutorial program. Patricia Doherty, Satellite Division Vice Chair, shall have primary responsibility for the plenary session and Dr. Frank van Diggelen, Immediate Past Satellite Division Chair, shall lead the selection of the sponsored student program. Dr. Terry Moore 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 Jade Morton and passed by the Satellite Division Executive Committee.

#### Other/New Business

It was noted that a brief meeting had been held Thursday, September 27, to discuss new initiatives. During this time, Frank van Diggelen asked Lisa Beaty about the feasibility of posting all the photographs taken during ION GNSS+ to Google link for attendees to access. Lisa responded that this was in violation of Europe's General Data Protection Regulations (GDPR) and photographic images could not be posted or circulated if people could be identified. Lisa accepted the action to look into this further.

Action: In relation to General Data Protection Regulations (GDPR), Beaty to follow-up with legal counsel to determine if ION photographs taken at ION GNSS+ can reasonably:

1. be printed in meeting brochures without explicit written permission from the European attendee(s) using only ION's standard disclaimer?
2. be made available to attendees to download via a Google share drive that is accessible to registered attendees only?

3. If there are realistically any enforceable consequences to ION violating the GDPR.

The meeting adjourned at 9:50 p.m.