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## Media Release

Contact: ION National Office  
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**FOR IMMEDIATE RELEASE**  
9 A.M. EDT, SEPTEMBER 20,  
2016

# **DR. DOROTA GREJNER-BRZEZINSKA RECEIVES KEPLER AWARD**

**The Institute of Navigation presents Dr. Dorota Grejner-Brzezinska with prestigious Johannes Kepler Award at the ION GNSS+ 2016 Conference**

**Manassas, Virginia, September 20, 2016** – The Institute of Navigation’s (ION) Satellite Division presented Dr. Dorota Grejner-Brzezinska with its Johannes Kepler Award September 16, 2016 at the ION GNSS+ Conference (Portland, Oregon) for her outstanding contributions in advancing high-accuracy GNSS/INS integrated systems, educating future navigation leaders, and for strengthening the ties between satellite navigation and geodesy

Since the early 1990s, Dr. Grejner-Brzezinska has demonstrated sustained and significant contributions in advancing research in applications of GPS/GNSS and multi-sensor integrated systems. The widely known accumulated expertise in her field involved numerous graduate students, post-doctoral researchers and many national and international collaborators.

Early in her career, Dr. Grejner-Brzezinska developed a novel approach to computing high precision GPS orbits that demonstrated the unique capability of diurnal and semi-diurnal Earth Rotation Parameters estimation using GPS signals. This led to advanced development of NASA-sponsored new approach (P-KOD™) to precise orbit determination for Low Earth Orbiters.

In the mid-1990s, Dr. Grejner-Brzezinska and her team pioneered the development of the GPS/INS component of the first fully digital and directly georeferenced GPS/INS/CCD integrated airborne remote sensing system, AIMS™, sponsored by NASA, FDOT, Northrop Grumman, Lockheed Martin Fairchild and Trimble.

In early 2000, her research team delivered groundbreaking network-based RTK GPS software. The algorithms developed under this project, sponsored by NGS, were subsequently used to design the prototype of the NGS’s Online Positioning User Service - Rapid Static (OPUS-RS) module.

In mid-2000’s, Dr. Grejner-Brzezinska led the design and prototyping of the NGA-sponsored multi-sensor and artificial intelligence (AI) personal navigator for emergency crews and dismounted soldiers using human locomotion model for Dead Reckoning navigation. The originality of this contribution was in implementing an AI Knowledge Based System, using Artificial Neural Networks and Fuzzy Logic to



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model human locomotion that was enhanced by integrating unconventional indoor 3D image-based navigation technology. For this research, Dr. Grejner-Brzezinska and her team were awarded the 2005 USGIF Academic Research Award.

Her most recent significant contributions include the design and implementation of the Advanced Geolocation Technology supporting detection and classification of unexploded ordnance, sponsored by SERDP/ESTCP, and development of a novel approach of detecting clandestine nuclear explosions using ionospheric-like disturbance of GPS signals.

Dr. Grejner-Brzezinska facilitated the establishment of professional partnerships between ION and ISPRS, FIG, and IAG, drawing on her international research collaborations and recognized broad expertise. She organized numerous international joint symposia sessions, which lead to significant exchange of new research ideas and advancing the state-of-the-art in navigation science and related disciplines. Dr. Grejner-Brzezinska has contributed to educating and training numerous navigation science professionals and young leaders. She is the recipient of the USGIF - U.S. Geospatial Intelligence Foundation Academic Research Award (2005 and 2015), ION Thurlow Award (2005) and the Outstanding Achievement Award for "Pioneering contributions in developing and promoting mobile mapping technology," Mobile Mapping Technology International Symposia Series Committee (2015). She is an ION, Royal Institute of Navigation (RIN) and IAG Fellow. Dr. Grejner-Brzezinska has served in leadership roles in numerous organizations and is currently ION president.

The Johannes Kepler Award recognizes and honors an individual for sustained and significant contributions to the development of satellite navigation. It is the highest honor bestowed by the ION's Satellite Division.

### **About ION**

The Institute of Navigation is the world's premier professional society dedicated to the advancement of the art and science of positioning, navigation and timing. The Institute is a national organization whose membership spans worldwide. Additional information about the ION can be found at <http://www.ion.org>.

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