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## Ronald R. Hatch

*Ron Hatch passed away on September 25, 2019, while serving his fifth term as a member of the National Space-Based PNT Advisory Board.*

Ron Hatch was an expert in the use of GPS for precision farming, as well as other high precision applications. He became a private consultant after retiring from John Deere, where he was formerly the Director of Navigation Systems Engineering and a Principal and co-founder of NavCom Technology, Inc., a John Deere company. NavCom provides a commercially operated differential GPS augmentation service to the agriculture industry and other high accuracy users.



Throughout his more than 50 year career in satellite navigation systems with Johns Hopkins Applied Physics Laboratory and companies such as Boeing and Magnavox, Hatch was noted for his innovative algorithm design for Satellite Navigation Systems. He consulted for a number of companies and government agencies developing dual-frequency carrier-phase algorithms for landing aircraft, multipath mitigation techniques, carrier phase measurements for real time differential navigation at the centimeter level, algorithms and specifications for Local Area Augmentation System, high-performance GPS and communication receivers, and Kinematic DGPS. In addition to the Hatch-Filter Technique, Hatch obtained numerous patents and wrote many technical papers involving innovative techniques for navigation and surveying using the TRANSIT and GPS navigation satellites. He also authored "Escape From Einstein" and published multiple papers in which he challenged current relativity theory.

In 1994, Hatch received the Johannes Kepler Award from the Institute of Navigation (ION) for sustained and significant contributions to satellite navigation. In 2000 he received the Thomas L. Thurlow Award and was elected a Fellow of the ION. He also served the ION as both the Chair of the Satellite Division and as President.



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