

## Levallois Medal Citation for Ruth Edwards Neilan

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The Levallois Medal was established in 1979 to honour Jean-Jacques Levallois for his long service from 1960 to 1975 as General Secretary of the International Association of Geodesy (IAG). It is usually awarded at four year intervals on the occasions of the IAG General Assemblies and is presented "in recognition of distinguished service to the association and/or to the science of geodesy in general".

The past presidents of the IAG, forming a committee, recommended to award the Medal at the General Assembly in 2011 to Ruth Neilan, for her international service related to the geodetic and geophysical applications of the Global Positioning System (GPS). I have the honour to present the citation, unfortunately in absentia.

Proposals for permanent international GPS tracking networks floated around as early as the mid-nineteen eighties, but the vision of organizing such a service within the realm of the IAG was born in March 1990 at a small gathering at The Ohio State University (OSU). The participants were Gerald Mader, President of IAG's GPS subcommission, J. Bernard Minster, Chairman of the National Research Council Panel on International Network of Fiducial Stations, William G. Melbourne of Jet Propulsion Laboratory (JPL) - GPS Coordinator of the International Earth Rotation Service, and myself as host (the four "M"-s, as the group became to be known later).

It was fortunate that Bill Melbourne, at the time the JPL "mentor" of Ruth Neilan, had the additional vision, of great consequence later, to invite also Ruth to the meeting. As a result of this meeting a recommendation was submitted to the IAG that the next General Assembly in Vienna in August 1991 (almost exactly twenty years ago) develop specific plans for a service, which would promote GPS in the long term interests of the geodetic and geophysical communities. After many conferences and several years of test campaigns and pilot projects the International GPS Service – IGS (now Global Navigation Satellite System – GNSS) – became operational on January 1, 1994 and the rest is history!

As far as I know, the meeting at OSU in March 1990 was Ruth Neilan's first direct involvement in IAG affairs. Since then, and later as the Director of the IGS Central Bureau, she has become the strong thread that kept the Service together and functioning. I believe that she is one of the few persons, possibly the only one, who served the IGS from its conception and birth until this day.



*Handing-over of the IAG Levallois Medal to Ruth Neilan by the IAG Past President Gerhard Beutler*

This accomplishment, considering that IGS has some 200 participating organizations – mostly public, government, and university research groups – with upwards of 400 permanent ground stations and data and analysis centres in more than 80 countries, needs a person of special qualities. Dealing with government bureaucracies, funding agencies and the many times idiosyncratic egos of scientist, requires tenacity personal skills, wisdom, diplomacy and charm. Ruth is blessed with all!

Neilan is an engineer by education, but never wanted to be such. After realizing that her high school plans to major in Asian studies would probably not result in a fulfilling exciting life of travel with a decent paying job, she enrolled in an Associate Degree in Engineering Technology at Penn State University. Upon completion she worked for

a number of years as a land surveyor in Pennsylvania. After an extended trip around the world, she turned to the University of Wisconsin-Madison and completed a BSc and MSc in Civil and Environmental Engineering (rumour has it that, prior to Wisconsin, she considered OSU, but her impression (of me?) was not favourable). She minored in Asian studies and speaks Mandarin Chinese.

Ruth was employed by JPL in 1984. Since 1993 she has been the International GNSS Service - IGS Central Bureau Director. In addition to the IGS she has or had been involved in more organizations that even she must have difficulty keeping track of. Here are a few probably more than one wants to know:

- Defence Science Board
- IAG Executive Committee
- IAG Global Geodetic Observing System (GGOS)
- Institute of Navigation Council
- Interagency GPS Executive Board
- International Committee on GNSS (ICG)
- International Council of Science (ICSU), Committee on Information and Data
- United Nations Office of Outer Space Affairs
- U.S. Presidential Committee on Positioning, Navigation, and Timing
- World Climate Research program
- American Youth Soccer Organization
- Child Education Center, La Canada, CA

Ruth Neilan has been married to Chad Edwards – “her brilliant jazz pianist” – who as Chief Telecommunications Engineer for the JPL Mars Exploration Program, is figuring out how to talk to spacecraft at Mars and beyond. They have two children Kyle and Drew. Ruth loves soccer, cooking, walking, biking, reading, gardening, sending birthday messages, and still manages to keep her sanity!

I have the great pleasure and honour to present to my friend and former colleague Ruth Edwards Neilan the Levallois Medal in recognition of her distinguished service to the association, geodesy, geophysics, and to the public in general.