

Dave Wells: is

Professor Emeritus in the Department of Geodesy and Geomatics Engineering at the **University of New Brunswick**; **Affiliate-Researcher** in the Division of Marine Science at the **University of Southern Mississippi**; and affiliated with the Center for Coastal and Ocean Mapping at the **University of New Hampshire**.

Since 1999, at USM Dave annually teaches courses in Applied Bathymetry, Kinematic Positioning, and Applied Acoustics. In 2012 and 2013 he was asked by the USM Provost to address newly-hired USM faculty members on "Pedagogy for today's professor", and to lead several seminar series on "Scientific Teaching".

Honours & Appointments

2017	Inducted, <i>Hydrographer Hall of Fame</i> , The Hydrographic Society of America, Galveston
2013	Recipient, <i>Portuguese Navy Cross, 1st Class</i> from Navy Chief of Staff and Minister of Defense
2001-2003	Member, <i>Subject Matter Expert Team</i> , Oceanographer of the (US) Navy
2001	Recipient, US Navy <i>Superior Public Service Award</i>
1990-2005	Member, <i>International Board on Standards of Competence for Hydrographic Surveying and Nautical Cartography</i>
1988-1990	Member, <i>National Marine Council</i> of Canada
1986-1987	Canadian national delegate to <i>International Association of Geodesy</i>

Health System activities

2018-	Patient Collaborator on CIHR / NSERC / SSHRC grant application on applying Artificial Intelligence to diabetes self-management smartphone app.
2018	Participant in 12 healthcare workshops: MSSU annual workshop, 2018 National Nursing Data Standards Symposium, eHealth Canada 2018 Conference, Blockchain in Healthcare Canada, Diabetes Action Canada, Saskatchewan Centre for Patient Oriented Research, Canadian Medical Association Health Summit, Clinical Trials Ontario initiative on Patient Oriented Research, Driving the Future of Digital Health, <i>Zoomers On The Go</i> Advisory Committee, New Brunswick Health Research Foundation 2018 Conference, and Canada Health Infoway 2018 Partnership Conference.
2018-	Member, Ontario Chapter of <i>Healthcare Information and Management Systems Society</i> (HiMSS)
2013-	Patient advisor, <i>Maritime SPOR Support Unit</i> (SPOR = <i>Strategy for Patient Oriented Research</i>). http://www.spor-maritime-srap.ca/about
2012-	Member, <i>Patients for Patient Safety Canada</i> (PFPSC). Patient-led program of the Canadian Patient Safety Institute. PFPSC champions the patient's voice to advance safe healthcare http://www.patientsforpatientsafety.ca/English/Pages/default.aspx
2012-2015	Patient Representative, <i>Expert Advisory Panel of the Labelling and Packaging Project of the Institute for Safe Medication Practices Canada</i> . Members from USA, Australia, New Zealand, UK, Netherlands, Germany
2012-2015	Patient Representative, <i>Taming of the Queue</i> Conference Steering Committee. See http://www.cfhi-fcass.ca/NewsAndEvents/Events/Taming_of_the_Queue.aspx Presented experiences as <i>Patient input on providing appropriate care</i> see http://www.cfhi-fcass.ca/sf-docs/default-source/tq2014/tq2014-1-david-wells.pdf?sfvrsn=3b38c744_2
2012-2015	Patient Representative, <i>New Brunswick Primary Health Care Steering Committee</i> . Changed the delivery of primary health care in New Brunswick. Produced the Guidelines document for Family Medicine New Brunswick, announced June 22, 2017 http://www2.gnb.ca/content/gnb/en/news/news_release.2017.06.0899.html
2009-	Member <i>Digital Health Canada</i> (formerly <i>COACH: Canada's Health Information Association</i>)
2005-2011	Patient Representative & Chair , <i>New Brunswick Surgical Care Network Advisory Committee</i> . Introduced new procedures which reduced surgical wait times in New Brunswick by 50% to 70% http://surgerynewbrunswick.ca

Natural Sciences and Engineering Research Council of Canada Panels

1995-1998	Member, <i>Women's Faculty Award Selection Panel</i> , NSERC
1991	Chair, <i>Fisheries and Oceans Strategic Grant Selection Panel</i> , NSERC
1990-1993	Member, <i>International Fellowships Selection Panel</i> , NSERC
1989-1992	Member, <i>Fisheries and Oceans Strategic Grant Selection Panel</i> , NSERC
1984-1988	Member, <i>Advisory Committee on Engineering</i> , NSERC*

Employment

1999-	President, <i>HydroMetrica Limited</i> (organized 76 Multibeam Sonar courses since 1994)
1986-1998	President, <i>Canadian GPS Associates</i> , published <i>Guide to GPS Positioning</i> (sold 12,500 copies)
1985-1997	GPS short course instructor, <i>Navtech Seminars Inc</i> (taught 30 courses)
1980-1998	Associate Professor & Professor, University of New Brunswick

1965-1980 Scientific Officer & Research Scientist, Bedford Institute of Oceanography, Dartmouth, NS

Visiting Professorships

1997 Visiting Professor, **Technical University of Vienna** (occupying Christian Doppler's office)
1996-2001 Visiting Professor (summers), **Universiti Teknologi Malaysia**, Johore Bahru
1985 Visiting Professor, **Hannover University, Stuttgart University, Institut Teknologi Bandung**
1984 Visiting Professor, **Wuhan Technical University of Surveying & Mapping**, China

Education

1974 Doctor of Philosophy (Surveying Engineering), University of New Brunswick
1967 Registered Professional Engineer, Province of Nova Scotia (2007 became Life Member)
1966 Master of Applied Science (Engineering Physics), University of British Columbia
1963 Bachelor of Applied Science (Engineering Physics), University of British Columbia
1961 Bachelor of Science (Physics and Mathematics), Mount Allison University

Arctic adventures

1968: helped to demonstrate that northern Greenland is 10,000 km² larger than depicted on the best available maps of that day (resulting in undying gratitude from Danish friends).
1974-1975: participated in the Arctic Ice Dynamics Joint Experiment (AIDJEX), an attempt to model the interaction between wind stress and sea-ice movement north of Point Barrow Alaska.
1979: navigator for the three Lomonosov Ridge Experiment (LOREX) ice camps, drifting across the Lomonosov Ridge and approaching within 12 km of the North Pole. LOREX determined the ridge is continental in origin (not oceanic), with geopolitical implications regarding Canada's offshore territorial claims (specifically the "test of appurtenance" required under Article 76 of the Third United Nations Convention on the Law of the Sea).

Student supervision

Since 1980 Dave has supervised the research of 8 students who received PhD degrees, 4 from the University of New Brunswick, 3 from the University of Southern Mississippi, and 1 from the University of New Orleans. He has supervised the research of 36 students who received Master's degrees from the University of New Brunswick, and 1 from the University of New Hampshire. He has also supervised 15 students seeking higher degrees at Laval, Hannover, Delft, Stuttgart, Athens, and Teheran Universities, usually based on research conducted during 3 to 12 month stays at UNB. At USM he is on the examining committee for the course-only Master's degree in hydrography, from which 210 students have graduated between August 2000 and August 2018.

Collaborations

In 1982 Dave and three faculty colleagues founded the UNB *Geodetic Research Laboratory*, that continues today, with research linkages to many other universities across the world, most prominently the CalTech Jet Propulsion Lab, as well as several Canadian and US government agencies.

In 1988 Dave founded, with five faculty colleagues, the UNB *Ocean Mapping Group*, which evolved into the Chair in Ocean Mapping, attracting two new faculty members. Over the years, this Chair has been supported in large part by annual sponsorship fees from up to a dozen organizations around the world, and research ties to almost all other ocean mapping research groups. The OMG continues today under the leadership of Ian Church.

Since 1980 Dave co-authored publications with over 100 other researchers, from within his own universities, other universities, government agencies, and commercial companies, in Canada and in the USA. Many of these have been reports on joint research projects.

Publications

Since 1962, Dave published or presented 299 scientific and technical papers on a broad range of topics in geodesy, navigation, hydrography, and ocean mapping. A few of the most relevant are:

Hughes Clarke, Mayer, Wells (1996) *Shallow water imaging multibeam sonars: a new tool for investigating seafloor processes in the coastal zone and on the continental shelf*. **Marine Geophysical Researches**. 18, 607-629.

Du, Wells, Mayer (1996). *An approach to automatic detection of outliers in multibeam echo sounding data*. **The Hydrographic Journal**, No. 79, pp. 19-23. (won best paper of 1996)

Mayer, Hughes Clarke, Wells, and the HYGRO-92 team (1992) *A multi-faceted ground truthing experiment in the Bay of Fundy*. In NG Pace & DN Langhorne, eds., **Acoustic classification and mapping of the seabed**, Proceedings of the Institute of Acoustics, v15 Pt 2, 203-220, Bath University Press, Bath UK.

Ware, Slipp, Wong, Nickerson, Wells, Lee, Dodd, Costello (1992) *A system for cleaning high volume bathymetry*, **Intll Hydrographic Review**, 69(2) pp. 77-94. This became the basis for CARIS HIPS.

Wells, Mayer, Hughes Clark (1991) *Ocean mapping: from where? to what?* **CISM Journal** 45, 383-391

Ware, Knight, Wells (1991) *Memory intensive statistical algorithms for multibeam bathymetric data*. **Computers & Geosciences** 17, 985-993

Research Funding

While at the University of New Brunswick between 1980 and 2000, Dave was awarded 87 grants and contracts worth a total of \$4,715,651. Of these he was sole Principal Investigator for 42 (48%) of these awards, and for the remainder joined with 29 different co-investigators, mainly from UNB, but also from other universities, and industry. In addition, between 1988 and 1991 Dave worked with the Chair of the UNB Board of Governors to raise \$1,500,000 to fund the establishment of the Chair in Ocean Mapping.

IHR

Since 2011, with permission and cooperation from the International Hydrographic Bureau (now International Hydrographic Secretariat), Dave lobbied for, organized and personally funded establishment of a Digital Repository for the *International Hydrographic Review*. This involves digital capture of the full collection of the International Hydrographic Review, published since 1923, representing the continuous "corporate record" of international hydrographic methods and technological evolution. The collection is available as a no-charge digital journal, using the Open Journal System. The full set of issues from 1923 are now available at

<https://journals.lib.unb.ca/index.php/ihr/index>

My 20 Jobs

- 1 **Paperboy** – Montreal Gazette – delivered 60 papers before school each morning – 1951-1956
- 2 Bone china and crystal **sales clerk** – Birks store Calgary – summer 1955
- 3 **Construction worker** – hydroelectric power plant 3 miles east of Banff Alberta – summer 1956
- 4 **Officer Cadet** – Royal Canadian Air Force – boot camp St Jean QC – summer 1957
- 5 Officer Cadet – RCAF – **aeronautical engineering trainee** Aylmer ON – summer 1958
- 6 Officer – RCAF – **aircraft servicing officer** commanding 20 NCOs Summerside PEI – summer 1959
- 7 **Editor-in-chief** – Mount Allison Argosy Weekly student newspaper – 1959-1960
- 8 **Technical writer** – Alcan General Engineering Department Montreal – 1960
- 9 Construction cost **accountant** - Alcan General Engineering Department Montreal – 1961
- 10 Restroom **architect** – Crown Zellerbach paper mill Ocean Falls BC – summer 1962
- 11 Experimental physics **lab instructor** – University of British Columbia Vancouver – 1962-1963
- 12 Nuclear Physics **researcher** – Localized modes and the Mossbauer Effect MASc UBC – 1963-1965
- 13 Electronic design **engineer** – Bedford Institute of Oceanography Halifax NS – 1965-1966
- 14 Computer **system manager** – BIO PDP8 s/n 169 & 198 – 1966-1969
- 15 Arctic **geodesist** – Greenland August 1968, Point Barrow AK 1974-1976
- 16 Satellite geodesy **software developer** – BIO 1966-1970 & University of New Brunswick 1970-1975
- 17 Integrated navigation **system developer** – BIO 1975-1980
- 18 Part-time university **instructor** – UNB 1970-1975
- 19 North Pole **ice camp navigator** – Lomonosov Ridge Experiment March-April 1979
- 20 University **Professor** – UNB 1980-present (now Professor Emeritus), University of Southern Mississippi 1999-present

Dave turned 79 on 2018-06-29. He returned to downhill skiing in January 2014, after a 15-year absence. During 30 days skiing in Idaho over the past 4 years he has not fallen (seriously) once. 45 years ago, he was a Ski Patroller. Dave has 659 Fado songs on his iPhone. His favorite singer is Mariza.

2018-12-08