

TIMOTHY A. KEARNS

Chief Information Officer

Great Lakes Observing System
4840 South State Street
Ann Arbor, MI 48108, USA

Web: www.glos.org
Phone: 206-495-2242
Email: tim@glos.org

Education

2008 Certificate – Project Management, University of California (Riverside), CA
2000 Diploma – Adult Education, Nova Scotia Community College, Halifax, NS
1996 Advanced Diploma – Remote Sensing, College of Geographic Sciences, Lawrencetown, NS
1994 Bachelor of Arts (Honors) – University of Windsor, Windsor, ON

Professional Experience

2019 – pres. Chief Information Officer, Great Lakes Observing System, Ann Arbor, MI
2019 – pres. Founder, Map the Gaps, Seattle, WA
2018 – 2019 Chief Technology Officer, Numurus LLC, Seattle, WA
2016 – 2018 Executive Vice President (Robotics and Data Services), Ocean Aero, Inc., San Diego, CA
2015 – 2018 Executive Technology Consultant, Self-employed, Seattle, WA
2014 – 2015 Chief Executive Officer and President, ClipCard, Seattle, WA
2013 – 2014 Vice President (Services), One Ocean, Inc., Seattle, WA
2004 – 2013 Maritime Program Manager, ESRI, Redlands, CA
2000 – 2004 Senior Faculty (Remote Sensing), College of Geographic Sciences, Lawrencetown, NS
1997 – 2000 Hydrographer, Canadian Hydrographic Service, Halifax, NS

Selected Fellowships and Awards

2019 Grand Prize Winner, Shell Ocean Discovery XPRIZE Competition
2008 DARPA Urban Challenge participant
2006 DARPA Grand Challenge participant
1993 Gold Duke of Edinburgh's Award

Selected Publications

Pearson, B., Kearns, T., Slawewski, T., Stubbs, B., Herzog, M., Paige, K., Fitch, D. Making Lake Erie Smart by Driving Innovations in Technology and Networking, *Frontiers in Marine Science*, 06 December 2019

Vance, T., Wengren, M., Burger, E., Hernandez, D., Kearns, T., Merati, N., O'Brien, K., O'Neil, J., Potemra, J., Signell, R., Wilcox, K. From the Oceans to the Cloud: Opportunities and Challenges for data, models, computation and workflows, *Frontiers in Marine Science*, 21 May 2019

Wigley, R., Anderson, B., Bazhenova, E., Bohan, A., Elsaied, M., Falconer, R., Lacerda, C., Roperez, J., Rosedee, A., Sumiyoshi, M., Sattiabaruth, S., Dorshow, W., Kearns, T., Ketter, T., Ryzhov, I., Sade, H., Simpson, B., Timmouth, N., Wallace, C., Zarayskaya, Y. and Zwolak, K. GEBCO-Nippon Foundation Alumni Team: a success story for global collaboration. *Ocean Obs'19*. September 16th-20th, 2019 in Honolulu, Hawaii.

Zwolak, K. on behalf of GEBCO-NF Alumni Team. Straight from 4000 m depths of Mediterranean. GEBCO-NF Alumni in the Finals of Shell Ocean Discovery XPRIZE. *GEBCO Symposium: Map the Gaps, Canberra, Australia, November 14, 2018*

Wigley, R.A., Zarayskaya, Y., Bazhenova, E., Zwolak, K., Roperez, J., Sumiyoshi, M., Seeboruth, S., Ryzhov, I., Ketter, T., Abou-Mahmoud, M.M., Bohan, A., Fitzcarrald, A., Sade, H., Timmouth, N., Proctor, A., Dorshow, W.B., Kearns, T. and Simpson, B. GEBCO-NF Alumni Team technology development - Round 2 of the Shell Ocean Discovery XPRIZE. *AGU 2018 Fall Meeting, Washington D.C., December 10-14, 2018*.

- Wigley, R.A., Anderson, R., Bazhenova, E., Falconer, R.K.H., Kearns, T., et al. *GEBCO-NF Alumni Team's* entry for Shell Ocean Discovery XPRIZE. An innovative seafloor mapping system of an AUV integrated with the newly designed USV SEA-KIT. *AGU 2017 Fall Meeting*, New Orleans, USA, December 11-15, 2017.
- Zwolak, K., Simpson, B., Anderson, B., Bazhenova, E., Falconer, R., Kearns, T., et al. An unmanned seafloor mapping system: The concept of an AUV integrated with the newly designed USV SEA-KIT. *OCEANS 2017 - Aberdeen*, Aberdeen, United Kingdom, June 19-22, 2017.
- Kearns, T.A., 2013 (May), "Marine Spatial Data In the Cloud," *Sea Technology*, Vol. 54, No. 5, 17-22.
- Kearns, T.A., Brinton, L., Crandall, J.L., 2011, "Managing and Serving BAGs and BAGs of Data", Proceedings of the United States Hydrographic 2011 Conference, Tampa, Florida, USA.
- Lockhart, C., Gee, L., Kearns, T.A., 2011, "Mapping the Coastal Zone: Pulse to Products", Proceedings of the United States Hydrographic Conference, Tampa, Florida, USA.
- Kearns, T. A., Bremen, J., 2010, "Bathymetry - The Art and Science Of Seafloor Modeling For Modern Applications" *Ocean Globe*, Redlands, California: ESRI Press, 1–36.
- Kearns, T.A., 2009, "One Database, One Object, Many scales - Approaches to Eliminating Data Redundancy in a Centralized Production System", Proceedings of the International Federation of Hydrographic Societies Conference, Cape Town, South Africa.
- Powell, J., Ence, C., Wallace, T., Jett, A., O'Dell, K., Lewis, M., Arias, J., Kearns, T.A., 2009, "Using ArcGIS Nautical Solution to Produce Navigational Products," Proceedings of the United States Hydrographic Conference, Norfolk, Virginia.
- Kearns, T. A., MacDonald, L., 2008, "Lidar Bathymetry," *Laser Applications in Environmental Monitoring*, New York, New York: Nova Science Publications, Chapter 2.1.
- Kearns, T. A., 2006, "Remote Sensing, A to Z GIS: Illustrated Dictionary of Geographic Information Systems", Redlands, California: ESRI Press, 261–265.
- Kearns, T. A., 2005, "A Methodology for the Efficient Processing and Storage of Coastal Point Data," Proceedings of the IEEE Oceans 2005 Conference, Washington, D.C.
- Kearns, T. A., 2002 (October), "Remote Sensing and Multibeam Hydrography," *Sea Technology Magazine*, Vol. 43, No. 10, 21–25.
- Kearns, T. A., 2000, "The Emerging Science of Remote Sensing in Multibeam Hydrography," Proceedings of the Canadian Hydrographic Conference, Montreal, Canada.
- Lamplugh, M. J., T. A. Kearns, and A. C. Craft, 1999, "Applications of Multibeam Data," *Bio Science Review*, 96–97 (http://www.mar.dfo.mpo.gc.ca/science/review/1996/Lamplugh/Lamplugh_e.html).
- Kearns, T. A., 1999 (March), "Halifax Harbour Drained: An Integration of SAR, Elevation, and Bathymetry Data," *Hydro International*, Vol. 3, No. 2, 28–30.
- Kearns, T. A., 1998 (September–October), "Halifax Harbour Drained: An Integration of SAR, Elevation, and Bathymetry Data," *Oceans '98 Conference Proceedings*, Vol. 2, 788–793.

Synergistic Activities:

GEBCO: Coordinator of annual GEBCO Symposium on Bathymetry
 Member (Technical Subcommittee on Ocean Mapping)
 Co-Vice Chair (Subcommittee on Communications and Outreach)

Given hundreds of presentations at various virtual and in-person events globally to a wide range of audiences from young innovators to startups and enterprise organizations on technology, sea floor mapping, technology and GIS.