Michael L. Jankulak

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Education

- **Master of Science in Electrical and Computer Engineering** — **University of Miami**
  GPA: 4.00 (*Award of Academic Merit*) — *August 2012*
  - Thesis: Prediction of Rapid Intensity Changes in Tropical Cyclones Using Associative Classification
- **Bachelor of Science** — **University of Toronto**
  GPA: 3.63 (*Graduated with High Distinction*) — *June 1993*
  - Computer Science Specialist, English Minor

Experience

- **University of Miami / CIMAS / NOAA** — **Miami, FL**
  Sr. Research Associate — *June 2021 – present*
  - Employed by University of Miami's (UM) Cooperative Institute for Marine and Atmospheric Studies (CIMAS), at the National Oceanic and Atmospheric Administration's (NOAA) Atlantic Oceanographic and Meteorological Laboratory (AOML).
  - Responsibilities include: design and implementation of databases for oceanic sensor data and metadata as well as carbonate chemistry parameters from lab-analyzed water samples; sensor calibration, programming, deployment and inventory management; systems administration for public-facing web and email servers, including the Coral Health and Monitoring Program (CHAMP) web site (www.coral.noaa.gov); field operations support, including as Operator In Charge (OIC) in the NOAA Small Boats program and as a scientific diver under the auspices of the American Academy of Underwater Sciences (AAUS).
- **University of Miami / CIMAS / NOAA** — **Miami, FL**
  Systems Administrator — *October 2012 – May 2021*
  - Employed by UM/CIMAS, serving as the Divisional IT Representative of the Ocean Chemistry and Ecosystems Division (OCED) at NOAA/AOML.
  - Designed, acquired, installed, upgraded and supported OCED computer systems. Complied with NOAA IT's security scanning and patching requirements. Supported remote work (in particular during COVID-related telework) with laptop configuration, remote administration, and VPN training/troubleshooting. Supported field operations through sensor programming, small boat operations and scientific diving.
- **University of Miami / CIMAS / NOAA** — **Miami, FL**
  Research Associate — *October 2004 – May 2012*
  - Employed by UM/CIMAS, working at NOAA/AOML.
  - Developed ecosystem stimulus-response models using artificial intelligence tools. Managed data from the Integrated Coral Observing Network (ICON) program. Participated in the design and construction of ICON stations. Provided IT support for OCED scientists, and administered ICON servers.
- **Runner Technologies** — **Boca Raton, FL**
  Senior Software Developer — *October 2002 – October 2004*
  - Oracle database design and C++ software development for two products: an address verification utility, and an web application development suite, source code repository and PL/SQL code generator. Also responsible for product documentation, training sessions, and Linux and Solaris systems administration.
- **Motorola** — **Plantation, FL and Boynton Beach, FL**
  Programmer / Analyst — *January 2000 – April 2002*
  - Developed programs to support Electronic Data Interchange (EDI) transactions between Nextel and Motorola's iDEN business unit; application and database design for a web-based repository of executive search data. Employed by Tek Systems and Electronic Computer Systems, contracting with Motorola.

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Publications (Peer-Reviewed)

- Manzello, D.P., M.V. Matz, I.C. Enochs, L. Valentino, R.D. Carlton, G. Kolodziej, X. Serrano, E.K. Towle, and M. Jankulak. Role of host genetics and heat-tolerant algal symbionts in sustaining populations of the endangered coral *Orbicella faveolata* in the Florida Keys with ocean warming. *Global Change Biology*, 25(3):1016–1031, doi:10.1111/gcb.14545 2019.
- Obura, D.O., G. Aeby, N. Amornthammarong, W. Appeltans, N. Bax, J. Bishop, R.E. Brainard, S. Chan, P. Fletcher, T.A.C. Gordon, L. Gramer, M. Gudka, J. Halas, J. Hendee, G. Hodgson, D. Huang, M. Jankulak, A. Jones, T. Kimura, J. Levy, P. Miloslavich, L. Ming Chou, F.E. Muller-Karger, K. Osuka, M. Samoilys, S.D. Simpson, K. Tun, and S. Wongbusarakum. Coral reef monitoring, reef assessment technologies, and ecosystem-based management. *Frontiers in Marine Science*, 6:580, doi:10.3389/fmars.2019.00580 2019.
- Enochs, I.C., D.P. Manzello, P.J. Jones, C. Aguilar, K. Cohen, L. Valentino, S. Schopmeyer, G. Kolodziej, M. Jankulak, and D. Lirman. The influence of diel carbonate chemistry fluctuations on the calcification rate of *Acropora cervicornis* under present day and future acidification conditions. *Journal of Experimental Marine Biology and Ecology*, 506:15–143, doi:10.1016/j.jembe.2018.06.007 2018.
- Hendee, J.C., J. Halas, P.J. Fletcher, M. Jankulak, and L.J. Gramer. Expansion of the Coral Reef Early Warning System (CREWS) network throughout the Caribbean. *Proceedings, 13th International Coral Reef Symposium*, June 19–24, 2016, Honolulu, HI. International Society for Reef Studies, 517–522, 2016.
- Hendee, J., L.J. Gramer, S.F. Heron, M. Jankulak, N. Amornthammarong, M. Shoemaker, T. Burgess, J. Fajans, S. Bainbridge, and W. Skirving. Wireless architectures for coral reef environmental monitoring. *Proceedings, 12th International Coral Reef Symposium*, D. Yellowlees and T.P. Hughes (eds.), Cairns, Australia, July 9–13, 2012. ARC Centre of Excellence for Coral Reef Studies, James Cook University, 5 pp., 2012.
- Hendee, J.C., L.J. Gramer, D. Manzello, and M. Jankulak. Ecological forecasting for coral reef ecosystems. *Proceedings, 11th International Coral Reef Symposium*, Ft. Lauderdale, FL, July 7–11, 2008. International Society for Reef Studies, 534-538, 2009.
- Jankulak, M., J.C. Hendee, and M. Shoemaker. The instrumental architecture of a Coral Reef Early Warning System (CREWS) station. *Proceedings, 11th International Coral Reef Symposium*, Ft. Lauderdale, FL, July 7–11, 2008. International Society for Reef Studies, 544–548, 2009.
- Manzello, D.P. M. Warner, E. Stabenau, J. Hendee, M. Lesser, and M. Jankulak. Remote monitoring of chlorophyll fluorescence in two reef corals during the 2005 bleaching event at Lee Stocking Island, Bahamas. *Coral Reefs*, 28(1):209–214, doi:10.1007/s00338-008-0455-7 2009.
- Hendee, J.C., L. Gramer, D.P. Manzello, and M. Jankulak. Integrating near real-time data for coral reef ecological forecasting. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 59:525–528, 2008.
- Hendee, J.C., L. Gramer, J.A. Kleypas, D.P. Manzello, M. Jankulak, and C. Langdon. The Integrated Coral Observing Network (ICON): Sensor solutions for sensitive sites. *Proceedings, Third International Conference on Intelligent Sensors*, Sensor Networks, and Information Processing, Melbourne, Australia, December 3–6, 2007. Institute of Electrical and Electronics Engineers (IEEE), 669–673, doi:10.1109/ISSNIP.2007.4496923 2008.
- Clement, C.M., M. Jankulak, and N.R. Simon. An RR Lyrae period shift in terms of the Fourier parameter Φ_{31}. *The Astrophysical Journal*, 395:192–201, 1992.

Publications (Other)

- Stamates, S.J., J.R. Bishop, T.P. Carsey, J.F. Craynock, M.L. Jankulak, C.A. Lauter, and M.M. Shoemaker. The Port Everglades flow measurement system. NOAA Technical Report, OAR-AOML-42, 22 pp., 2013.

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Awards and Certifications

- "CIMAS Bronze Medal Award [...] in recognition of successfully deploying the first MAP-CO_2 buoy in a southern hemisphere coral reef to monitor ocean acidification," October 2021.
- "CIMAS Cash-in-a-Flash Award [...] for your outstanding paper: Role of host genetics and heat-tolerant algal symbionts in sustaining populations of the endangered coral *Orbicella faveolata* in the Florida Keys with ocean warming, as well as for your participation in multiple field research missions during the pandemic," March 2021.
- Diving First Aid for Professional Divers, Diver's Alert Network (DAN) training, May 2021.
- "Certificate of Appreciation: Michael Jankulak: For successfully deploying the first MAP-CO_2 buoy in a Southern Hemisphere coral reef to monitor ocean acidification," December 2020.
- American Academy of Underwater Sciences (AAUS) Scientific Diver (100ft) Certification, University of Miami, RSMAS, September 2019; AAUS Nitrox authorization, June 2018; AAUS Dive Computer authorization, February 2015; original AAUS (30ft) authorization, May 2009.
- Professional Association of Diving Instructors (PADI) Enriched Air Diver certification, April 2018.
- "Certificate of Appreciation: Michael Jankulak: For your extremely thorough analysis of two non-functioning Coral Reef Early Warning System buoys in Belize, which has provided for new design architecture considerations for future deployment of buoys throughout the Caribbean," December 2016.
- "Certificate of Appreciation: Michael Jankulak: In recognition of your initiative beyond the call of duty that has led to enhanced performance of the ICON/CREWS network and increased the overall field capacity of the ICON/CREWS team at AOML," June 2011.
- "Certificate of Merit: Michael Jankulak: In recognition of your efforts to help implement a unique oceanographic and meteorological monitoring network in coral reef areas under goals established by NOAA and the U.S. Coral Reef Task Force," August 2010.
- U.S. Coast Guard Auxiliary Boating Skills and Seamanship Course, and Florida Boating Safety Education ID Card, February 2007.
- Professional Association of Diving Instructors (PADI) Open Water Diver certification, December 2006.
- "The Atlantic Oceanographic and Meteorological Laboratory recognizes Michael Jankulak for contributions leading to the United States Department of Commerce Bronze Medal Awarded to the Coral Reef Early Warning System (CREWS) Team," March 2006.
- Global Information Assurance Certification (GIAC) Security Essentials Certification (GSEC), sponsored by the SysAdmin, Audit, Network, Security (SANS) Institute, December 2005.

Professional Memberships

- National Organization of Gay and Lesbian Scientists and Technical Professionals (NOGLSTP).

Core Technical Skills

Systems: UNIX, RedHat/CentOS/Rocky Linux, Sun Solaris, FreeBSD, macOS, Windows
Languages: R/Shiny, Perl, Java, JavaScript, C, C++, Fortran, UNIX Shell Scripts, LaTeX
Databases: MariaDB/MySQL, Oracle, PL/SQL, SQLPlus, JDBC
Web: Apache, Tomcat, HTML, XML, CSS

Demographics

Citizenship: U.S. Citizen
Selective Service: Not registered, but with an approved exemption.