

Amy L. Kukulya

Senior Oceanographic Engineering Technician II - Applied Ocean Physics and Engineering Department
Woods Hole Oceanographic Institution, Woods Hole, MA 02543-1549
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Education:

B.S.: Rutgers University, 1999, Environmental Policy.

Research Interests:

Underwater vehicle system architecture for docking, navigation, communications, underwater archaeology, three-dimensional tracking of animals and under-ice capabilities; Development of science applications for underwater vehicles; Professional outreach communicator/speaker.

Professional Experience:

Woods Hole Oceanographic Institution, Woods Hole, MA (June 2001-present)
Research Assistant II, Biology Department (2001 June, transferred to AOP&E in 2003 June)
Research Assistant III, AOP&E (November 2004-February 2006)
Engineering Assistant III, AOP&E (February 2006-July 2008)
Senior Engineering Assistant I, AOP&E (August 2008-April 2015)
Senior Engineering Assistant II (Principal Investigator and Expedition Leader), AOP&E (April 2015-)

Professional Activities:

- Woman's Committee elected member, Webmaster, September 2007 (two year)
- Retirement Task Force- Member, May 2009-June 2010
- Wowster Mentor and Outreach Professional, Appointed by MA Governor's Office, 2012- ongoing

Professional Affiliations:

ASLO, American Society for Limnology and Oceanography, 2004-2006
IEEE Ocean Engineering Society, 2006 -current

Supervision at WHOI:

Summer Student Fellow, Jennifer Batryn, 2012
Thomas Rough, Summer Intern, 2015
Peter Abdu, 2015, 2016

Cruise/Field Work Participation:

Over 75 expeditions to date

Publications:

J. D. Holmes, W. M. Carey, J. F. Lynch, A. E. Newhall and **A. Kukulya**, "An Autonomous Underwater Vehicle Towed Array for Ocean Acoustic Measurements and Inversions", ASA Vancouver, 2005.

R. Stokey, A. Roup, C. von Alt, B. Allen, N. Forrester, T. Austin, R. Goldsborough, M. Purcell, F. Jaffre, G. Packard, **A. Kukulya**, "Development of the REMUS 600 Autonomous Underwater Vehicle", Oceans 2005.

***Kukulya, A.**, et. al, "Recent Science Applications for the REMUS AUV", Presented ASLO 2004, Hawaii.

B. Allen, T. Austin, N. Forrester, R. Goldsborough, **A. Kukulya**, G. Packard, M. Purcell and R. Stokey, "Autonomous Docking Demonstrations with Enhanced REMUS Technology", September 2006. Presented at Oceans 2006, Boston.

J. D. Holmes, **A. Kukulya**, "Characteristics of an autonomous underwater vehicle with a towed hydrophone array", September 2006. Presented at Oceans 2006, Boston.

***A. Kukulya**, A. Plueddemann, et. al, "Under-ice Operations with a REMUS-100 AUV in the Arctic," *Proceedings: IEEE Autonomous Underwater Vehicle Conference 2010*, Mapping the World's Oceans, Naval Postgraduate School, Monterey, California 1–3 September 2010. *Presented

S. L Walker, C. E J de Ronde, D. J Fornari, M. I Leybourne, V. Ferrini, **A. Kukulya**, et. al. "Hydrothermal Venting at Lake Rotomahana, New Zealand, 125 Years After the Tarawera Eruption of 1886," AGU SESSION: EP19. Post-Eruptive Processes Operating on Volcanic Landscapes.

C. E. J. de Ronde, D. Fornari, V. L Ferrini, **A. L. Kukulya**, et. al. "Rediscovery of the 8th Natural Wonder of the World: The Pink and White Terraces' survival of the 1886 Tarawera Rift eruption," AGU 2011 SESSION: EP19: Post-Eruptive Processes Operating on Volcanic Landscapes.

G.E. Packard, **A. L. Kukulya**, et. al. "Continuous Autonomous Tracking and Imaging of White Sharks and Basking Sharks Using a REMUS-100 AUV". Presented IEEE MTS Oceans, San Diego October 2013.

A. Kukulya, et. al *3D Real-time Tracking, Following and Imaging of White Sharks with an Autonomous Underwater Vehicle*– IEEE Proceedings (2015)

Kukulya, A.L., et al., 'Development of a Propeller Driven Long Range Autonomous Underwater Vehicle (LRAUV) for Under-Ice Mapping of Oil Spills and Environmental Hazards, IEEE Proceedings (Nov. 2016), Presented AUV 2016, Tokyo, Japan.

Kukulya, Amy L., et al., *Multi-Vehicle Autonomous Tracking and Filming of White Sharks Carcharodon carcharias*, IEEE Proceedings (Nov. 2016), Presented AUV 2016, Tokyo, Japan.

Papers In Referred Journals:

Plueddemann, **A. Kukulya**, R. Stokey, L. Freitag, "Autonomous Underwater Vehicle Operations Beneath Coastal Sea Ice," TMECH-04-2011-1580, (Peer-Reviewed 2011).

L. A. Stevens¹, F. Straneo², S. B. Das³, A. J. Plueddemann², **A. L. Kukulya**⁴, and M. Morlighem⁵ "Linking catchment-scale subglacial discharge to subsurface glacially modified waters near the front of a marine terminating outlet glacier using an autonomous underwater vehicle " Journal The Cryosphere (TC) 2015

G. Skomal, M. Hoyos-Paudilla, **A. Kukulya**, R. Stokey -*Subsurface observations of white shark predatory behavior using an underwater vehicle*, Journal of Fish Biology 2015

C.E.J. de Ronde, **A. L. Kukulya**, et. al, "The Pink and White Terraces of Lake Rotomahana: What was their fate after the 1886 Tarawera Rift eruption?" Journal of Volcanology and Geothermal Research, VOLGEO-05753; No of Pages 16 (2016)

Participation in Documentaries/Science Programming/Publications and Media coverage:

- 2002, *Plankton* radio interview, NPR

- 2009 October, National Geographic Adventure Magazine, The Big, Record-Breaking, Green, Disease-Busting, Deep-Sea, Crime-Fighting IDEAS for 2009
- 2010, Design Squad, PBS- Featured
- 2010, WHOI Oceanus Video, *The Icebot: flying blind under the Arctic Ice*
- 2012, WHOI Oceanus Feature Article: *In Search of the Pink and White Terraces*
- 2013, WHOI Oceanus Video, *The Ocean's Hidden Predators: Revealed*
- 2013, WHOI Oceanus Feature Article: *Swimming with Sharks*
- 2013 Documentary, *Return of Jaws*, Discovery Channel
- 2014 Documentary, *Jaws Strikes Back*, Discovery Channel
- 2015 Documentary, *Shark Trek*, Discovery Channel
- 2015, Featured Oceanus Video: TurtleCam
- 2016, NPR interview *Living Lab on the Point*, Conservation of Turtles with TurtleCam
- 2016 Documentary, *Jaws of the Deep*, Discovery Channel
- Featured on Discovery. com: <http://www.discovery.com/tv-shows/shark-week/videos/women-at-the-forefront-of-shark-science-amy-kukulya/>
- 2016 WHOI Oceanus Video and Article: *To Track a Sea Turtle*
- Engineer Girl Featured engineer: <http://www.engineergirl.org/Engineers/Directory/2984.aspx>
- My research has also been featured in the Boston Globe, Wall Street Journal, PBS, Cape Cod Times, Science Daily, Phys.org, Forbes.com, IFLS.com

Licenses and Certifications:

- United States Coast Guard Captains License- 50 Ton, Current
- Advanced First Aid
- CPR
- PADI Open Water SCUBA certification
- UCLA Technical Management Program Certification