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**Recent Professional and Academic Positions**

- 2020-present Adjunct Professor, Nelson Mandela African Institution of Science and Technology, College of Computational and Communication Science and Engineering, Arusha, Tanzania
- 2018-present Staff Associate, African Center of Excellence in Internet of Things, University of Rwanda, Kigali, Rwanda
- 2018-present Fulbright Specialist Roster, (Completed Project: Sound from video, UTAR, Kuala Lumpur, Malaysia, May-Jun 2019)
- 2014-present Professor, Rochester Institute of Technology
- 2018-present College of Science Leader Faculty for Study Abroad and International Education, RIT
- 2016-2017 Paul and Francena Miller Chair in International Education, RIT

**Education**

- 1990 Ph. D., Environmental Engineering, Cornell University, Ithaca, NY  
*Advisor:* William D. Philpot. *Dissertation title:* Laser-Induced Fluorescence of Dissolved Organic Matter for Remote Sensing of Hydrogen Ion and Aluminum in Freshwater.
- 1985 M. S., Environmental Engineering, Cornell University, Ithaca, NY.
- 1981 B. S., Chemistry, University of Wisconsin-Madison. Madison, WI.

**Awards, Affiliations, and Service**

*Associate Editor:* Journal of Great Lakes Research

*Member:*

- American Geophysical Union
- International Association for Great Lakes Research
- IEEE (Senior Member), Geoscience and Remote Sensing Society

*Workshop Organization:*

- 2019 – “Drone systems for Multi-Sensor Deployment,” Kigali, Rwanda, November 2019 (Funded by IEEE Geoscience and Remote Sensing Society)
- 2018 – “Critical Assessment of Drone Imaging for IoT: Signals, Sensors, and Systems,” Kigali, Rwanda, November 2018 (Funded by IEEE Geoscience and Remote Sensing Society)
- 2010 – “Tropical Rift Lake Systems: Integrated Volcanologic, Tectonic, and Biogeochemical, and Geohazard Assessment of Lake Kivu,” Gisenyi, Rwanda, January 2010 (Funded by NSF OISE)

**Current and Past Graduate Advisees, Institution, and Topic**

Fidele Maniraguha, University of Rwanda, current Ph.D. Monitoring insect pests with Doppler radar.

Christine Musanase, University of Rwanda, current Ph.D. Agricultural soils Internet of Things system.

Peace Bamugire, University of Rwanda, current Ph.D. Internet of Things for controlling rice irrigation.

Rosmaelle Kuoemo, AIMS Rwanda, M.Sc. essay, Atmospheric compensation of Landsat using 6S code.

Aimable Ishimwe Manzi, AMMI Rwanda, M.Sc. essay, Classification of rainforest audio data.

### Ten Selected Refereed Journal Articles (*Underline indicates postdoc, grad or undergrad advisee*)

- Bamurigire, P., A. Vodacek, A. Valko, S.R. Ngoga. 2020. Simulation of Internet of Things Water Management for Efficient Rice Irrigation in Rwanda. *Agriculture*, 10, 431. doi:10.3390/agriculture10100431
- Ford, R.T. and A. Vodacek. 2020. Determining Improvements in Landsat Spectral Sampling for Inland Water Quality Monitoring. *Science of Remote Sensing*. 1:100005. doi: 10.1016/j.srs.2020.100005
- Spivey, A. J., and A. Vodacek. 2018. Multiscale Fourier Landscape Pattern Indices for Landscape Ecology. *Journal of Landscape Ecology*. 11:5-30.
- Palumbo, I., R. Rose, R. Headley, J. Nackoney, A. Vodacek, and M. Wegmann. 2017. Building Capacity in Remote Sensing for Conservation: Present and Future Challenges. *Remote Sensing in Ecology and Conservation*. 3:21-29. doi:10.1002/rse2.31
- Basnet, B., and A. Vodacek. 2015. Tracking Land Use/Land Cover Dynamics in Cloud Prone Areas Using Moderate Resolution Satellite data: A Case Study in Central Africa. *Remote Sensing*. 7:6683-6709. doi:10.3390/rs70606683
- Rose, R., D. Byler, J.J. Eastman, E. Fleishman, G. Geller, S. Goetz, L. Guild, H. Hamilton, M. Hansen, R. Headley, J. Hewson, N. Horning, B. Kaplin, N. Laporte, A. Leidner, P. Leimgruber, J. Morissette, J. Musinsky, L. Pintea, A. Prados, V. Radeloff, M. Rowen, S. Saatchi, S. Schill, K. Tabor, W. Turner, A. Vodacek, J. Vogelmann, M. Wegmann, D. Wilkie, and C. Wilson. 2015. The top 10 conservation questions that can be addressed through remote sensing technologies. *Conservation Biology*. 29:350-359. doi:10.1111/cobi.12397
- Tomaszewski, B., A. Vodacek, R. Parody, and N. Holt. 2015. Spatial Thinking Ability Assessment in Rwandan Secondary Schools: Baseline Results, *Journal of Geography*. 114:39- 48. doi:10.1080/00221341.2014.918165.
- Vodacek, A., R.L. Kremens, A.J. Fordham, S.C. VanGorden, D. Luisi, J.R. Schott, and D.J. Latham. 2002. Remote optical detection of biomass burning using a potassium emission signature. *Int. J. Remote Sens.* 23:2721-2726. doi: 10.1080/01431160110109633.
- Vodacek, A., M.D. DeGrandpre, E.T. Peltzer, R.K. Nelson, and N.V. Blough. 1997. Seasonal variation of CDOM and DOC in the Middle Atlantic Bight: Terrestrial inputs and photooxidation. *Limnol. Oceanogr.* 42:674-686.
- Vodacek, A., and W.D. Philpot. 1987. Environmental effects on laser-induced fluorescence spectra of natural waters. *Rem. Sens. Environ.* 21:83-95.

### Ten other Selected Publications (*Underline indicates postdoc or grad or undergrad advisee*)

- Mulhollan, Z. A. Rangnekar, A. Vodacek, M.J. Hoffman. 2020. Occlusion Detection for Dynamic Adaptation, Dynamic Data Driven Application Systems. *DDDAS 2020, Lecture Notes in Computer Science*, Vol. 12312, Springer, pp. 337-344.
- Ford, R.T., and A. Vodacek. 2019. Glint Correction of Unmanned Aerial System Imagery. 2019 IEEE Systems and Technologies for Remote Sensing Applications Through Unmanned Aerial Systems (STRATUS) 25-27 February 2019. doi:10.1109/STRATUS.2019.8713171
- Tomaszewski, B.T., A. Vodacek, G. Rwanyiziri. 2018. Innovation for Education, Spatial Thinking and GeoICT: A Rwandan Case Study. *IEEE Global Humanitarian Technology Conference (GHTC)*, San Jose, CA, USA. pp. 1-8. doi:10.1109/GHTC.2018.8601758
- Uwanyirigira, D. and A. Vodacek. 2016. Assessment of the Rwanda Rural Road Network Development using Pan-sharpened Landsat 8 data. *African Association of Remote Sensing of the Environment (AARSE) 2016*, Kampala, Uganda.
- Tomaszewski, B., Maurice Mupenzi, J., Vodacek, A., Vodacek, K., and Holt, N. 2015. Spatial Thinking for Educational Innovation: The Rwandan Iwacu Project. *ICTD '15*. doi: 10.1145/2737856.2737872

- Basnet, B., and A. Vodacek. 2014. Monitoring the Dynamics of Land Cover in the Lake Kivu Region Using Multi-temporal Landsat Imagery. Proceedings of 2014 IEEE International Geoscience & Remote Sensing Symposium, July 14-18, Quebec, Canada. doi:10.1109/IGARSS.2014.6947427
- Vodacek, A., J.P. Kerekes, and M.J. Hoffman. 2012. Adaptive Optical Sensing in an Object Tracking DDDAS, International Conference on Computational Science, Procedia Computer Science, 9, pp. 1159-1166. doi: 10.1016/j.procs.2012.04.125
- Arnold, G., B. Carlock, M. Harris, A. Romney, J. Zollweg, A. Vodacek, B. Tomaszewski. 2012. GIS Modeling of Social Vulnerability in Burkina Faso, ArcUser. 15(1): 20-23.
- Ononye, A.E., A. Vodacek, and E. Saber. 2005. Extraction of active fire line and active fire map using AVIRIS imagery. EastFIRE Conference, George Mason University, May 2005. CD-ROM.
- Ononye, A., A. Vodacek, Y. Li, and Z. Wang. 2005. Mapping of active fire area by image gradient technique using multi-spectral imagery. In: Remote Sensing for Field Users. Proc. 10th Biennial USDA Forest Service Remote Sensing Applications Conference. Salt Lake City, UT. CD-ROM, ISBN 1-57083-075-4, ASPRS

### **Selected Conference and Seminar Presentations (\* indicates invited)**

- Vodacek, A., P. Vandame, T. Snyder, M. Andrianarisoa, A. Andriatiavina, K. Stack-Whitney, and D. Razafindriabe. Multi-Modal Sensing of Biodiversity in a Tropical Forest: Acoustic Soundscape and Lidar Structure, Online seminar for the Center of Excellence in Biodiversity and Natural Resource Management (CoEB) at University of Rwanda-College of Science and Technology, Jul 2020.
- \*Vodacek, A. Application of Drones in Agriculture and Environmental Monitoring. International Scientific Conference, University of Kibungo, Rwanda. Jul 2017.
- \*Vodacek, A. Remote Sensing Technologies and Approaches in Biodiversity Conservation and Natural Resource Management. University of Rwanda Scientific Conference, Rwanda. Jun 2017.
- Vodacek, Anthony, D. Uwanyirigira, and R. Hecky. Monitoring Lake Kivu whittings with remote sensing, Lake Kivu Monitoring Program, 3rd International workshop on Monitoring and Development of Lake Kivu Gas Resources. Kigali, Rwanda. May 2017.
- \*Vodacek A. Innovative Methods for Agricultural Data Collection: A Remote Sensing Tutorial. Development Impact Evaluation Workshop (DIME, The World Bank): Innovations for Agriculture, Kigali, Rwanda. Jun 2014.
- Vodacek, A., R. Hecky, C. Ebinger, C. Scholz. Dynamics of the Lake Kivu System: Geological, Biological and Hydrographic Impacts on Biodiversity and Human Wellbeing. Summary Workshop of the MacArthur Foundation Project. Kigali, Rwanda. Jul 2013.
- \*Vodacek, A., C. Ebinger, and R. Hecky. Research plans in the Lake Kivu system arising from the 2010 workshop: Establishing environmental and geohazard baselines for change in the dynamic Lake Kivu System. International Workshop on the Monitoring and Development of Lake Kivu Gas Resources, Gisenyi, Rwanda, Feb 2011