

YURI RZHANOV

Professional Preparation

Novosibirsk State University, Physics BSc, 1975
Novosibirsk, Russia
Novosibirsk State University, Semiconductor physics MSc, 1978
Novosibirsk, Russia
Thesis title: *Experimental and numerical modeling of Hall Effect in semiconductor thin films*

Russian Acad. of Sciences Semiconductor modeling PhD, 1983
Moscow, Russia
Thesis title: *Nonlinear phenomena in solid state semiconductors*

Appointments

2012-Present Research Professor, Center for Coastal and Ocean Mapping and NOAA-UNH Joint Hydrographic Center (CCOM/JHC), University of New Hampshire (UNH).

2003-2012 Associate Research Professor, CCOM/JHC, University of New Hampshire.

2000-2003 Senior Research Scientist, CCOM/JHC, University of New Hampshire.

1992-2000 Research Associate, Department of Physics and Computing and Electrical Engineering, Heriot-Watt University, Edinburgh, Scotland.

1991-1992 Fellowship from the Royal Society of London, Department of Physics, Heriot-Watt University, Edinburgh, Scotland.

1980-1991 Scientist, then Senior Scientist, Institute of Radio Engineering and Electronics, Academy of Sciences of the USSR, Moscow, Russia.

1978-1980 Researcher, Institute of Semiconductor Physics, Siberian Branch of the Academy of Sciences of the USSR, Novosibirsk, Russia.

Products

1. Development of the method for seabottom characterization using lidar data. (Eren, F., Pe'eri, S., Rzhhanov, Y., and Ward, L. Bottom characterization by using airborne lidar bathymetry (ALB) waveform features obtained from bottom return residual analysis. *Remote Sensing of Environment*, V.206, pp. 260-274, 2018. <https://www.sciencedirect.com/science/article/pii/S003442571730620X#>).
2. Provisional patent (Rzhhanov, Y. Methods and systems of determining quantum efficiency of a camera. Filed by the UNH in 2017)
3. Development of the technique for a UUV control with an optical detector array. (Eren, F., Pe'eri, S., Thein, M.-W., Rzhhanov, Y., Celikkol, B., and Swift, M.R. Position, orientation and velocity detection of unmanned underwater vehicles using an optical detector array. *Sensors*, V.17, doi:10.3390/s17081741, 2017. <http://www.mdpi.com/1424-8220/17/8/1741/pdf>)
4. Analysis of errors in 3D measurements underwater. (Kozlov, I., and Rzhhanov, Y. Uncertainty in 3D reconstruction of underwater objects due to refraction. *IEEE/MTS Oceans'17*, Anchorage. <http://ccom.unh.edu/sites/default/files/publications/Rzhhanov-3DUncertainty.pdf>)
5. Design and development of the instrument for underwater acquisition of spectral signatures *in situ*. (Rzhhanov, Y., Pe'eri, and S., Šaškov, A. Probabilistic reconstruction of color for species' classification underwater. *IEEE/MTS Oceans '15*, Genoa, Italy, 2015. <http://ccom.unh.edu/sites/default/files/publications/Oceans15-UNH-CCOM-Abstract.pdf>)

6. Development and testing of flexible patch-matching technique for construction of dense point clouds from underwater imagery. (Rzhanov, Y., Hu, H., and Boyen, T. Dense reconstruction of underwater scenes from monocular sequences of images, IEEE/MTS Oceans'14, Taipei, Taiwan, 2014. <http://ccom.unh.edu/sites/default/files/publications/Rzhanov-DenseReconstruction.pdf>)
7. Development of palette-based approach for semi-automatic classification of marine habitats using large-scale underwater mosaics. (Šaškov, A., Dahlgren, T, Rzhanov, Y., Schläppy, M.-L. Comparison of manual and semi-automatic underwater imagery analyses for monitoring of benthic hard-bottom organisms at offshore renewable energy installations. *Hydrobiologia*, V.756, N.1, pp 139-153, 2015. http://www.researchgate.net/publication/278741908_Comparison_of_manual_and_semi-automatic_underwater_imagery_analyses_for_monitoring_of_benthic_hard-bottom_organisms_at_offshore_renewable_energy_installations)
8. Investigation of co-registration of aerial hyper-spectral and conventional image modalities. (Y. Rzhanov and Pe'eri, S., Pushbroom-frame imagery co-registration: USACE's CHARTS, *Marine Geodesy*, vol. 35. pp. 141-157, 2012. <http://www.tandfonline.com/doi/full/10.1080/01490419.2011.634964>)
9. Development of the technique and software for automatic classification of acoustic backscatter seafloor maps. (Rzhanov, Y., Fonseca, L., and Mayer, L. A., Construction of seafloor thematic maps from multibeam acoustic backscatter angular response data. *Computers and Geosciences Journal*. Elsevier, Cambridge, MA, USA, 2011. <http://www.sciencedirect.com/science/article/pii/S0098300411003001>)

Synergistic Activities

1. Development of software for teaching of engineering students. (Close, A.M., Rzhanov, Y. Teaching time and frequency domain concepts. IEEE Colloquium on Computer based learning in electronic education, London, UK, 1995.)
2. Development of software for construction of large-scale photo-mosaics from underwater imagery. (Y. Rzhanov, Mayer, L. A., and Fornari, D., Deep-sea image processing, IEEE/MTS Oceans'04, Kobe, Japan, pp. 647-652, 2004. http://www.researchgate.net/publication/4129865_Deep-sea_image_processing)
3. Served as a reviewer for *IEEE Journal of Oceanic Engineering*, *Ocean Engineering Journal*, *Journal of Geosciences*, *The International Journal of Robotic Research*, *Journal of Coastal Research*, *Computers and Geosciences*, *Marine Geodesy*, *Marine Technology Society Journal* and *Marine Geophysical Research*. Served as a reviewer for the following funding agencies and programs: *National Science Foundation (NSF)*, *Major Research Instrumentation (MRI-R²)*, and *Strategic Environmental Research and Development Program (SERDP)*. On the editorial board of *International Journal of Marine Science and Ocean Technology*.