Tali Treibitz

Curriculum Vitae

Personal Details

Name:	Tali Treibitz
Address:	School of Marine Sciences
	University of Haifa, Haifa 3498838, Israel
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Website:	http://vision.ucsd.edu/~tali/

Research Interests

Imaging, Underwater Sensing, Computer Vision, Computational Photography, Oceanic Engineering

Academic Degrees

2004 to 2010   Ph.D. in Electrical Engineering (Technion, Israel).

1998 to 2001   B.A. in Computer Science summa cum laude (Technion, Israel).

Awards and Honors

- University National Oceanographic Laboratory System (UNOLS) Chief Scientist Early-Career Training Cruise, fully funded fellowship for the 7-day cruise and pre-cruise training (2013).

- European Conference for Computer Vision 2012 Outstanding Reviewer Award.

- Awardee of the Weizmann Institute of Science – National Postdoctoral Award Program for Advancing Women in Science, 2010.

- Ollendorf Fellow, 2009.

- Google Europe Anita Borg Scholarship Recipient, 2009.

- Google Europe Anita Borg Scholarship Finalist, 2008.

- HP Fellow, 2008.

- Technion Excellence Program, Fellow, 1998-2001.
  (1.7% of Technion students, monthly stipend and exemption from tuition)

- Excellence Awards from the President of the Technion, 4 times, 1998-2000.

- Technion CS Faculty Excellence Award for overall achievements, 2000.

Academic Appointments

2014 to Present	Senior Lecturer, Marine Technologies Dept., School of Marine Sciences, U. of Haifa
2011 to 2013	Post Doctoral Researcher, Marine Physical Lab, Scripps Inst. of Oceanography, San Diego
2010 to 2013	Post Doctoral Researcher, Computer Science and Engineering Dept., UCSD
2007	Intern, Deep Submergence Laboratory, Woods Hole Oceanographic Institution.
2004 to 2009	Teaching Assistant, Department of Electrical Engineering, Technion.
2006 to 2009	Undergraduate Project Supervisor, Department of Electrical Engineering, Technion.
2001	Teaching assistant, Department of Computer Science, Technion.

Co-Advised Graduate Students

2012 to present	Mr. Zachary Murez, towards MSc.
2012	Mr. Srdjan Krstic, MSc. project "Distance from Defocus".

Teaching Experience

2004 to 2009   Teaching Assistant, Dept. of Electrical Engineering, Technion, in the following courses:
- Biological Signals and Systems
- Visual and Auditory Systems
- Image Processing
- Imaging Systems for Computer Vision
- Analysis and recognition in Images and Video

2006 to 2009   Undergraduate Project Supervisor, Dept. of Electrical Engineering, Technion.
List of projects:
- Automatic Red-Eye Removal, Signal and Image Processing Lab
- Underwater Computer Vision Camera, Computer Graphics and Multimedia Lab (CGM)
- A New Algorithm for Unsupervised Global and Local Color Correction, CGM
- Bad Visibility Image Enhancement Using Visual Servo, Vision and Image Science Lab (VISL)
- Cleaning Marine Snow in Underwater Videos, VISL
- Detection and Classification of Lesions in Leaves, VISL
- Image Enhancement in Scattering Media Based on the Human Visual System, VISL
- Fast Separation of Direct and Global Illumination, VISL
- Backscatter Removal from Single Underwater Images, VISL

2001   Teaching Assistant, Dept. of Computer Science, Technion, in the course
- Introduction to Computer Science

Other Professional Experience

2003 to Present	Active PADI diving instructor.
2003 to 2004	Software Engineer (part time), IBM Haifa Research Center, Israel.
	⋆ Developed software in Java, CSharp for a bio-informatics software.
2001 to 2002	Software Engineer, Charlotte's Web Networks, Israel.
	⋆ Developed software in an embedded environment, in C/C++.
	⋆ Developed a novel algorithm finding rule conflicts in the network processor.
1995 to 1998	Officer, IDF.
	⋆ Conducted and organized training courses.

Research Deployments

- University National Oceanographic Laboratory System (UNOLS) Chief Scientist Early-Career Training Cruise, fully funded fellowship for the 7-day cruise and pre-cruise training (October 2013).

- Gump South Pacific Research Station, Moorea, French Polynesia, April 2011 & April 2012

- Smithsonian Tropical Research Institute, Bocas Del Toro, Panama, September 2011

- Waitt Foundation Research Boat, Totoya Reef, Fiji, June 2011

Press Coverage

2013, University National Oceanographic Laboratory System (UNOLS) Chief Scientist Early-Career Training Cruise Blog, http://csw.unols.org/2013/10/we-have-diatoms/

2013, Scripps Ocean Explorations article,
http://explorations.ucsd.edu/research-highlights/2013/five-new-instruments-keeping-oceanography-fun

2013, GreenWire article, http://www.eenews.net/greenwire/stories/1059986651/

2012, American Museum of Natural History Science Bulletin
http://www.amnh.org/explore/science-bulletins/(watch)/bio/snapshots/underwater-microscope-zooms-in-on-tiny-marine-life

2012, Cover image, International Coral Reef Symposium (ICRS 2012)
http://www.icrs2012.com/NewsCoral2012/21st-Announcement.htm

2011, National Geographic News Watch
http://newswatch.nationalgeographic.com/tag/tali-treibitz-and-greg-mitchell.

2009, Technion newspaper, "Seeing Clearly,"
http://vision.ucsd.edu/~tali/webfiles/EE_story_2007.pdf.

Public Professional Activities

• Web and Publicity Chair, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.

• **Reviewer for:** J. of Oceanographic Engineering; Applied Optics; IEEE Transactions on Pattern Analysis and Machine Intelligence; IEEE International Conferences on Computer Vision (ICCV); IEEE Conference on Computer Vision and Pattern Recognition (CVPR); European Conference on Computer Vision (ECCV); J. of Visual Communication and Image Representation; ACM SIGGRAPH conference on Computer Graphics Asia.
⋆ ECCV 2012 **Outstanding Reviewer Award**.

• Marine Technology Society, member.

• Oceans'13 MTS/IEEE San Diego "Imaging and Vision" Session Chair.

Extra-curricular Activities

2006-2009	A representative of the EE department in the Graduate Students Organization.
2008-2009	A representative of the EE department in the Teaching Staff Organization.
2003 to Present	Active PADI diving instructor.

Peer Reviewed Publications

⋆ The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), International Conference for Computer Vision (ICCV), and European Conference for Computer Vision (ECCV) are major competitive computer vision conferences, in which full-length papers undergo a rigorous double-blind review process (the authors and reviewers are anonymous throughout the review process). Acceptance is typically tougher than in journals. Acceptance rate was 28% in CVPR'06, 4% for orals in CVPR'08 and CVPR'09 and 22% in ICCV'11 and ECCV'12.

1. T. Treibitz, B. P. Neal, D. I. Kline, O. Beijbom, P. L. D. Roberts, B. G. Mitchell, D. Kriegman, *"Wide Field-of-View Fluorescence Imaging of Coral Reefs,"* in submission, 2013.

2. B. P. Neal, T. H. Lin, R. N. Winter, T. Treibitz, O. Beijbom, D. Kriegman, B. G. Mitchell, D. I. Kline, *"Improved Estimation of Two-Dimensional Area of Coral Colonies from Underwater Photographs,"* in review, Coral Reefs, 2013.

3. D. Akkaynak, T. Treibitz, B. Xiao, U. A. Gurkan, J. J. Allen, U. Demirci, and R. T. Hanlon *"Use of commercial off-the-shelf (COTS) digital cameras for scientific data acquisition and scene-specific color calibration,"* , J. Optical Society of America A, Vol. 31, Issue 2, pp. 312-321, 2014.

4. T. Treibitz, Z. Murez, B. G. Mitchell, D. Kriegman, *"Shape from Fluorescence,"* European Conference for Computer Vision (ECCV) 2012.

5. T. Treibitz, Y. Y. Schechner, *"Turbid Scene Enhancement Using Multi-Directional Illumination Fusion,"* IEEE Trans. on Image Processing, Vol. 21, Issue 11, pp. 4662-4667, 2012.

6. T. Treibitz, Y. Y. Schechner, *"Resolution Loss Without Imaging Blur,"* J. Optical Society of America A, Vol. 29, Issue 8, pp. 1516-1528, 2012.

7. F. Schroff*, T. Treibitz*, S. Belongie, D. Kriegman, *"Pose, Illumination and Expression Invariant Pairwise Face-Similarity Measure via Doppelganger List Comparison,"* IEEE International Conference on Computer Vision (ICCV) 2011. *Equal contribution.

8. T. Treibitz, Y. Y. Schechner, C. Kuntz, H. Singh, *"Flat Refractive Geometry,"* IEEE Trans. on Pattern Analysis and Machine Intelligence, vol. 34, Issue 1, pp. 51-65, 2012.

9. T. Treibitz, Y. Y. Schechner, *"Polarization- Beneficial for Visibility Enhancement?,"* oral in IEEE Computer Vision and Pattern Recognition (CVPR) 2009.

10. T. Treibitz, Y. Y. Schechner, *"Active Polarization Descattering,"* IEEE Trans. on Pattern Analysis and Machine Intelligence, vol. 31, Issue 3, pages 385-399, 2009.

11. T. Treibitz, Y. Y. Schechner, *"Recovery Limits in Pointwise Degradation,"* oral in IEEE International Conference on Computational Photography 2009.

12. T. Treibitz, Y. Y. Schechner, H. Singh, *"Flat Refractive Geometry,"* oral in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2008.

13. T. Treibitz, Y. Y. Schechner, *"Instant 3Descatter,"* IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2006.

Thesis

T. Treibitz, Advisor: Dr. Y. Y. Schechner, *"Geometry and Photometry of Imaging Through a Medium,"* Ph.D thesis in Electrical Engineering, Technion (2010).

Book Chapters

T. Treibitz, *"Descattering,"* to appear in the Encyclopedia of Computer Vision, Ed. Katsushi Ikeuchi, Springer 2013.

Patents

T. Treibitz, Y. Y. Schechner, *"Imaging system and methods for recovering object visibility,"* US patent 8350957, granted 2013.

Other Conference Papers

1. T. Treibitz, B. P. Neal, D. I. Kline, O. Beijbom, P. L. D. Roberts, B. G. Mitchell, D. Kriegman, *"Wide Field-of-View Daytime Fluorescence Imaging of Coral Reefs,"* Marine Technological Society / IEEE Oceans, 2013.

2. T. Treibitz, B. P. Neal, O. Beijbom, D. Kriegman, S. Belongie, D. I. Kline, B. G. Mitchell, *"Underwater Color as a Source of Scientific Data for Coral Communities"*, American Society of Limnology and Oceanography Aquatic Sciences Meeting, 2011.

3. T. Treibitz, B. P. Neal, P. Roberts, D. I. Kline, O. Beijbom, S. Belongie, B. G. Mitchell, J. Jaffe, D. Kriegman, *"Wide Field of View Full Spectrum Fluorescence Imaging for Coral Ecology"*, International Coral Reef Symposium, 2012.