<u>Shahriar Negahdaripour (Professor of ECE)</u>

Education: Ph.D. (Feb'87), S.M. (Jun'80), S.B. (Jun'79); MIT, Cambridge, MA.

Appointments:
- Univ. of Miami– Prof. Electrical & Computer Engineering (Jun'99-Pres); Assoc. Professor Electrical & Computer Engineering (Aug'91-Jun'99)
- NATO CMRE (La Spezia, Italy) – Visiting Research Scientist, Summer'13 and Summer'14.
- MIT (Cambridge, MA)– Sabbatical Leave, Comp Sc. Art. Intel. Lab, Sep'11 - Dec'11.
- Univ. of Girona (UdG, Girona, Spain)– Sabbatical Leave, Dept. Electronics, Automation and Informatics, Jun'04-Dec'04.
- Woods Hole Oceanographic Inst (WHOI, Woods Hole, MA)– Sabbatical Leave, Deep Submergence Lab, Aug'97-Dec'97.
- Univ. of Hawaii, Honolulu, HI– Assist. Prof. Electrical Engineering, Jan'87-Aug'91.

Recent Relevant Scientific Journal Publications:
- M.D. Aykin, and S. Negahdaripour, "Modeling 2-D lens-based forward-scan sonar imagery for targets with diffuse reflectance," *IEEE J. Oceanic Engineering, Vol PP(99), Jan'16.*
- Y. Zhang, S. Negahdaripourb , and Q. Lic "Low bit-rate compression of underwater imagery based on adaptive hybrid wavelets and directional filter banks,." Signal Processing: Image Communication (to appear).
- M. Babaee, and S. Negahdaripour, "3-D object modeling from 2-D occluding contour correspondences by opti-acoustic stereo imaging," *Comp. Vis. Image Und,* 132: 56-74, Nov'14.
- S. Negahdaripour, and A. Sarafraz "Improved stereo matching in scattering media by incorporating backscatter cue," *IEEE T. Image Proc*, 23(12), pp.~5743--5755, Dec'14.
- M.D. Aykin, and S. Negahdaripour, "On feature extraction and region matching for forward scan sonar imaging," *J. Field Robotics*, 30(4), pp. 602-623, Aug'13.
- S. Negahdaripour, "On 3-D motion estimation from feature tracks in 2-D FS sonar video," *IEEE T. Robotics*, 29 (4), pp. 1016-1030, Aug'13.
S. Negahdaripour, "Visual motion ambiguities of a plane in 2-D FS sonar video imagery," *Computer Vision Image Und.*, Vol~116(6), pp.~754-764, Jun'12.
- Y. Swirski, Y.Y. Schechner, B. Herzberg, and S. Negahdaripour, "CauStereo: Range from light in nature," *Applied Optics*, 50(28), pp.~89-101, 2011.
- Negahdaripour, A. Taatian, "Integration of motion cues in 2-D optical and sonar video for 3-D positioning," *Comp. Vis. Image Und.*, 114(8), pp. 928-941, Aug'10.
- S. Negahdaripour, H. Sekkati, H. Pirsiavash, "Opti-acoustic stereo imaging: On system calibration & 3-D target reconstruction," *IEEE T. Image Proc*, 18(6), pp. 1203- 1214, Jun'09.
- S. Negahdaripour, "Epipolar geometry of opti-acoustic stereo imaging," *IEEE T. PAMI*, 20(11), pp. 1776-1788, Oct'07.

Selected Synergistic Activities:
- **Conference/Professional Meeting Activities:**
  - General-CoChair of IEEE Conferences: *Int. Symp. Computer Vision* (ISCV'95, Nov'95); *Comp. Vision Pattern Recog.* (CVPR'91, Jun'91).
  - Technical Committee Member: Appl. Computer Vision (WACV'09, Salt Lake City, UT); IEEE Conf. Patt. Recog. (ICPR'94, Jerusalem, Israel); IEEE Conf. Comp. Vision & Patt. Recog. (1994, Seattle, WA); Int. Conf. Comp. Appl. Industry and Eng. (1993).
  - Local Arrangement Co-Chair: IEEE CVPR'09 Conference (Miami, 2009);

- **NSF workshop Co-organizer**: "Future Research Direction in Underwater Robotics" (Maui, HI, 1994); "Grand Challenges in Comp. Vision: Future Research Direction in Computer Vision" (Maui, HI, 1991)
- **National & International Special Committees/Events**: National Academies Committee member on Future Needs in Deep Submergence Science (2003); One of dozen US Invited Representative to NSF US-France Workshop Meeting on Experimental Subsea Robotics (Toulon, France, 1992);
- **Invited Speaker**: DoD SERDP Workshop on Underwater UXO (San Diego, CA, 2007); IEEE CVPR Workshop on Volumetric Scattering Vision & Graphics (Minneapolis, MN, 2007); IEEE Oceans Conf. Session on Underwater Imaging (Boston, MA, 2006).
- **Editorial Responsibilities**: Computer Vision Image Understanding (Jun'11 – present); IEEE Systems Journal (Sep'09 – Jan'11).
- **IEEE OES Fellow Committee, Chair** (2014– present).
- **Inventions and Patents**: US patent 7496226 for Multi-camera inspection of underwater structures (Co-Inventor: Ph.D. student P. Firoozfam); US Patent 6236459 for A thin film measuring device and method (Co-Inventor: Ph.D. student A. Khamene; Co-Inventor).

Selected Awards:
- **Fellow of IEEE (OES)** for *"Contributions to underwater computer vision."*
- **DOD SERDP 2009 Project of the Year** for "Application of ROV-based video technology to complement coral reef resource mapping and monitoring."
- **Third-Place Best Student Paper Competition** (M. Babaee, Co-Author), IEEE Oceans'15 Conference, Genova, Italy, May, 2015.
- **Best Paper Award**: IEEE Workshop on Beyond Multi-view Geometry (BMG'07)}, in conj. CVPR'07, Minneapolis, MN, Jun'07; Siemens Corp Award at IEEE Conf. on Advanced Video & Signal-Based Surveillance (AVSS'03, Miami, FL, Jun'03.
- Johnson A. Edosomwan Researcher of the Year Award, College of Engineering, U. Miami (2004,2006,2007).
- Eliahu Jury Excellence in Research Award, College of Engineering, U. Miami, 2004.

Selected Relevant Projects:
- ``*Enhanced BlueView imaging with improved target SNR*," $315,000, ONR research grant, Jan'15- Oct'17 (sole PI).
- ``Automated processing of 2-D forward-scan sonar images for dynamic scene analysis," $100,000, ONR research grant, Oct'11- Sep'13 (sole PI).
- ``Belief theoretic multi-sensory data fusion for underwater UXO identification," $150,000, one-year DoD SERDP project, May'09- Nov'10 (PI: with K. Premartne; UM, P.P.J. Beaujean; FAU).
- ``Sensing fusion for underwater scene recovery," $106,000 (UM Budget of $47,480), US-Israel BiNational Science Foundation, January'07-December'11 (with Y. Schechner, Technion- Israel Inst Tech; S. Narasimhan, Carnegie Mellon Univ., USA).
- ``Investigation of multiple-view 3-D reconstruction methods with FS sonar video cameras," $301,743, Three-year ONR project, June'05-Apr'08 (sole PI).
- ``Investigation of structure from motion techniques for forward-scan sonar imagery," $100,000, One-year NSF SGER project, May'05-Oct'06, (sole PI).
- ``Application of ROV-based video technology to complement coral reef resource mapping and monitoring," $1,451,657, DoD SERDP project, Mar'03- June'07 (Co-PI with 2 Co-PIs (Pamela Reid and Phil Kramer, RSMAS, Univ. of Miami).