Matan Leibovich

EDUCATION

Ph.D., Computational &Mathematical Engineering, Stanford (current GPA: 4.16/4.3) **expected June 2020**
Ph.D. Candidate. Advisor: Prof. George Papanicolaou.
Research interests: Mathematical imaging, optimization, Statistical data processing and learning, stochastic processes, signal processing, applied and numerical PDEs
Ph.D research topic: Novel Representation and Optimization Methods in Mathematical Imaging

M.Sc., Physics, Tel Aviv University (Magna Cum Laude GPA: 98/100) **June 2015**
Thesis: Gaussian Beam Summation Methods for Propagation in Rough Media
Supervisor: Prof. Ehud Heyman.

B.Sc. Electrical Engineering &B.Sc., Physics, Technion- Israel's Institute of Technology, (Cum Laude GPA: 92.3/100) **Oct. 2009**

ACADEMIC DISTINCTIONS

- Cadet in the Israeli Defense Forces elite program "Psagot", training 30-40 cadets with outstanding abilities in the sciences for technological leadership positions per year **Oct. 2005-Oct. 2009**
- Dean's honor list for 5 consecutive semesters **Feb. 2005-Aug. 2008**
- 2014 URSI (International Union of Radio Science) General Assembly Young Scientist Award **Aug. 2014**
- Stanford University's Institute of Computational and Mathematical Engineering Teaching Assistant Award **June 2018**
- R.W.P King Best Paper Award, IEEE Transaction on Antennas and Propagation (for *) **July 2018**

PUBLICATIONS

Conference Proceedings

1. Leibovich, M., Papanicolaou, G. and Tsogka, C., 2019. "Low rank plus sparse decomposition of synthetic aperture radar data for target imaging and tracking" Applied Inverse Problems (AIP 2019) Grenoble, France, July 2019

2. Leibovich, M., Heyman E., "Beam summation theory for waves in fluctuating media," 2016 URSI International Symposium on Electromagnetic Theory (EMTS), Espoo, Finland, Aug. 2016

3. Leibovich, M., Heyman, E., "Beam Domain Formulation for Wave Propagation in Weakly Rough Media," International Union of Radio Science General Assembly (URSI GASS), Beijing, China, Aug. 2014

4. Leibovich, M., Heyman, E.. and Tuvi, R., "The Propagating Frame: A Novel Framework for Wave Tracking through Rough Medium and for Inverse Scattering," IEEE AP-S Symposium on Antennas and Propagation and URSI CNC/USNC Joint Meeting, Vancouver, Canada, July 2015

Journal Publications

1. *Leibovich, M. and Heyman, E., 2017. Beam Summation Theory for Waves in Fluctuating Media. Part I: The Beam Frame and the Beam-Domain Scattering Matrix. *IEEE Transactions on Antennas and Propagation*, *65*(10), pp.5431-5442.

2. Leibovich, M. and Heyman, E., 2017. Beam Summation Theory for Waves in Fluctuating Media. Part II: Stochastic Field Representation. *IEEE Transactions on Antennas and Propagation*, *65*(10), pp.5443-5452.

3. Leibovich, M. Papanicolaou, G. and Tsogka, C., 2019. "Low rank plus sparse decomposition of synthetic aperture radar data for target imaging and tracking". https://arxiv.org/abs/1906.02311. *IEEE Transactions on Computational Imaging*, Accepted for publication for publication.

4. **Leibovich, M.** Papanicolaou, G. and Tsogka, C., 2019. "Synthetic aperture imaging and motion estimation using tensor methods ". Submitted for publication.

5. Leibovich, M. Papanicolaou, G. and Tsogka, C., 2019. "Correlation based methods in satellite imaging ". In preparation.

TEACHING EXPERIENCE

Stanford University **Sep 2016 -**

- Teaching assistant : Introduction to Numerical Methods for Engineering, (CME 206,CME 207) Partial Differential Equations (CME 204), Stochastic Differential Equations (MATH236).
- Principal Instructor: Advanced MATLAB for Scientific Computing (MOOC & on campus class in collaboration with Mathworks)