

Harvard Medical School
Brigham and Women's Hospital
Department of Psychiatry
Psychiatry Neuroimaging
Laboratory
1249 Boylston street
Boston, MA, 02115, USA

Phone : +1-617-525-1058
Fax : +1-617-525-6214
E-mail : rrtammy@gmail.com
tammy@csail.mit.edu
URL : <http://people.csail.mit.edu/tammy>



POSITIONS

Aug. 2010 -
present

Harvard Medical School, Brigham and Women's Hospital ,
Research fellow at the Psychiatry department, Psychiatry Neuroimaging Laborator

Massachusetts Institute of Technology

Research affiliate, Computer Science and Artificial Intelligence lab, EECS

Aug. 2010-
present

The Broad Institute of MIT and Harvard, Imaging Platform

Research fellow since July 2012, Research affiliate Aug 2010-June 2012

2008 – Jul. 2010

Massachusetts Institute of Technology

Postdoctoral associate at the Medical Vision group of Polina Golland, Computer
Science and Artificial Intelligence lab, EECS

Harvard Medical School

Research affiliate, Surgical Planning Laboratory, Brigham and Women's Hospital

EDUCATION

2002 - 2007

Tel-Aviv University

Ph.D. School of Electrical Engineering, Department of Electrical Engineering – Systems
Thesis: *Prior-based Image Segmentation* with Nahum Kiryati and Nir Sochen

1997 - 1999

The Hebrew University of Jerusalem

M.Sc. in **Computer Science**. Magna Cum Laude

Thesis: *The Quotient Image: Class Based Recognition and Synthesis under Varying
Illumination Conditions* with Amnon Shashua

1994 - 1996

The Hebrew University of Jerusalem

Supplementary studies for M.Sc. Degree in **Computer Science**

Studies at the **Interdisciplinary Center for Neural Computation**

1990 - 1993

The Hebrew University of Jerusalem

B.Sc. in **Physics**. Magna Cum Laude

HONORS AND AWARDS

2009

MICCAI 2009 young scientist award for the paper:
Joint Segmentation of Image Ensembles via Latent Atlases

2008

Yitzhak and Chaya Weinstein award for excellent paper, for the paper:
*Prior-based Segmentation and Shape Registration in the Presence of Perspective
Distortion*, published in **IJCV** 2007.

- 2007 **Fulbright** Post-Doctoral fellowship
The Commercial & Industrial Club Illan Ramon Post-Doctoral scholar.
The Yitzhak and Chaya Weinstein award for excellence in studies.
- 2005 **The Yitzhak and Chaya Weinstein award** for excellent paper, for the paper: *Unlevel-Sets: Geometry and Prior-based Segmentation*, published in ECCV 2004.
- 1993 **The Hebrew University of Jerusalem** Appeared on the Dean's list.

GRANT

- Key Personnel** (with PI Carolina Wählby)
National Institute of Health, NIGMS, grant 1R01 GM095672-01 (20110202-20151231) Title:
2011-2015 *Image analysis for high-throughput C. elegans infection and metabolism assays*.
This 5-year research grant from NIH has selected as one out of four exceptional R01 applications, available as sample applications through the NIH website:
<http://funding.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx>

PUBLICATIONS

Total number of citations according to Google scholar as of July 2012 is above 700.

Journal Papers

J6. C. Wählby, L. Kamentsky, Z. H. Liu, T. Riklin-Raviv, A. L. Conery, E. J. O'Rourke, K. L. Sokolnicki, O. Visvikis, V. Ljosa, J. E. Irazoqui, P. Golland, G. Ruvkun, F. M. Ausubel and A. E. Carpenter, *An Image Analysis Toolbox for High-throughput C. Elegans Assays*. NATURE METHODS, Vol. 9 pp 627 – 763, July 2012

J5. T. Riklin Raviv, K. Van-Leemput, B.M. Menze, W.M. Wells III and P. Golland, *Segmentation of Image Ensembles via Latent Atlases*, Medical Image Analysis. Special Issue on the 12th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI) 2009. Medical Image Analysis (**MedIA**), Vol. 14(5) pp 654-665, October 2010.

J4. T. Riklin Raviv, N. Sochen and N. Kiryati, *On Symmetry, Perspectivity and Level-set based segmentation*. IEEE Transactions on Pattern Analysis and Machine Intelligence (**PAMI**). Vol 31(8) pp 1458-1471, August 2009.

J3. T. Riklin Raviv, N. Sochen and N. Kiryati, *Shape based Mutual Segmentation*. International Journal of computer Vision (**IJCV**). Vol 79(3) pp 231-245, September 2008.

J2. T. Riklin-Raviv, N. Kiryati and N. Sochen, *Prior-based Segmentation and Shape Registration in the Presence of Perspective Distortion*. International Journal of Computer Vision (**IJCV**). Vol 72(3) pp 309-328 May 2007.

J1. A. Shashua and T. Riklin-Raviv, *The Quotient Image: Class Based Re-Rendering and Recognition With Varying Illuminations*. IEEE Transactions on Pattern Analysis and Machine Intelligence (**PAMI**). Vol. 23(2) pp 129-139, February 2001. (**460 citations, Google scholar July 2012**)

Peer Reviewed Conference Proceedings

C14. T. Riklin-Raviv, Y. Gao, J. Levitt, and S. Bouix: Statistical Shape Analysis for Population Studies via Level-set based Shape Morphing. ECCV workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA), accepted, 2012.

C13. E. Ditttrich, T. Riklin-Raviv, G. Kasprian, P. Brugger, D. Prayer and G. Langs: *Learning a Spatio-temporal Latent Atlas for Fetal Brain Segmentation*. MICCAI workshop: Image Analysis of Human Brain Development, September 2011.

C12. T. Riklin Raviv, V. Ljosa, A.L. Conery, F.M. Ausubel, A.E. Carpenter, P. Golland and C. Wählby, *Morphology-Guided Graph Search for Untangling Objects: C.Elegans Analysis*, Proceedings of International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), pp. 634-641, September 2010.

C11. C. Wählby, T. Riklin-Raviv, V. Ljosa, A.L. Conery, P. Golland, F.M. Ausubel, and A.E. Carpenter, *Resolving Clustered Worms via Probabilistic Shape Model*, IEEE International Symposium on Biomedical Imaging: From Nano to Micro (**ISBI**), pp. 552-555, April 2010.

C10. T. Riklin Raviv, K. Van-Leemput, W.M. Wells III and Polina Golland, *Joint Segmentation of Image Ensembles via Latent Atlases*, Proceedings of International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), Part I, LNCS 5761, pp. 272–280, September 2009. **Received the MICCAI 09 Young Scientist Award.**

C9. T. Riklin Raviv, B.M. Menze, K. Van-Leemput, B. Stieltjes, M.A. Weber, N. Ayache, W.M. Wells III and Polina Golland, *Joint Segmentation via Patient-Specific Latent Anatomy Model*, MICCAI workshop: Probabilistic Models for Medical Imaging Analysis (PMMIA), September 2009.

C8. T. Riklin Raviv, N. Ben-Zadok and N. Kiryati *Interactive Level-set Segmentation for Image Guided Therapy* . IEEE International Symposium on Biomedical Imaging: From Nano to Micro (**ISBI**), pp. 1079-1082, June 2009.

C7. N. Kiryati, T. Riklin Raviv, Y. Ivanchenko and S. Rochel, *Real-time Abnormal Motion Detection in Surveillance Video*. International Conference on Pattern Recognition (**ICPR**), pp. 1-4, December 2008.

C6. T. Riklin-Raviv, N. Sochen, N. Kiryati, N. Ben-Zadok, S. Gefen, L. Bertand and J. Nissanov, *Propagating Distributions for Segmentation of Brain Atlas*. IEEE International Symposium on Biomedical Imaging: From Nano to Micro (**ISBI**), pp 1304-1307, April 2007.

C5. T. Riklin-Raviv, N. Kiryati and N. Sochen, *Segmentation with Level Sets and Symmetry*. In Proc. of IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR**), pp 1015-1022, June 2006.

C4 .T. Riklin-Raviv, N. Sochen and N. Kiryati, *Mutual Segmentation with Level Sets*. In the 5th IEEE Workshop on Perceptual Organization in Computer Vision (**POCV**) in conjunction with the CVPR. 2006.

C3. T. Riklin-Raviv, N. Kiryati and N. Sochen, *Prior-based Segmentation by Projective Registration and Level Sets*. In Proc. of the Tenth IEEE International Conference on Computer Vision (**ICCV**).pp 204-211, October 2005.

C2. T. Riklin-Raviv, N. Kiryati and N. Sochen, *Unlevel-Sets: Geometry and Prior-based Segmentation*. In Proc. of the European Conference on Computer Vision (**ECCV**). pp 50-61, May 2004.

C1. T. Riklin-Raviv and A. Shashua, *The Quotient Image: Class Based Recognition and Synthesis Under Varying Illumination Conditions*. In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**). pp 566-571, June 1999.

PATENT

2008 N. Kiryati, T. Riklin Raviv, Y. Ivanchenko, S. Rochel, Y. Dvir and D. Harari, *Apparatus and Methods for the Detection of Abnormal Motion in a Video Stream*. European Patent EP1631073B1

ACADEMIC ACTIVITIES

2006- 2007 Coordinator of the Mathematical Visual Perception seminar at Tel-Aviv University

Journal Review IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Transaction on Medical Imaging
IEEE Transactions on Image Processing
IEEE Transactions on Signal Processing
IEEE Transactions on Systems, Man and Cybernetic
Journal of Computer Vision and Image Understanding
International Journal of Biomedical Imaging
International Journal of Image and Graphics
EURASIP Journal on Advances in Signal Processing

Program Committee IEEE Conference on Computer Vision and Pattern Recognition
IEEE International Conference on Computer Vision
European Conference in Computer Vision
Asian Conference in Computer Vision

Grant Proposal Review Israel Science Foundation
US-Israel Binational Science Foundation
Research Funds of the Ministry of Health

TEACHING EXPERIENCE

2003-2007 **Teaching Assistant**, Tel-Aviv University, Faculty of Engineering
Introduction to Systems Programming, Digital Logic Systems, Computer Architecture

2003 **Instructor**, Open University, Department of Computer Science
Principals of Operating systems

1996 - 1997 **Teaching Assistant**, The Hebrew University of Jerusalem, Computer Science
Computer Architecture , Algorithms

PROFESSIONAL EXPERIENCE IN INDUSTRY

- 2003 **Researcher**, Ramot at Tel-Aviv University Ltd
Development of algorithms for abnormal motion detection.
Cooperative research project sponsored by the Ministry of Industry, Trade and Labor,
Tel-Aviv University, and Nice Systems Ltd. (Magnetron)
- 2001-2002 **Algorithm Developer**, Polycom Israel
Development and implementation of algorithms for play-out scheduling and concealment for
media over IP.
- 1997-2001 **Algorithm Developer**, Orckit Communication (Tioga Technologies Ltd)
Implementation, analysis and performance evaluation of algorithms in signal processing and
coding theory for ADSL and SDSL modems.
- 1996-1997 **Software Engineer**, Telrad Networks Ltd
Software development for Telephone exchanges