

Sinem K. SAKA

Wyss Institute for Bioinspired Engineering, Harvard University, 3 Blackfan Circle,
Boston, MA, 02115

E-mail: sinem.saka@wyss.harvard.edu

Education

Dr. rer. nat (PhD) in Molecular Biology , University of Göttingen / International Max Planck Research School, Germany	2010 - 2013
M.Sc in Molecular Biology , University of Göttingen / International Max Planck Research School, Germany	2008 - 2010
Academic Minor (Secondary Specialization) in Information Systems Department of Computer Engineering	2005 - 2008
B.Sc. in Molecular Biology and Genetics Middle East Technical University (METU), Ankara, Turkey <i>High Honors</i>	2004 - 2008

Research Experience

Postdoctoral Research Fellow - Peng Yin Lab Wyss Institute for Biologically Inspired Engineering, Harvard Medical School, Boston, MA, USA - Developing DNA nanotechnology-based methods for super-resolution imaging - Investigating the ultra-structural nuclear landscape around specific gene loci	12/2015 - Present
Postdoctoral Researcher - Silvio Rizzoli Lab University of Göttingen Medical Center, Germany - Established high-throughput methods to develop new affinity probes for super-resolution microscopy - Led an interdisciplinary research collaboration between three institutes	11/2013 - 10/2015
PhD Student - Silvio Rizzoli Lab European Neuroscience Institute, Göttingen, Germany - Discovered a new mode of spatial protein organization in cellular membranes and its effectors - Devised novel microscopy assays to study distributions of membrane proteins - Developed a correlative imaging method that combines high resolution fluorescence microscopy with secondary ion mass spectrometry	04/2010 - 10/2013
MSc Student - Volker Lipka Lab University of Göttingen, Germany - Characterized the functioning of <i>Arabidopsis</i> LysM-RLK CERK1 and its interaction partners	10/2009 - 03/2010

01/2008

- Founder and member of the iGEM METU Team** - 07/2008
 Middle East Technical University, Ankara, Turkey
 - Co-designed a controlled metal bioremediation system using *E. coli*
 - Obtained research grants from EU and TUBITAK for participation to International Genetically Engineered Machines (iGEM) Competition by Massachusetts Institute of Technology
- Summer Research Associate - Pamela Silver Lab** 06/2007
 Harvard Medical School, Boston, MA, USA - 09/2007
 - Designed and built a system to obtain cell-division synchronized oscillations in eukaryotic cells

Distinctions

Fellowships

- | | |
|--|------|
| Human Frontier Science Program Postdoctoral Fellowship | 2016 |
| EMBO Long-term Postdoctoral Fellowship | 2016 |
| Boehringer Ingelheim Fonds PhD Fellowship | 2011 |
| Dorothea Schlözer PhD Fellowship | 2010 |
| Fulbright PhD Scholarship (declined) | 2008 |
| Stipend of the Excellence Foundation for the promotion of the Max Planck Society | 2008 |
| TED Ankara College Foundation Highest Honor Prize and Scholarship | 2001 |

Awards

- | | |
|--|------|
| Humboldt Foundation Sponsorship for participation to Falling Walls Conference Berlin, Germany (as representative of University of Göttingen) | 2015 |
| American Society of Cell Biology Postdoc Travel Award | 2014 |
| International Federation of Societies for Microscopy School Award for Young Scientists | 2014 |
| Poster Prize, Cellular Imaging of Lipids EMBO Workshop | 2014 |
| Best Student Talk Award, 10 th Horizons in Molecular Biology Symposium | 2013 |
| Boehringer Ingelheim Fonds Travel Grant | 2013 |
| FEBS-EMBO Travel Grant | 2011 |
| 1st rank on Dean's High Honor Roll | 2007 |

Publications

Primary Research

- **Saka S.K.**, Honigmann A., Eggeling C., Hell S.W., Lang T., Rizzoli S.O. Multi-protein assemblies underline the mesoscale organization of the plasma membrane. *Nature*

Communications 5, 4509 (2014).

- **Saka S.K.**, Vogts A., Kröhnert K., Hillion F., Rizzoli S.O., Wessels J. Correlated Optical Isotopic Nanoscopy. *Nature Communications* 5, 3664 (2014).

- Ta H., Keller J., Haltmeier M., **Saka S.K.**, Schmied J., Opazo F., Tinnefeld P., Munk A., Hell S.W. Mapping molecules in scanning far-field fluorescence nanoscopy. *Nature Communications* 6, 7977 (2015).

- Kabatas S., Vreja I.C., **Saka S.K.**, Hoeschen C., Kroehnert K., Opazo F., Rizzoli S.O., Diedrichsen U. A contamination-insensitive probe for imaging specific biomolecules by secondary ion mass spectrometry. *Chemical Communications* 51: 13321-13224 (2015).

- Vreja I.C., Kabatas S., **Saka S.K.**, Hoeschen C., Kroehnert K., Opazo F., Diedrichsen U., Rizzoli S.O. Secondary ion mass spectrometry of genetically-encoded targets. *Angewandte Chemie (International Edition in English)* 54: 5784-5788 (2015).

Reviews and Book Chapters

- **Saka S.K.** Light Microscopy and Resolution. in *Super-Resolution Microscopy Techniques in the Neurosciences* (Fornasiero E. F. & Rizzoli S. O.) 86, 1–11 (Humana Press, 2014).

- **Saka S.K.** Super-Resolution Microscopy: Principles, Techniques, and Applications. in *Super-Resolution Microscopy Techniques in the Neurosciences* (Fornasiero E. F. & Rizzoli S. O.) 86, 13–40 (Humana Press, 2014).

- **Saka S.** & Rizzoli S.O. Super-resolution imaging prompts re-thinking of cell biology mechanisms: selected cases using stimulated emission depletion microscopy. *Bioessays* 34 (5), 386–395 (2012).

Selected Conference Presentations

Cold Spring Harbor Laboratory Nuclear Organization and Function Meeting	2016
Falling Walls Conference, Berlin, Germany	2015
Annual American Society of Cell Biology (ASCB) Meeting, Philadelphia, PA, USA	2015
VIB Conference: Next-Generation Antibodies and Protein Analysis, Ghent, Belgium	2015
International Microscopy Congress, Prague, Czech Republic	2014
EMBO Workshop for Cellular Imaging of Lipids, Vico Equense, Italy	2014
Gordon Research Conference: Membrane Biology, Andover, NH, USA	2013
10 th Horizons in Molecular Biology, Göttingen, Germany	2013
13 th European Light Microscopy Initiative (ELMI) Meeting, Bordeaux, France	2013
64 th Mosbacher Kolloquium, "Membranes in Motion", Mosbach, Germany	2013
105 th International Titisee Conference: Lipids as Organizers of Cell Membranes, Titisee, Germany	2012
Joint FEBS - EMBO Advanced Lecture Course: Biomembrane Dynamics from Molecules to Cells, Cargèse, France	2011