

MICHAL BREKER-DEKEL

The Alexander Silberman Institute of Life Sciences • The Hebrew University of Jerusalem

Phone: +972-52-7044593 • Email: michal.breker@mail.huji.ac.il

DOB: 04/04/1980 • Nationality: Israeli

ACADEMIC POSITIONS

The Hebrew University Senior Lecturer (Assistant Professor)	Jerusalem, Israel	07/2019-Present
The Rockefeller University Visiting Faculty Advisor: Prof. Fred Cross	New-York, NY	10/2018-01/2019
The Rockefeller University Postdoctoral Fellow Advisor: Prof. Fred Cross	New-York, NY	01/2015-09/2018
The Simons Foundation Simons Society Junior Fellow	New-York, NY	2015-2018

EDUCATION

Ph.D. Molecular Genetics, The lab of Prof. Maya Schuldiner, The Weizmann Institute of Science, Israel Title: <i>"Utilizing high-content microscopy to describe single-protein behavior and whole-proteome dynamics in response to biological perturbations."</i>	2009-2014
M.Sc. Immunology, The lab of Prof. Steffen Jung, The Weizmann Institute of Science, Israel Title: <i>"In vivo development and functionality of the mononuclear phagocyte system."</i>	2007-2008
B.Sc. Interdisciplinary Program of Neuroscience, Tel-Aviv University, Israel (<i>Cum laude</i>)	2003-2006

EMPLOYMENT

BVR Systems System integrator and QA	Israel/South Korea	2001-2003
Compulsory service at IDF military Graduate of "Haman Talpiot", intelligence analysis	Israel	1998-2001

GRANTS

BSF start up grant in collaboration with Dr. Masayuki Onishi/Duke University	2020
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SELECTED HONORS AND AWARDS

ASPB Women's Young Investigator Travel Award (WYITA)	2021
Simons Foundation Junior Fellow Postdoctoral Award	2015-2018
Life sciences research foundation (LSRF) Postdoctoral Award (declined due to alternative fellowship)	2015
UNESCO-L'Oreal Women in Science Award	2014
The Israeli National Postdoctoral Award for Advancing Women in Science, The Weizmann Institute	2014
The Gad Resheff Memorial Prize for academic excellence and scientific accomplishments in PhD	2014
Aharon Katzir student travel fellowship	2013
FEMS travel grant to yeast genetics and molecular biology conference, Germany	2013
Student project grant award of the Azrieli Center for Systems Biology	2012
Schoenheimer travel grant to Harvard University, Systems biology department	2012
Travel grant and award for best oral presentation, IRB PhD symposium, Barcelona	2011
Student grant from Kahn Family Foundation systems biology program	2011
Travel grant, FEBS congress, Torino	2011
Student grant for a joint international project, in collaboration with Melissa Gymrek, MISTI2.0, MIT	2010
Travel grant award, Young Scientific Forum and FEBS congress, Sweden	2010
Full year scholarship from Wolf Foundation for excellence in exact sciences	2006

Dean's award for outstanding achievements, Tel-Aviv University	2006
Dean's award for outstanding achievements, Tel-Aviv University	2005
Scholarship for outstanding students in memory of David Zik, Tel-Aviv University	2005
Rector's award for outstanding achievements, Tel-Aviv University	2004

INVITED/CHOSEN TALKS

ILANIT, Federation of the Israel Societies for Experimental Biology (Invited)	Eilat, Israel	2020
ISM, the Israel Society for Microbiology (Invited)	Israel	2020
Undergraduate excellence program "Etgar", The Hebrew University (Invited)	Israel	2020
Molecular Biology Department, Princeton University (Invited)	Princeton, USA	2017
Annual ASPB symposium, American Society of Plant Biology	Honolulu, USA	2017
Annual conference of the Simons Society of Fellows	Miami, USA	2017
ILANIT, Federation of the Israel Societies for Experimental Biology	Eilat, Israel	2017
Simons Foundation, Simons Society of Fellows	NYC, USA	2017
Annual Charles H. Revson Foundation Biomedical Fellows Meeting (Invited)	NYC, USA	2016
Plant Sciences Department, WIS (Invited)	Israel	2013
Yeast genetics and molecular biology conference	Frankfurt, Germany	2013
Biological Sciences and Systems Biology Departments, Columbia University	NYC, USA	2013
Harvard Systems Biology Department, Harvard University (Invited)	Boston, USA	2013
Systems biology retreat, WIS	Israel	2012
Biological Chemistry Department, WIS	Israel	2012
Epigenetics meets Systems ^{Biology} conference (Invited)	Israel	2012
Joint meeting of the Minerva grant awardees, WIS	Israel	2012
James Minna Heinemann Stiftung conference	Munich, Germany	2012
"Mitochondria, dynamics and neurodegenerative diseases" conference (Invited)	Israel	2012
Endocrinology Department, Schneider Children's Medical Center (Invited)	Israel	2012
"Life in motion: dynamics of molecules and systems" conference	Barcelona, Spain	2011
"Folding and degradation of proteins in the ER" conference	Switzerland	2011
Undergraduate excellence program "Etgar", The Hebrew University (Invited)	Israel	2011
Molecular Genetics Department seminar, WIS	Israel	2011
Annual seminar of the Israeli yeast community, Bar Ilan University	Israel	2011

POSTER PRESENTATIONS

18 th international conference of molecular biology of Chlamydomonas	Washington, USA	2018
Annual ASPB symposium, American Society of Plant Biology	Honolulu, USA	2017
Anderson Center for Cancer Research Retreat	NYC, USA	2017
Annual ASPB symposium, American Society of Plant Biology	USA	2016
Anderson Center for Cancer Research Retreat	NYC, USA	2016
Annual Charles H. Revson Foundation Biomedical Fellows Meeting	NYC, USA	2015
FEBS congress - 'Biochemistry for tomorrow's medicine'	Torino, Italy	2011
Weizmann-Harvard meeting on systems biology	Israel	2011
ILANIT, Federation of the Israel Societies for Experimental Biology	Eilat, Israel	2011
Systems Biology Consortium retreat, The Weizmann Institute of Science	Israel	2010
EMBO conference	Spain	2010
Young Scientific Forum (YSF) and the FEBS congress - 'Molecules of life'	Sweden	2010
'The trafficking meeting of the Israeli society for cell biology'	Israel	2010
Students conference of the Weizmann Institute of Science	Israel	2010
13 th Israeli Bioinformatics Symposium (IBS)	Israel	2010
'Frontiers in genetics VI' annual meeting	Israel	2010

The Israel Society for Microbiology (ISM)	Israel	2010
The Israel Society for Biochemistry & Molecular Biology (ISBMB)	Israel	2010
BIOmics Workshop & Conference, The Weizmann institute of Science	Israel	2009

TEACHING EXPERIENCE

Creator and senior lecturer of “Advanced methods in molecular biology” course	Israel	2020-2021
Plant sciences undergraduate research seminar coordinator	Israel	2020-2021
Mentoring at the plant sciences undergraduate seminar	Israel	2019-2020
Mentoring at the undergraduate excellence program “Etgar”, Hebrew University	Israel	2020
Tutor in a variety of scientific projects in Davidson Institute of Science Education	Israel	2011
TA in “Advanced light microscopy” course for graduate students, WIS	Israel	2010
Volunteer to “Bashaar” organization – lecture in high schools on popular science	Israel	2010
Tutor in “Zuta” summer science camp, WIS	Israel	2010
Tutor in the International Summer Science Institute, WIS	Israel	2008-2011
Tutor in Perach- Zemed program for high school students, WIS	Israel	2007-2009
Tutor for students with learning disabilities, Life Sciences Faculty, TAU	Israel	2005-2006

OTHER ACTIVITIES

Plant sciences departmental weekly seminar coordinator and host	Israel	2020-2021
Organizing the annual symposium of the Simons Society of Fellows	NYC, USA	2018
Reviewer for the international peer-reviewed journal <i>Molecular BioSystems</i>		2016-Present

PUBLICATIONS

- Li J., **Breker M.**, Graham M., Schuldiner M., Hochstrasser M. (2019) AMPK regulates ESCRT-dependent microautophagy of proteasomes concomitant with proteasome storage granule assembly during glucose starvation. *Plos Genet* (15).
- Breker M.**, Lieberman, K., & Cross FR. (2018) Comprehensive Discovery of Cell-cycle-essential Pathways in *Chlamydomonas reinhardtii*. *Plant Cell* (6), 1178-1198.
- Cohen N*, **Breker M***, Bakunts A., Pesek K., Chas A., Argemi J., Orsi A., Gal L., Chuartzman S., Wigelman Y., Jonas F., Walter P., Ernst R., Aragon T., van Anken E., Schuldiner M. (2017) Iron affects Ire1 clustering propensity and the amplitude of endoplasmic reticulum stress signaling. *J Cell Sci* (19), 3222-3233.
- *equal contribution**
- Cross F.R., **Breker M.**, & Lieberman K. (2017) Validated Bayesian differentiation of causative and passenger mutations. *G3* (7), 2081-2094.
- Herbst R.H., Bar-Zvi D., Reikhav S., Soifer I., **Breker M.**, Jona G., Shimoni E., Schuldiner M., Levy A., & Barkai N. (2017) Heterosis as a consequence of regulatory incompatibility. *BMC Biology* (1), 38.
- Breker M.**, Lieberman K., Tulin F., & Cross F.R. (2016) High-throughput robotically assisted isolation of temperature-sensitive lethal mutants in *Chlamydomonas reinhardtii*. *J Vis Exp* (118).
- Ravarani C., Chalancon G., **Breker M.**, Sanchez de Groot N., & Babu M.M. (2015) Affinity and competition for TBP are molecular determinants of gene expression noise. *Nature Communications* (7), 10417.
- Breker M.** & Schuldiner M. (2014) The emergence of proteome-wide technologies: systematic analysis of proteins comes to age. *Nature Reviews Molecular Cell biology* (15), 453-464.
- Avcı D., Fuchs S., Schrul B., Fukumori A., **Breker M.**, Frumkin I., Chen CY., Binioušek ML., Kremmer E., Schilling O., Steiner H., Schuldiner M., & Lemberg MK. (2014) The yeast ER-

- intramembrane protease Ypf1 refines nutrient sensing by regulating transporter abundance. *Molecular Cell* (56), 630-640.
10. **Breker M.**, Gymrek M., Moldavski O. & Schuldiner M. (2013) LoQAtE – LOcalization and Quantitation ATlas of the yeast proteome. A new tool for multiparametric dissection of single-protein behavior in response to biological perturbations in yeast. *Nucleic Acids Research* (42), D726-D730.
 11. **Breker M.** & Schuldiner M. (2013) commentary for Lynes EM, et al. in F1000, DOI: 10.3410/f.718049489.793481240
 12. **Breker M.**, Gymrek M. & Schuldiner M. (2013) A novel single-cell screening platform reveals proteome plasticity during yeast stress responses. *Journal of Cell Biology* (200), 839-850.
*Recommended by Faculty of 1000.
*Highlighted in: Short B. (2013) The plastic proteome. *Journal of Cell Biology* (200), 685.
 13. Peters L. Z*, Hazan R*, **Breker M***, Schuldiner M. & Ben-Aroya S. (2013) Formation and dissociation of proteasome storage granules (PSGs) are regulated by cytosolic pH. *Journal of Cell Biology* (201), 663-671.
***equal contribution**
*Recommended by Faculty of 1000.
 14. Nadler M*, **Breker M***, Gruber R., Azia A., Gymrek M., Eisenstein M., Willison K.R., Schuldiner M. & Horovitz A. (2012) Interactions of subunit CCT3 in the yeast chaperonin CCT/TRiC with Q/N-rich proteins is revealed by high-throughput microscopy analysis. *PNAS* (109), 18833-18838.
***equal contribution**
 15. Powis K., Schrul B., Tienson H., Gostimskaya I., **Breker M.**, High S., Schuldiner M., Jakob U. & Schwappach B. (2012) Get3 is a holdase and moves to sites of protein triage when membrane targeting is blocked. *Journal of Cell Science* (126), 473-483.
 16. Yona S., Kim KW., Wolf Y., Mildner A., Varol D., **Breker M.**, Strauss-Ayali D., Viukov S., Guilleims M., Misharin A., Hume DA., Perlman H., Malissen B., Zelzer E., Jung S. (2012) Fate Mapping Reveals Origins and Dynamics of Monocytes and Tissue Macrophages under Homeostasis. *Immunity* (38), 1073-1079.
 17. **Breker M.** & Schuldiner M. (2009) Explorations in Topology – Delving Underneath the Surface of Genetic Interaction Maps. *Molecular BioSystems* (5), 1473-1481.
*This paper was chosen as a model paper to be part of the RSC Project Prospect, in which compounds and scientific concepts are linked to related articles, compounds and ontology terms.