Lilach Soreq

Subjects: Mathematical & Computational Biology

Contributor: Lilach Soreq , Lilach Soreq

Bioinformatics | Machine Leaning | Statistics | Aging | Alzheimer's disease | Parkinson's disease

Basic Information

Name: Lilach Soreq
(Sep 1977–)

Birth Location:	Tel Aviv
Title:	Dr
Affiliation:	PhD
Honor:	Marie Curie post doc fellow

1. Biography

Lilach was a 3 years Alzheimer's Society Research Fellow at UCL ION London UK (then 3 years RoseTrees fellow) studying human brain aging. She obtained her B.Sc. in computer science, M.Sc in developmental biology, and her Ph.D. in neurobiology studying RNA regulation in Parkinson's disease resulting in more than ten first-author papers. Her post-doctoral training was funded by the competitive Marie Curie fellowship and she published a first-author paper in Cell Reports. She now carries out Alzheimer's studies to investigate the role of specific cells in the disease, by applying cutting-edge machine-learning algorithms to quantify different cells in Alzheimer's patient's brain samples. She also maintains international collaborations with laboratories in both Europe and USA.

2. CV

RESEARCH INTERESTS

- Study RNA and translational regulation networks in ALS disease and under aging.
- Decipher the transcriptional profile of sporadic ALS disease.
- Identify new targets for future early diagnosis and genetic therapeutics for ALS.
- Study transcriptional and post-transcriptional regulation networks in neurodegenerative diseases.
- Study the interplay between RNA regulation by RNA binding proteins and dynamics of translation under neurodegenerative diseases.

Education

01/2006-07/2013

Ph.D. Student, department of Medical Neurobiology (Bio-medical sciences), the Faculty of Medicine, The Hebrew University of Jerusalem, Israel, under the supervision of Prof. Hagai Bergman. Thesis theme: Deep Brain Stimulation Induces Changes in the Molecular Signature of Parkinson's Disease Patients Leukocytes.

06/2002-12/2005

M.Sc., The department of cellular and developmental biology, the faculty of science, the Hebrew university of Jerusalem, Israel, under the supervision of Dr. Nissim Ben Arie. Thesis theme: Bioinformatic Analysis of Math1-Regulate Genes and Functions.

1998-2001

B.Sc., Computer Science, the faculty of Science, The Hebrew University of Jerusalem, Israel.

Additional Research Experience

2002 ProtoNet Project - The Hebrew University, Jerusalem, Israel. JSP and JAVA programming. Under the supervision of Prof. Michal Linial.

1995-1997 Military service, the IDF Air Force intelligence department, Israel.

Fellowships/awards

- Marie Curie Career Development Intra European career development Fellowship (IEF).
- Humanitarian Trust Fellowship (through the Hebrew University).

Presentations at International Conferences and Invited international presentations

- Seminar Talk, MRC-LMB, 11 June 2012, Cambridge, UK.
- MGED Satellite conference of GO Consortium User Meeting, September 14 - 15 2005, Bergen, Norway. GOdist – a new tool and approach for microarray data.

- Affymetrix First Exon and Tiling Array Meeting, March 22-24, 2006, MIT, Cambridge, Boston, Massachusetts, USA. A novel continuous analysis approach of Affymetrix Exon microarray data.
- Affymetrix First Whole-Transcript Expression Meeting, October 28-29, 2008, Cambridge, Boston, Massachusetts, USA. Identifying tumor-specific alternative splicing signatures by exon arrays and combined analytical approaches.

Research grants based on PhD results

- Fritz Thyssen Stiftung, Exploring Cholinergic-anti-inflammatory Modulations in Parkinson's Disease Leukocytes following Deep Brain Stimulation, 60,000 Euros, 2010.
- Nophar (Israel ministry of Industry, trade and labor), collaborative project with Roche Diagnostics: Molecular signatures in Parkinson's Disease Leukocytes as a marker of disease progression, 130,000$, 2010.

Review experience

PLoS ONE journal.

Programs

GOdist: a Matlab program for functional Gene Ontology analysis of microarray data using Kolmogorov-Smirnov. Publicly available at the laboratory of basal ganglia research web site (http://basalganglia.huji.ac.il/links.htm).

Contributions

Project committer, AltAnalyze open source program.

University Teaching Experience

2006-2008 The Hebrew University, Jerusalem, Israel. From transgene to protein course for PhD students. Advanced microarray analysis – a 6 hour workshop. Course instructor.

Professional Experience

1999-2002 Amdocs Jerusalem, Israel – software developer and senior programmer.

Professional projects

1999 Amdocs Inc., Yellow page division. COBOL programming.

1999-2001 Amdocs Inc., Mobile division. (Client T-Mobile) Design and implementation of JAVA server for billing application under UNIX and Windows environments. Included ORACLE MySQL DB communications using JDBC components and server programming. Installation and guidance at client site: T-Mobile, Bon, Germany-March 2001.

2001-2002 Amdocs Inc., Mobile division. (Client Bell Canada) Senior software engineer. Design and implementation of JAVA billing application. Supervised on team co-workers. Coordinated work with GUI developer team. Installation, guidance and technical support for a month at client site: Bell Canada, Montreal, Canada-July 2002.

Professional Courses

A total of 276 hours of courses were held at Amdocs, Jerusalem under John Bryce, Sela and Sivan training, during September-October 1999, including:

- Cellular Student Courses, applications.
- SQL, Advanced SQL, Pro C, Architecture, ORACLE project, Life Cycle, Testing.
- Introduction to Unix.

Software, Environment and Programming Languages

Unix, JAVA, Matlab, R, SPSS.

Basic knowledge: C, Python.

Experience in Relational Database

SQL Server, Oracle, and general DB administration.

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