



מכון ויצמן למדע
WEIZMANN INSTITUTE OF SCIENCE

A MOLECULAR PERSPECTIVE ON THE CHOLINERGIC SYNAPSE

A Symposium in Honor of Israel Silman's 80th Birthday

December 9-10, 2015

The David Lopatie Conference Centre
Weizmann Institute of Science



Program

Organizing Committee

Tony Futerman (Rehovot)

Gabi Amitai (Rehovot)

Lili Anglister (Jerusalem)

Yadin Dudai (Rehovot)

Jerry Eichler (Beersheva)

Joel Sussman (Rehovot)

Lilly Toker (Rehovot)

Martin Weik (Grenoble)

Wednesday, December 9

08:30-09:00 Registration & Coffee

09:00-09:30 Opening remarks
Tony Futerman, Chairman of the Organizing Committee
Michal Neeman, Vice President, Weizmann Institute of Science
Michael Sela, Past President, Weizmann Institute of Science

09:30-10:45 Chair: **Sara Fuchs** (Rehovot), **Zvi Vogel** (Rehovot)

09:30-10:05 **Jean Pierre Changeux**
(Paris)
Allosteric mechanism of signal transduction investigated with the nicotinic receptor: a long companionship with Silman's acetylcholinesterase

10:05-10:25 **Hanna Parnas**
(Jerusalem)
A novel fast mechanism for GPCR mediated signal transduction—Control of neurotransmitter release.

10:25-10:45 **David Mirelman**
(Rehovot)
The legacy of Vivian Teichberg: GOT to rid the brain of excess glutamate

10:45-11:20 Coffee break

11:20-12:50 Chair: **Terry Rosenberry** (Jacksonville), **Itzik Koch** (Rehovot)

11:20-11:50 **Hermona Soreq**
(Jerusalem)
From mice to men: microRNA regulators of stress-induced cholinergic signaling

11:50-12:10 **Steve Brimijoin**
(Rochester)
The BChE-Ghrelin axis: potential roles in anxiety, aggression, obesity, and breast cancer

12:10-12:30 **Oksana Lockridge**
(Omaha)
Big fat surprise in bovine butyrylcholinesterase

12:30-12:50 **Paul Layer**
(Darmstadt)
With Sili at the backdoor

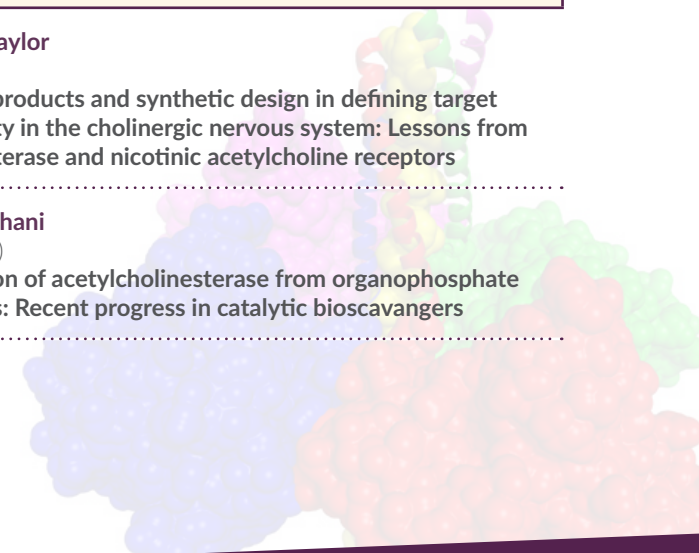
12:50-13:20 Lunch

13:20-14:50 Tour of the Weizmann House

14:50-16:25 Chair: **Gabi Amitai** (Rehovot), **Franz Worek** (Munich)

14:50-15:25 **Palmer Taylor**
(La Jolla)
Natural products and synthetic design in defining target selectivity in the cholinergic nervous system: Lessons from cholinesterase and nicotinic acetylcholine receptors

15:25-15:45 **Yacov Ashani**
(Rehovot)
Protection of acetylcholinesterase from organophosphate toxicants: Recent progress in catalytic bioscavengers



Thursday, December 10

08:30-09:00 Coffee

09:00-10:25 Chair: **Lili Anglister** (Jerusalem), **Menahem Segal** (Rehovot)

09:00-09:35 **Karl Tsim**
(Hong Kong)
Regulation of AChE by transcription, epigenetics and protein assembly

09:35-09:55 **Rick Rotundo**
(Miami)
Folding of acetylcholinesterase in vivo: the cell's point of view (or how Sili's work influenced the cell biology of AChE)

09:55-10:15 **Claire Legay**
(Paris)
From molecules to neuromuscular junctions

10:15-10:25 **Eric Krejci**
(Paris)
Molecular forms of cholinesterases: functional diversity in the cholinergic synapses

10:25-11:00 Coffee break

11:00-12:30 Chair: **Jerry Eichler** (Beer Sheva), **Moussa Youdim** (Haifa)

11:00-11:30 **Hualiang Jiang**
(Shanghai)
Binding kinetics of ligand-AChE interaction

15:45-16:05 **Terry Rosenberry**
(Jacksonville)
Roles of the acetylcholinesterase peripheral site

16:05-16:25 **Yechun Xu**
(Shanghai)
The dynamics relevant to ligand traffic in AChE

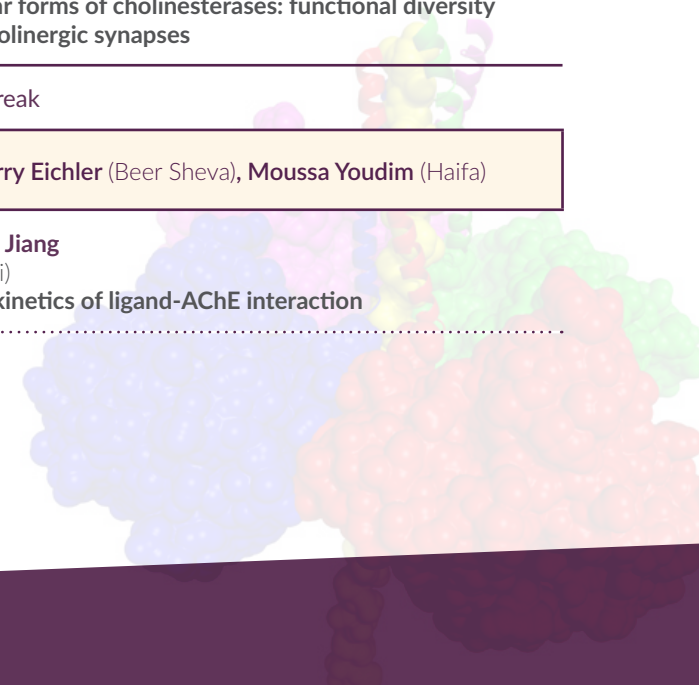
16:25-17:00 Coffee break

17:00-18:10 Chair: **Yves Bourne** (Marseille), **Shoshana Wodak** (Brussels)

17:00-17:30 **Joel Sussman**
(Rehovot)
Acetylcholinesterase: An enzyme with a gorgeous gorge

17:30-17:50 **Pascale Marchot**
(Marseille)
Structural insights into AChE inhibition by peptidic ligands

17:50-18:20 **Martin Weik**
(Grenoble)
Watching acetylcholinesterase at work



11:30-11:50 **Lev Weiner**
(Rehovot)
Esther, Lev and Sili - 25 years in a melting pot: study of a molten globule state of acetylcholinesterase

11:50-12:10 **Shoshana Wodak**
(Brussels)
Self-association prompts proteins for new function: The role of altered dynamic properties

12:10-12:30 **Moshe Ben-David**
(Toronto)
Generating conformation-specific synthetic antibodies against GPCR-transducer complexes in native membranes

12:30-13:20 Lunch

13:20-14:50 Architecture Tour of WIS Campus

14:50-16:25 Chair: **Yadin Dudai** (Rehovot), **Yoheved Berwald-Netter** (Paris)

14:50-15:25 **Arthur Karlin**
(New York)
Junctions and microdomains in intracellular signaling: An example in arterial smooth muscle

15:25-15:45 **Francisco (Pancho) Barrantes**
(Bahia Blanca)
Acetylcholine receptor nanoscale organization and motional dynamics in the membrane

15:45-16:05 **Adrian Goldman**
(Helsinki & Leeds)
How do pyrophosphate pumps work

16:05-16:25 **Tzviya Zeev-Ben-Mordehai**
(Oxford)
The curious case of herpesvirus nuclear egress

16:25-17:00 Coffee break

17:00-18:10 Chair: **Meir Wilchek** (Rehovot), **Avraham Fisher** (Rehovot)

17:00-17:30 **Nibaldo Inestrosa**
(Santiago)
From Wnt signaling to Alzheimer's disease

17:30-17:50 **Haiyan Zhang**
(Shanghai)
Cholinesterase inhibitors attenuate A β -associated mitochondrial dysfunction and reduce mitochondrial A β accumulation

17:50-18:10 **Kurt Giles**
(San Francisco)
From cholinesterases to prions: lessons from Israel Silman





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