

SUNDAY, 20 SEPTEMBER 2009

From 8:30	Registration Poster Mounting Testing MS Power Point Presentations
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16:30	OPENING SESSION Welcome addresses
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PLENARY SESSION

Chairpersons: Elsa Reiner (Croatia) and Israel Silman (Israel)

PL-1	Palmer Taylor (La Jolla, USA) THE ROAD FROM SPLIT TO ŠIBENIK: A TORTUOUS PATH WITH GLOBAL COUSINS, CONNECTIONS AND COLLABORATIONS Palmer Taylor, Zoran Radić and Shelley Camp
PL-2	The EMBO Plenary Lecture Joel L Sussman (Rehovot, Israel) ACETYLCHOLINESTERASE: "CLASSICAL" AND "NON-CLASSICAL" FUNCTIONS DERIVED FROM 3D STRUCTURES Joel L Sussman and Israel Silman

19:00 – 22:00	Welcome Party
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MONDAY, 21 SEPTEMBER 2009

SESSION 1

Structure of cholinesterases and related α/β hydrolase-fold proteins

Chairpersons: Palmer Taylor (USA) and Joel Sussman (Israel)

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| 8:30 – 8:50 | L1-1 | Doriano Lamba (Trieste, Italy)
THE YIN AND THE YANG OF <i>Torpedo californica</i>
ACETYLCHOLINESTERASE REVERSIBLE AND PSEUDO IRREVERSIBLE
INHIBITION: A STRUCTURAL AND MECHANISTIC OUTLOOK
Doriano Lamba |
| 8:55 – 9:15 | L1-2 | Florian Nachon (La Tronche Cedex, France)
CRYSTAL STRUCTURES OF HUMAN CHOLINESTERASES INHIBITED BY
TABUN AND V-AGENTS
Florian Nachon, Eugenie Carletti, Marielle Wandhammer, Emilie Gillon,
Mélodie Loiodice, Franz Worek, Oksana Lockridge and Patrick Masson |
| 9:20 – 9:40 | L1-3 | Sergei Varfolomeev (Moscow, Russia)
BIOINFORMATICS AND QUANTUM/MOLECULAR MECHANICS IN
ANALYSIS OF STRUCTURE, ELEMENTARY ACTS AND SPECIFICITY OF
CHOLINESTERASES: HUMAN MOLECULAR POLYMORPHISM
Sergei Varfolomeev, Sofia Lushchekina, Igor Ouporov and Alexander
Nemukhin |
| 9:45 – 9:55 | SL1-1 | Jacques-Philippe Colletier (Grenoble, France)
A STRUCTURAL EXPLANATION FOR THE RESIDUAL ACTIVITY OF THE
FAS/AChE COMPLEX
Jacques-Philippe Colletier, Arthur Laganowsky, Martin Weik, Joel L Sussman
and Israel Silman |
| 9:55 – 10:05 | SL1-2 | Benoît Sanson (Grenoble, France)
CRYSTAL STRUCTURES OF ACETYLCHOLINESTERASE IN COMPLEX
WITH THE PERIPHERAL SITE INHIBITOR AFLATOXIN SUGGESTS A WAY
TO STUDY PROTEIN DYNAMICS
Benoît Sanson, Jacques-Philippe Colletier, Philippe Carpentier, Joel L
Sussman, Israel Silman, Didier Fournier and Martin Weik |
| 10:05 – 10:25 | L1-4 | Pascale Marchot (Marseille, France)
STRUCTURE-FUNCTION RELATIONSHIPS OF NEUROLIGIN AND ITS
β -NEUREXIN COMPLEX
Yves Bourne, Philippe Leone, Igor Fabrichny, Géraldine Ferracci, Davide
Comoletti, Gerlind Sulzenbacher, Sandrine Conrod, Meghan Miller,
Palmer Taylor and Pascale Marchot |
| 10:30 – 10:40 | SL1-3 | Antonella De Jaco (Rome, Italy)
PROCESSING ANOMALIES OF NEUROLIGIN 3 CAUSED BY MUTATIONS
IN THE α/β -HYDROLASE FOLD DOMAIN
Antonella De Jaco, Michael Lin, Noga Dubi, Davide Comoletti, Roger Y Tsien
and Palmer Taylor |

10:40 – 11:10 **Coffee Break**

SESSION 2**Molecular biology and cell biology of cholinesterases and alternative functions of cholinesterases**

Chairpersons: Hermona Soreq (Israel) and Karl KW Tsim (China)

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| 11:10 – 11:30 | L2-1 | Hermona Soreq (Jerusalem, Israel)
DIVERSE FEATURES AND MICRO-RNA REGULATION OF ALTERNATIVE AChE VARIANTS
Hermona Soreq, Amit Berson, Mor Hanan, Adi Gilboa-Geffen, Lilach Soreq, Deborah Toiber, Yochai Wolf, Keren Ofek, Shani Ben-Ari, Iftach Shaked, Ari Meerson, Gabriel Zimmerman and David Greenberg |
| 11:35 – 11:55 | L2-2 | Shelly Camp (La Jolla, USA)
CONTRIBUTIONS OF TRANSGENIC STUDIES TO UNDERSTANDING CHOLINESTERASE DISPOSITION AND FUNCTION
Shelley Camp, Limin Zhang, Eric Krejci, Alexandre Dobbertin, Veronique Bernard, Ellen G Duysen, Oksana Lockridge and Palmer Taylor |
| 12:00 – 12:20 | L2-3 | Eric Krejci (Paris, France)
CONTROL OF MUSCLE CONTRACTION BY ACETYLCHOLINESTERASE
Emmanuelle Girard, Veronique Bernard and Eric Krejci |
| 12:25 – 12:35 | SL2-1 | Xue-Jun Zhang (Shanghai, China)
SMAD3 NUCLEAR ACCUMULATION INDUCES ACETYLCHOLINESTERASE TRANSCRIPTION DURING CELL APOPTOSIS
Wei Gao, Hui Zhu, Jing-Ya Zhang, Xue-Jin Zhang and Xue-Jun Zhan |

12:35 – 14:00 **Lunch Break**

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| 14:00 – 14:20 | L2-4 | Karl WK Tsim (Hong Kong, China)
PRIMA DIRECTS THE LOCALIZATION OF TETRAMERIC AChE: PROBING THE POSSIBLE FUNCTIONS OF THIS ENZYME IN MUSCLES, NEURONS AND OSTEOBLASTS
Karl WK Tsim, Heidi Q Xie, Ka-Wing Leung, Judy TT Zhu, Mokka KW Mok, Gallant KL Chan, Vicky P Chen, Ava JY Guo and Roy CY Choi |
| 14:25 – 14:45 | L2-5 | Richard L Rotundo (Miami, USA)
TRANSLATIONAL AND POST-TRANSLATIONAL REGULATION OF ACETYLCHOLINESTERASE EXPRESSION AND ASSEMBLY <i>in vitro</i> AND <i>in vivo</i>
Richard L Rotundo, Carlos A Ruiz, Emilio Marrero and Susana G Rossi |
| 14:50 – 15:10 | L2-6 | Susan A Greenfield (Oxford, UK)
ROLE OF AChE-DERIVED C TERMINAL PEPTIDES IN BRAIN FUNCTION AND DYSFUNCTION
Susan A Greenfield |
| 15:15 – 15:25 | SL2-2 | Leo Pezzementi (Birmingham, USA)
EVOLUTION OF VERTEBRATE CHOLINESTERASES: AN INTERMEDIATE CHOLINESTERASE FROM A TELEOST FISH, THE MEDAKA (<i>Oryzias latipes</i>)
Leo Pezzementi and Arnaud Chatonnet |
| 15:25 – 15:35 | SL2-3 | Arnaud Chatonnet (Montpellier, France)
EVOLUTION OF CHOLINESTERASES IN THE ANIMAL KINGDOM
Leo Pezzementi and Arnaud Chatonnet |
| 15:35 – 15:45 | SL2-4 | Anna Hrabovska (Bratislava, Slovakia)
GENERATION OF THE MONOCLONAL ANTIBODIES AGAINST BUTYRYLCHOLINESTERASE
Anna Hrabovska, Veronique Bernard and Eric Krejci |

15:45 – 16:15 **Coffee Break**

16:15– 16:35	L2-7	Claire Legay (Paris, France) CoIQ DOES MORE THAN ANCHORING CHOLINESTERASES AT THE NEUROMUSCULAR JUNCTION Claire Legay
16:40 – 17:00	L2-8	Janez Sketelj (Ljubljana, Slovenia) MOTOR NERVES REGULATE THE EXPRESSION OF AChE-ASSOCIATED COLLAGEN Q IN RAT MUSCLES Janez Sketelj, Špela Glišović, Miha Trinkaus and Peter Pregelj
17:05 – 17:25	L2-9	Alexander G Karczmar (Maywood, USA) CHOLINESTERASES AND THE CHOLINERGIC SYSTEM IN ONTOGENESIS, AND THEIR NON-SYNAPTIC ROLE Alexander G Karczmar
17:30 – 17:40	SL2-5	Eran Finkel (Jerusalem, Israel) CELLULAR ORIGIN OF ACETYLCHOLINESTERASE IN THE NEUROMUSCULAR JUNCTION Eran Finkel, Gwenola Auda-Boucher, Benoît Mimault, Yvonnick Chéraud, Rama Sela, Josiane Fontaine-Pérus and Lili Anglister
17:40 – 17:50	SL2-6	Lisa Li (Hong Kong, China) HIGH-LEVEL EXPRESSION OF ACTIVE HUMAN BUTYRYLCHOLINESTERASE IN SILK WORM LARVAE BY THE BAC-TO-BAC SYSTEM Lisa Li, Denis Ip, Huang-Quan Lin, Jian Mei Liu, Yun Gen Miao and David Chi Cheong Wan
17:50 – 18:00	SL2-7	Andrea Robin Durrant (Jerusalem, Israel) ENDOCRINE REGULATION OF SERUM BUTYRYLCHOLINESTERASE ACTIVITY IN NORMAL AND DYSTROPHIC-DEFICIENT MUTANT MICE Andrea R Durrant and Lili Anglister
18:00	POSTER SESSION I - with cheese and wine	
20:00	Meeting of the International Advisory Board and Croatian Organising Board	

TUESDAY, SEPTEMBER 22, 2009

SESSION 3

Interaction of cholinesterases with substrates, inhibitors and reactivators

Chairpersons: Terrone Rosenberry (USA) and Patrick Masson (France)

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| 8:30 – 8:50 | L3-1 | Israel Silman (Rehovot, Israel)
REVERSIBLE AND IRREVERSIBLE INACTIVATION OF
ACETYLCHOLINESTERASE BY THE PHOTSENSITIZING AGENT
METHYLENE BLUE
Israel Silman, Esther Roth, Aviv Paz, Yechun Xu, Valery Shnyrov, Joel L
Sussman, Yacov Ashani and Lev Weiner |
| 8:55 – 9:15 | L3-2 | Daniel M Quinn (Iowa City, USA)
ACCUMULATION OF TETRAHEDRAL INTERMEDIATES IN
CHOLINESTERASE CATALYSIS: A SECONDARY ISOTOPE EFFECT STUDY
Jose R Tormos, Kenneth L Wiley, Javier Seravalli, Florian Nachon,
Patrick Masson, Yvain Nicolet, Didier Fournier and Daniel M Quinn |
| 9:20 – 9:40 | L3-3 | Jure Stojan (Ljubljana, Slovenia)
EVIDENCE FOR NON-PRODUCTIVE SUBSTRATE BINDING INTO THE
ACTIVE SITE OF VERTEBRATE ACETYLCHOLINESTERASE
Jure Stojan |
| 9:45 – 10:05 | L3-4 | Terrone L Rosenberry (Jacksonville, USA)
SELECTIVE INTRODUCTION OF EQUILIBRIUM ASSUMPTIONS
PROVIDES AN ALGEBRAIC FORMULATION OF COMPETITIVE
INHIBITION CONSTANTS FOR ACETYLCHOLINESTERASE
Terrone L Rosenberry, Bernadette Cusack, Leilani K Sonoda, Sarah E Dekat
and Joseph L Johnson |
| 10:10 – 10:20 | SL3-1 | David Sept (St Louis, USA)
CYCLIC PEPTIDES AS PROPHYLACTIC AGENTS FOR
ACETYLCHOLINESTERASE
Xiang Zheng, Nathan A Baker, Garland R Marshall, Terrone L Rosenberry
and David Sept |
| 10:20 – 10:30 | SL3-2 | Galina Makhaeva (Chernogolovka, Russia)
MECHANISM OF INHIBITION OF SERINE ESTERASES BY FLUORINATED
AMINOPHOSPHONATES
Galina Makhaeva, Alexey Aksinenko, Vladimir Sokolov, Igor Baskin, Vladimir
Palyulin, Nichole Hein, Jeff Kampf, Sanjeeva Wijeyesakere and Rudy J
Richardson |
| 10:30 – 10:40 | SL3-3 | Zoltan Rakonczay (Szeged, Hungary)
<i>In vitro</i> INHIBITION OF ACETYL- AND BUTYRYLCHOLINESTERASES BY
CARBAMATES AND ORGANOPHOSPHATES AND THEIR DERIVATIVES
IN DIFFERENT INVERTEBRATE AND VERTEBRATE TISSUES, INCLUDING
HUMAN
Zoltan Rakonczay, Carla Falugi, Paul Layer, Paul Genever, Hagen Thielecke
and Katalin Nagy |

10:40 – 11:00 **Coffee Break**

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| 11:00 – 11:20 | L3-5 | William Stephen Brimijoin (Rochester, USA)
CYSTEINE-REACTIVE AGENTS TARGET INSECT
ACETYLCHOLINESTERASE – POTENTIAL FOR SPECIES-SELECTIVE
PESTICIDES
William Stephen Brimijoin, Gregory Polsinelli, Yang Gao, Sanjay Singh, Rajesh
Mishra, Fredrik Ekström, Kun-Yan Zhu and Yuan-Ping Pang |
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11:25 – 11:45	L3-6	Chang-Guo Zhan (Lexington, USA) STRUCTURE-AND-MECHANISM-BASED DESIGN OF SUBSTRATE-SELECTIVE HIGH-ACTIVITY MUTANTS OF CHOLINESTERASES Fang Zheng, Wenchao Yang, Mei-Chuan Ko, Lei Fang, Yongmei Pan, Hoon Cho, Daquan Gao, Min Tong, Hsin-Hsiung Tai, James H Woods and Chang-Guo Zhan
11:50 – 12:10	L3-7	Serge N Moralev (St Petersburg, Russia) INVESTIGATION OF STRUCTURE-ACTIVITY RELATIONSHIPS IN ORGANOPHOSPHATES – CHOLINESTERASE INTERACTION USING DOCKING ANALYSIS Serge N Moralev and Denis B Tikhonov
12:10 – 12:20	SL3-4	Paul R Carlier (Blacksburg, USA) REDESIGN OF TACRINE TO CREATE ACHIEVE POTENT AND SELECTIVE INHIBITION OF <i>Anopheles gambiae</i> ACETYLCHOLINESTERASE Paul R Carlier, Larry D Williams, Ming Ma, Jeffrey R Bloomquist, Troy D Anderson, Eric A Wong, Ranginee Choudhury, Max Totrov and Polo Lam
12:20 – 12:30	SL3-5	Asaad Khalid (Khartoum, Sudan) EXPERIMENTAL AND THEORETICAL INVESTIGATIONS ON THE MECHANISM OF CHOLINESTERASES INHIBITION BY NATURAL COUMARINS Asaad Khalid, Zaheer-UI-Haq, M Kamran Azim, Aziz Uddin and M Iqbal Choudhary
12:30 – 14:00	Lunch Break	
14:00 – 14:20	L3-8	Patrick Masson (La Tronche Cedex, France) STRUCTURAL APPROACH TO THE AGING OF PHOSPHYLATED CHOLINESTERASES Patrick Masson
14:25 – 14:45	L3-9	Zoran Radić (La Jolla, CA) INTERACTION KINETICS OF OXIMES WITH NATIVE, PHOSPHYLATED AND AGED HUMAN ACETYLCHOLINESTERASE AND BUTYRYLCHOLINESTERASE Zoran Radić, Jaroslaw Kalisiak, Valery V Fokin, K Barry Sharpless and Palmer Taylor
14:50 – 15:10	L3-10	Zrinka Kovarik (Zagreb, Croatia) OXIME-ASSISTED REACTIVATION OF PHOSPHORYLATED BUTYRYLCHOLINESTERASE Zrinka Kovarik, Maja Katalinić and Goran Šinko
15:15 – 15:25	SL3-6	Goran Šinko (Zagreb, Croatia) INTERACTIONS OF PYRIDINIUM OXIMES WITH ACETYLCHOLINESTERASE Goran Šinko, Josipa Brglez and Zrinka Kovarik
15:25 – 15:35	SL3-7	Chunyuan Luo (Silver Spring, USA) OXIME REACTIVATION OF ACETYLCHOLINESTERASES FROM VARIOUS SPECIES AFTER INHIBITION BY NERVE AGENTS WITH BULKY SIDE-CHAIN: A DISCUSSION FOR THE MECHANISM OF POTENT REACTIVATION ABILITY OF H OXIMES Chunyuan Luo, Nagarajan Pattabiraman, Carolyn Chambers, Robert diTargiani, Min Tong, Yerie Yang and Ashima Saxena
15:35 – 16:05	Coffee Break	

16:05 – 16:15	SL3-8	Apurba K Bhattacharjee (Silver Spring, USA) <i>In silico</i> 3D-QSAR PHARMACOPHORE AND STEREOELECTRONIC MODELS FOR TABUN, AND DFP-INHIBITED ACETYLCHOLINESTERASE REACTIVATORS USEFUL FOR DISCOVERY OF NOVEL NEUROLOGIC THERAPEUTICS Apurba K Bhattacharjee, Kamil Kuča, Kamil Musilek, Elizabeth Marek, Ha Thu Le and Richard K Gordon
16:15 – 16:25	SL3-9	Veena Beri (Delhi, India) EDIBLE PLANTS AS STOREHOUSE OF CHEMICALS AFFECTING THE ACTIVITY OF ACETYLCHOLINESTERASE FROM ELECTRIC EEL Veena Beri
16:25 – 16:35	SL3-10	Richard K Gordon (Silver Spring, USA) PRO-2-PAM THERAPY FOR CENTRAL AND PERIPHERAL CHOLINESTERASES Richard K Gordon, Amy J Campbell, Edward D Clarkson, James C DeMar, Julian R Haigh, Christine A Herdman, Farhat A Khan, Haim Leader, Elizabeth Marek, Madhusoodana P Nambiar, Roberta R Owens, Ruthie H Ratcliffe and Susan M Schulz
16:35 – 16:45	SL3-11	Gregory E Garcia (Silver Spring, USA) NOVEL OXIMES AS BLOOD-BRAIN BARRIER PENETRATING CHOLINESTERASE REACTIVATORS Gregory E Garcia, Amy J Campbell, John Olson, Patricia M Legler, Deborah Moorad-Doctor and Andrew Kim
16:45 – 16:55	SL3-12	Tsung-Ming Shih (Aberdeen Proving Ground, USA) <i>In vivo</i> REACTIVATION OF BLOOD, BRAIN AND TISSUE CHOLINESTERASE ACTIVITY INHIBITED BY ORGANOPHOSPHORUS NERVE AGENTS AT A LETHAL DOSE Tsung-Ming Shih, Jacob W Skovira, John C O'Donnell and John H McDonough
20:00	ORGAN CONCERT IN THE ŠIBENIK CATHEDRAL	

WEDNESDAY, SEPTEMBER 23, 2009

SESSION 4

Anticholinesterases: Mechanisms of toxicity, detoxication and therapy, and counter-terrorism strategies

Chairpersons: Peter Eyer (Germany) and David Lenz (USA)

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| 8:30 – 8:50 | L4-1 | David Lenz (Aberdeen Proving Ground, USA)
BUTYRYLCHOLINESTERASE AS A DRUG FOR PROTECTION AGAINST ORGANOPHOSPHORUS POISONS: SUCCESSES AND CHALLENGES
David E Lenz, Tony E Reeves, Clarence A Broomfield and Douglas M Cerasoli |
| 8:55 – 9:15 | L4-2 | Avigdor Shafferman (Ness Ziona, Israel)
NEXT GENERATION OF OP-BIOSCAVENGERS
Ofer Cohen, Chanoch Kronman, Arie Oredentlich, Ohad Mazor, Lily Raveh, Dana Stein, Baruch Velan, Avigdor Shafferman |
| 9:20 – 9:30 | SL4-1 | Douglas Cerasoli (Aberdeen Proving Ground, USA)
CHARACTERIZING THE EXTENT OF PROTECTION AFFORDED BY HUMAN BUTYRYLCHOLINESTERASE AGAINST NERVE AGENT POISONING
Douglas M Cerasoli, Tony E Reeves, Sean Hodgins, C Linn Cadieux, Susan M Schulz, Christopher Robison, Theresa Ward, Stephen Estes, Robyn B Lee, Edward Clarkson, David E Lenz and Lucille A Lumley |
| 9:30 – 9:40 | SL4-2 | Yvonne Rosenberg (Rockville, USA)
PHARMACOKINETICS OF DIFFERENT FORMS OF PEGYLATED RECOMBINANT BCHE IN HOMOLOGOUS MACAQUES FOLLOWING MULTIPLE DOSING AND ROUTES OF DELIVERY
Yvonne Rosenberg, Ashima Saxena, Wei Sun, Markus Sack, Nageswararao Chilukuri, Xiaoming Jiang, Parastoo Azadi, Lori Urban, Bhupendra Doctor and David Lee |
| 9:40 – 9:50 | SL4-3 | Madhusoodana P Nambiar (Silver Spring, USA)
INNOVATIVE HUPERZINE A ANALOGS WITH DIFFERENT DEGREES OF REVERSIBLE ACHE INHIBITION AND OPTIMAL NMDA ANTAGONISM: BIOLOGICAL ACTIVITY AND NEUROPROTECTION AGAINST NERVE AGENTS AND BLAST EXPOSURE
Madhusoodana P Nambiar, Matthew D Kurnick, Kara Tarr, Richard K Gordon, Timothy Bentley Joseph B Long, James L Atkins and Bhupendra P Doctor |

9:50 – 10:20 **Coffee Break**

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| 10:20 – 10:40 | L4-3 | Franz Worek (Munich, Germany)
EVALUATION OF MEDICAL COUNTERMEASURES AGAINST ORGANOPHOSPHORUS COMPOUNDS: THE VALUE OF EXPERIMENTAL DATA AND COMPUTER SIMULATIONS
Franz Worek, Nadja M Herkert, Nadine Aurbek, Peter Eyer and Horst Thiermann |
| 10:45 – 11:05 | L4-4 | Horst Thiermann (Munich, Germany)
ASSESSMENT OF NEUROMUSCULAR DYSFUNCTION DURING POISONING BY ORGANOPHOSPHORUS COMPOUNDS
Horst Thiermann, Thomas Seeger, Sascha Gonder, Nadja Herkert, Bernd Antkowiak, Thomas Zilker, Florian Eyer and Franz Worek |
| 11:10 – 11:30 | L4-5 | Zoran Grubič (Ljubljana, Slovenia)
THE EFFECTS OF DFP ON THE PRECURSORS OF HUMAN MUSCLE REGENERATION
Tomaž Marš, Sergej Pirkmajer, Katarina Miš, Katarina Pegan, Armand F Miranda, Michael P Kingand Zoran Grubič |

11:35 – 11:45	SL4-5	Susana G Rossi (Miami, USA) INDUCED OVEREXPRESSION OF ACETYLCHOLINESTERASE BY PRAD- KDEL PEPTIDES IN CULTURE AND <i>in vivo</i> Susana G Rossi, Carlos A Ruiz and Richard L Rotundo
11:45 – 12:05	L4-6	Michael Eddleston (Newcastle, UK) A GOTTINGEN MINIPIG MODEL OF DIMETHOATE ORGANOPHOSPHORUS PESTICIDE POISONING Michael Eddleston, John B Harris and Richard Edward Clutton
12:10 – 12:30	L4-7	Peter Eyer (Munich, Germany) PARADOX FINDINGS MAY CHALLENGE ORTHODOX REASONING IN ACUTE ORGANOPHOSPHORUS POISONING Peter Eyer, Franz Worek, Horst Thiermann and Michael Eddleston
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12:30 – 14:00	Lunch Break	
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15:00 – 21:00	EXCURSION	
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THURSDAY, SEPTEMBER 24, 2009

SESSION 5

Enzymes other than cholinesterases reacting with anticholinesterase agents

Chairpersons: Marcello Lotti (Italy) and Gabi Amitai (Israel)

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| 8:30 – 8:50 | L5-1 | Marcello Lotti (Padova, Italy)
SOLUBLE PHENYL-VALERATE ESTERASES OF HEN SCIATIC NERVE AND
THE PROMOTION OF ORGANOPHOSPHATE INDUCED DELAYED
POLYNEUROPATHY (OPIDP)
Marcello Lotti |
| 8:55 – 9:05 | SL5-1 | Eugenio Vilanova (Alicante, Spain)
INHIBITION WITH SPONTANEOUS REACTIVATION AND “ONGOING
INHIBITION” EFFECT OF ESTERASES BY THE BIOTINYLATED
ORGANOPHOSPHORUS COMPOUNDS: S9B AS A MODEL
Jorge Estévez, José Barril and Eugenio Vilanova |
| 9:05 – 9:25 | L5-2 | Gabi Amitai (Ness Ziona, Israel)
ENZYMATIC DETOXIFICATION OF NERVE AGENTS AT HIGH BULK AND
SURFACE CONCENTRATIONS
Gabi Amitai, Jessica Sinclair, Colin Luo, Rellie Adani, Guy Yacov, Osnat
Limanovich, Liat Tveria, Shelly Yishai, Shai Teitelboim, Lily Raveh, Keith
LeJeune and
Karen Kustedjo |
| 9:30 – 9:50 | L5-3 | Yacov Ashani (Rehovot, Israel)
STEREOSPECIFIC SYNTHESIS OF ANALOGS OF NERVE AGENTS AND
THEIR USE FOR SELECTION AND CHARACTERIZATION OF
PARAOXONASE CATALYTIC SCAVENGERS
Yacov Ashani, Haim Leader, Rinkoo D Gupta, Israel Silman, Joel L Sussman
and
Dan S Tawfik |
| 9:55 – 10:15 | L5-4 | Oksana Lockridge (Omaha, USA)
A NEW MOTIF FOR ORGANOPHOSPHORUS AGENT BINDING TO
PROTEINS THAT HAVE NO ACTIVE SITE SERINE
Oksana Lockridge, Bin Li, Hasmik Grigoryan, Ellen G Duysen, Patrick Masson,
Florian Nachon and Lawrence M Schopfer |
| 10:20 – 10:30 | SL5-2 | Colin J Jackson (Canberra, Australia)
THE STRUCTURAL BASIS FOR THE EVOLUTION OF
ORGANOPHOSPHATE RESISTANCE
Colin J Jackson, Jian-Wei Liu, Robyn Russell, Martin Weik, Dan S Tawfik and
John G Oakeshott |

10:30 – 11:00 **Coffee Break**

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| 11:00 – 11:20 | L5-5 | Dragomir Draganov (Ashland, USA)
LACTONASES WITH ORGANOPHOSPHATASE ACTIVITY: STRUCTURAL
AND EVOLUTIONARY PERSPECTIVES
Dragomir Draganov |
| 11:25 – 11:45 | L5-6 | Ashima Saxena (Silver Spring, USA)
DEVELOPING CATALYTIC BIOSCAVENGERS FOR THE PROPHYLAXIS OF
CHEMICAL WARFARE AGENT TOXICITY
Ashima Saxena, Lakshmi Chandrasekaran, Tatyana Belinskaya, Prasanthi
Tipparaju and Robert C diTargiani |

11:50 – 12:10	L5-7	Marc-Michael Blum (Munich, Germany) SQUID DFPase AND OTHER β -PROPELLER HYDROLASES – SWISS ARMY KNIVES OF ENZYMES? Marc-Michael Blum, Marco Melzer, Jürgen Gäb and Anne Heidenreich
12:15– 12:25	SL5-3	Daniel Jun (Hradec Kralove, Czech Republic) PREPARATION OF METHOXY POLYETHYLENE GLYCOL-CONJUGATED PHOSPHOTRIESTERASE AS A POTENTIAL CATALYTIC BIOSCAVENGER AGAINST ORGANOPHOSPHATE POISONING Daniel Jun, Lucie Musilová, Marek Link, Mélanie Loiodice, Daniel Rochu, Frédérique Renault, Patrick Masson and Florian Nachon
12:25 – 12:35	SL5-4	Daniel Rochu (La Tronche, France) PARAMETERS INFLUENCING STABILITY AND ACTIVITY OF HUMAN PARAOXONASE-1 Daniel Rochu, Frédérique Renault, Mikaël Elias, Eric Chabrière and Patrick Masson
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12:35 – 14:00	Lunch Break	
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14:00 – 14:20	L5-8	Clement E Furlong (Seattle, USA) HUMAN PON1 – A BIOMARKER FOR RISK OF DISEASE AND EXPOSURE CE Furlong, SM Suzuki, RC Stevens, RJ Richter, TB Cole, GP Jarvik, J Hofmann, H Checkoway A Samii, LG Costa, A Griffith, JW Roberts, D Yearout and CP Zabetian
14:25 – 14:35	SL5-5	Tsafrir S Mor (Tempe, USA) PLANT PRODUCED HUMAN PROTEINS AS ANTICHOLINERGIC BIOSCAVENGERS Latha Kannan, Brian C Geyer, Pierre-Emmanuel Garnaud, Mrinalini Muralidharan, Irene Cherni, Ryan R Woods, Aaron J Benally, Douglas M Cerasoli, Hermona Soreq, David E Lenz and Tsafrir S Mor
14:35 – 14:45	SL5-6	Klara Bulc Rozman (Ljubljana, Slovenia) PARAZOANTHOXANTHIN A BLOCKS TORPEDO NICOTINIC ACETYLCHOLINE RECEPTORS Klara Bulc Rozman, Kristina Sepčić, Araoz Romulo, Molgo Jordi and Dušan Šuput

3D SESSION

Chairpersons: Zoran Radić (USA) and Martin Weik (France)

14:50 – 14:55		Zoran Radić (La Jolla, USA) Introduction to 3D presentations
14:55 – 15:15	L3D-1	Martin Weik (Grenoble, France) STRUCTURAL DYNAMICS OF ACETYLCHOLINESTERASE Jacques-Philippe Colletier, Benoit Sanson, Frank Gabel and Martin Weik
15:15 – 15:45	L3D-2	Fredrik Ekström (Umeå, Sweden) (<i>crystallography</i>) and Yuan-Ping Pang (Rochester, USA) (<i>simulation</i>) STRUCTURE OF HI-6-SARIN-ACETYLCHOLINESTERASE DETERMINED BY X-RAY CRYSTALLOGRAPHY AND MICROSECOND MOLECULAR DYNAMICS SIMULATION: REACTIVATOR MECHANISM AND DESIGN Fredrik Ekström, Andreas Hörnberg, Elisabet Artursson, Lars-Gunnar Hammarström, Gunter Schneider and Yuan-Ping Pang
15:45 – 16:05	L3D-3	Yves Bourne (Marseille, France) COMPARATIVE OVERVIEW OF NEUROLIGIN VERSUS ACETYLCHOLINESTERASE AND THEIR RESPECTIVE NEUREXIN AND FASCICULIN COMPLEXES Philippe Leone, Igor Fabriczny, Géraldine Ferracci, Davide Comoletti, Gerlind Sulzenbacher, Sandrine Conrod, Meghan Miller, Palmer Taylor, Pascale Marchot and Yves Bourne

16:05 – 16:35 **Coffee Break**

16:35 – 16:45	SL3D-1	Florian Nachon (La Tronche Cedex, France) COMPARISON OF LIGAND BINDING TO BUTYRYLCHOLINESTERASE AND ACETYLCHOLINESTERASE Florian Nachon, Yvain Nicolet, Eugénie Carletti, Marielle Wandhammer, Oksana Lockridge and Patrick Masson
16:45 – 16:55	SL3D-2	Ophélie Kwasniewski (Paris, France) FIXATION OF THE TWO TABUN ISOMERS IN ACETYLCHOLINESTERASE: A QM/MM STUDY Ophélie Kwasniewski, Laurent Verdier, Max Malacria and Etienne Derat
16:55 – 17:05	SL3D-3	Nagarajan Pattabiraman (Silver Spring, USA) SIMULATIONS OF THE BINDING OF OXIMES TO HUMAN ACETYLCHOLINESTERASE INHIBITED BY G- AND V-AGENTS Nagarajan Pattabiraman, Yun Ling, Chunyuan Luo, Carolyn Chambers, C R Vinayaka and Ashima Saxena
17:05 – 17:15	SL3D-4	Rathnam Boopathy (Coimbatore, India) PROBING THE ACTIVE SITE OF CHOLINESTERASES FOR ITS ASSOCIATED ARYL ACYLAMIDASE ACTIVITY: MOLECULAR DOCKING OF SUBSTRATE ANALOGUES Ramanna Valmiki Rajesh and Rathnam Boopathy

17:20 **Announcement of the winner of the *Biochemical Journal* poster award**

17:30 – 18:30 **POSTER SESSION II**

20:30 – 23:00 **Meeting Dinner**

FRIDAY, SEPTEMBER 25, 2009

SESSION 6

Diseases related to cholinesterases and therapy with cholinesterase inhibitors

Chairpersons: Ezio Giacobini (Switzerland) and Manfred Windisch (Austria)

8:30 – 8:50	L6-1	Giancarlo Pepeu (Florence, Italy) CHOLINESTERASE INHIBITORS AND COGNITIVE PROCESSES Giancarlo Pepeu
8:55 – 9:15	L6-2	Ezio Giacobini (Geneva, Switzerland) CHOLINESTERASE INHIBITORS ROLE IN THE THERAPY OF ALZHEIMER DISEASE Ezio Giacobini
9:20 – 9:40	L6-3	Taher Darreh-Shori (Stockholm, Sweden) APOLIPOPROTEIN E AND A β MAY AFFECT THE CHOLINERGIC NEUROTRANSMISSION BY BOOSTING THE ACTIVITY AND STABILITY OF CHOLINESTERASES IN THE BRAIN Taher Darreh-Shori, Negar Modiri and Agneta Nordberg
9:45 – 10:05	L6-4	Ninoslav Mimica (Zagreb, Croatia) THE CHOLINESTERASE INHIBITORS – CURRENT CLINICAL VIEW AND CROATIAN REALITY Ninoslav Mimica
10:10 – 10:20	SL6-1	Manuela Bartolini (Bologna, Italy) FAST vs IN-DEPTH CHARACTERIZATION OF NEW CHOLINESTERASES INHIBITORS BY IMMOBILIZED ENZYME REACTORS Manuela Bartolini and Vincenza Andrisano
10:20 – 10:30	SL6-2	Diego Muñoz-Torrero (Barcelona, Spain) HUPRINE-TACRINE HYBRIDS AS A NOVEL FAMILY OF MULTI-TARGET DRUG CANDIDATES AGAINST ALZHEIMER'S AND PRION DISEASES Diego Muñoz-Torrero, Pelayo Camps, Xavier Formosa, Carles Galdeano, Elisabet Viayna, Albert Badia, M Victòria Clos, Marta Pera, Míriam Ratia, Belén Pérez Fernández, Manuela Bartolini, Francesca Mancini, Vincenza Andrisano, Gema C González-Muñoz, M Isabel Rodríguez-Franco, Lucie Rivail and F Javier Luque
10:30 – 11:00	Coffee Break	
11:00 – 11:10	SL6-3	Ljiljana Popović (Zagreb, Croatia) THE VALUE OF PLASMA CHOLINESTERASE IN CHILDREN WITH SEVERE LIVER DISEASE Ljiljana Popović, Lili Mikecin and Josipa Kern
11:10 – 11:20	SL6-4	Sridhar R Gumpeny (Visakhapatnam, India) PUTATIVE ROLES OF BUTYRYLCHOLINESTERASE IN METABOLIC SYNDROME Sridhar R Gumpeny, Appa Rao Allam, Srinivas Kudipudi, Nirmala Gumpeny and Lakshmi Gumpeny
11:20 – 11:30	SL6-5	Julian R Haigh (Silver Spring, USA) PROTECTION BY PYRIDOSTIGMINE BROMIDE OF MARMOSSET HEMI-DIAPHRAGM FUNCTION AND ACETYLCHOLINESTERASE ACTIVITY AFTER SOMAN EXPOSURE Julian R Haigh, Michael Adler, Irwin Koplovitz, James P Apland, Sharad S Deshpande, David E Lenz and Richard K Gordon

11:30 – 11:40 SL6-6 **Yang Gao** (Rochester, USA)
LASTING TRANSDUCTION OF COCAINE HYDROLASE BY HELPER-
DEPENDENT ADENOVIRAL VECTOR
Yang Gao and William Stephen Brimijoin

11:45 **CLOSING SESSION**

Presentation of the winner of the Biochemical Journal poster award

Bhuphenda P Doctor (Silver Spring, USA) and **Jean Massoulié** (Paris, France)
Summing up of the 10th International Meeting on Cholinesterases

Farewell addresses and drink