

Symposium Program (Titles and Speakers)

April 17, Sunday

- 3:00-9:00PM **Registration**
- 6:00-7:00PM **Memorial Talks for Vincent Massey and Kunio Yagi**
Chairperson: Andrew Karplus (Oregon State University, USA)
Remarks from their old friends and colleagues
(Ann Arbor & Nagoya groups)
- 7:00PM- reception party

April 18, Monday

- 8:50-9:00AM Opening Remarks by Takeshi Nishino
(Nippon Medical School, Japan)
- Lecture Session I** Chairperson: Dave Ballou
(University of Michigan, Ann Arbor, USA)
- 9:00-9:40AM **“D-Amino Acid Oxidase: Still New Lessons from A
Seventy Year Old Flavoprotein
– A homage to Vincent Massey and Kunio Yagi.”**
Sandro Ghisla (University of Konstanz, Germany)
- 9:40-10:10AM **“Which mechanism for (S)-2-hydroxy acid-oxidizing
flavoenzymes ? A tale of a histidine and two protons”**
Florence Lederer (CNRS, France)
- 10:40-11:10AM **“The Mammalian Acyl-CoA Oxidase: Structural Bases for
Reactivity”**
Retsu Miura (University of Kumamoto, Japan)
- Lecture Session II** Chairperson: Willem van Berkel
(Wageningen University, Netherlands)
- 11:10-11:40AM **“The Mechanism of Nitroalkane Oxidase”**
Paul Fitzpatrick (Texas A & M University, USA)
- 11:40-12:10AM **“ Dynamics of Catalysis by p-Hydroxybenzoate
Hydroxylase – morethan just Flavin Movement is
Required ”**
Barrie Entch (University of Michigan, Ann Arbor, USA)
- 2:00-5:00PM **POSTER SESSION**

Lecture Session III Chairperson: Russ Hille (Ohio State University, USA)

7:00-7:30PM **“Baeyer-Villiger Monooxygenases: from Genome Analysis to Mechanistic and Structural Details”**
Marco W. Fraaije (University of Groningen, The Netherlands)

7:30-8:10PM **“The Mammalian Xanthine Oxidoreductase: Mechanisms of Hydroxylation Reaction and Dehydrogenase/Oxidase Conversion”**
Ken Okamoto and Tomoko Nishino
(Nippon Medical School, Japan)

8:10-8:40PM **“Xanthine Dehydrogenase from *Rhodobacter capsulatus*: Structure-Function Studies, Mechanism of Assembly and Cofactor Insertion into the Enzyme”**
Silke Leimküller (University of Potsdam, Germany)

April 19, Tuesday

Lecture Session IV Chairperson: Charles Williams Jr.
(University of Michigan, Ann Arbor, USA)

8:50-9:30AM **“Flavoproteins in Oxidative Protein Folding: from Viruses to Human Growth Factors”**
Colin Thorpe (University of Delaware, USA)

9:30-10:00AM **“Large Thioredoxin Reductases - A Fairy Tail Story”**
Stephan Gromer (Biochemie-Zentrum Heidelberg, Germany)

10:00-10:30AM **“Coenzyme A-Disulfide Reductase(s) and CoASH-Mediated Redox Control in *Bacillus anthracis*”**
Al Claiborne (Wake Forest University, USA)

Lecture Session V Chairperson: Tomitake Tsukihara (Osaka University, Japan)

10:50-11:30AM **“Complex Colors and Colorful Complexes – The Enigma of Mercury Reduction”**
Susan Miller and Emil. F. Pai (University of California, San Francisco, USA and University of Toronto, Canada)

11:30-12:00AM **“Structural studies of cholesterol oxidase at ultra high resolution: What electron density features tell us about flavin reactivity”**
Alice Vrielink (University of California, Santa Cruz, USA)

12:00-12:30PM **“Structure at 1.85 Å Resolution of Heterotetrameric Sarcosine Oxidase, a Very Complex Flavoenzyme.”**
F. Scott Matthews (Washington University, USA)

2:00-5:00PM **POSTER SESSION**

Lecture Session VI Chairperson: Carlos Gomez-Moreno
(Universidad de Zaragoza, Spain)

7:00-7:40PM **“Structural Insights into the Inhibitor Specificity and Catalytic Mechanism of Monoamine Oxidase”**

Dale Edmondson and Andrea Mattevi
(Emory University, USA and University of Pavia, Italy)

7:40-8:10PM **“The Folding/Unfolding Process of Yeast D-Amino Acid Oxidase: Molecular and Cellular Inferences”**

Loredano Pollegioni (University of Insubria, Italy)

8:10-8:30PM **“A Possible Mechanism for Regulation of Human Methylenetetrahydrofolate Reductase by Protein Phosphorylation”**

Kazuhiro Yamada (University of Michigan, Ann Arbor, USA)

8:30-9:00PM **“Conformational sampling and electron transfer in ETF protein complexes”**

Helen S. Toogood and Nigel Scrutton
(University of Leicester, UK)

April 20, Wednesday

9:00AM Departure for Hakone at Shonan Village Center (need ticket)

11:30AM- Lunch at a lakeside restaurant

0:30PM- Lake Ashi Cruising

1:30PM- Bus-trip to Owakudani

2:20PM Departure for Kamakura

6:00PM- Banquet dinner at Kamakura Prince Hotel

Dinner talk Chairperson: Kiyoshi Fukui

8:00PM- **"40 years later"**

Cees Veeger (the Netherlands)

8:30PM Departure for Shonan Village Center

9:00PM Arrival to Shonnan Village Center

April 21, Thursday

Lecture Session VII Chairperson: Masaru Tonokura (University of Tokyo, Japan)

8:50-9:20AM **“Electrostatics and the Flavin Redox Potential ”**

Guy Grant (University of Cambridge, UK)

9:20-9:50AM **“Mechanistic Insights into Light-Driven DNA Repair by DNA Photolyase”**

Robert Stanley (Temple University, USA)

9:50-10:10AM **“A Structural Perspective on Nitrite Elimination of Organic Nitrochemicals by Flavoenzymes”**

Allen M. Orville (Georgia Institute Tech., USA)

10:10-10:40AM **“Nitroreductase, Active Site Structure, Electronics and Dynamics”**

Anne-Frances Miller (University of Kentucky, USA)

Lecture Session VIII Chairperson: Masamitsu Wada

(Tokyo Metropolitan University, Japan)

11:00-11:30AM **“Cryptochrome photoreceptor mechanisms of action ”**

Margaret Ahmad (CNRS, France)

11:30-12:00AM **“ LOV Photoreceptors in Plants; Photoreaction and Molecular Structure”**

Satoru Tokutomi (Osaka Prefecture University, Japan)

12:00-12:30PM **“Structure and Function of Electron Transfer Complex of Ferredoxin and Ferredoxin:NADP(H) oxidoreductase”**

Toshihira Hase (Osaka University, Japan)

2:00-5:00PM **POSTER SESSION**

Lecture Session IX Chairperson: Stephen K. Chapman

(University of Edinburgh, UK)

7:00-7:30PM **“Interflavin One-Electron Transfer in the Nitric Oxide Synthase Reductase Domain and NADPH-Cytochrome P450 Reductase.”**

Takashi Iyanagi (RIKEN Harima Institute, Japan)

7:30-8:00PM **“Conformational Control of NO Synthase Reductase Domain”**

Simon Daff (University of Edinburgh, UK)

8:00-8:30PM **“Identifying the Native Electron Transfer Partner for Bacillus Subtilis NO Synthase”**

Dennis Stuehr (Lerner Research Institute, USA)

April 22, Friday

Lecture Session X Chairperson: Mirella Pilone (University of Insubria, Italy)

8:50-9:20AM **“Synthesis of the Recognition Element in Nikkomycin Antibiotics: Structure and Function of NikD”**
Marilyn Jorns (Drexel University, USA)

9:20-9:50AM **“A New Flavoprotein Involved in Transcriptional Regulation”**
Elena Battaglioli (University of Milan, Italy)

9:50-10:20AM **“Involvement of Flavohemoglobin and Nitric Oxide in the Nitrogen Respiration by the Bacterium *Streptomyces antibioticus*”**
Hirofumi Shoun (University of Tokyo, Japan)

10:20-10:50AM **“Evolution of vitamin B2 biosynthesis. A novel class of riboflavin synthase in Archaea”**
Markus Fischer (Technical University of Munich, Germany)

Lecture Session XI Chairperson: Katja Becker
(Justus-Liebig University Giessen, Germany)

11:20-11:50AM **“Functional Roles and Pathophysiology of Brain D-Amino Acid Oxidase”**
Kiyoshi Fukui (University of Tokushima, Japan)

11:50-12:20AM **“Trypanothione Reductase and Other Flavoenzymes as Targets of Antiparasitic Drugs”**
Luise Krauth-Siegel (University of Heidelberg, Germany)

2:00-2:40PM **“Flavoproteins and One Carbon Metabolism”**
Rowena Matthews (University of Michigan, Ann Arbor, USA)

Lecture Session XII

3:00-5:00PM Vincent Massey Award Lectures & Closing Remarks
by Retsu Miura (Kumamoto University, Japan)
and New Chairperson's Remarks