

## Srinivasan Chandrasekaran (India)

Professor Chandrasekaran's research has been concerned with the development of new synthetic methodology for organic synthesis, synthesis of natural products, organometallic chemistry, catalysis, study of reaction mechanisms, and organic materials.



Srinivasan Chandrasekaran

### Education and Career

Chandrasekaran earned his B.S. (1965), M.S. (1967), and Ph.D. (1972) degrees at Madras University in Madras, India. His doctoral supervisor was Prof. S. Swaminathan in the Department of Organic Chemistry. He held postdoctoral fellowships/associateships in the laboratories of Prof. E.J. Corey at Harvard University, Cambridge, MA, USA (1973–1975 and 1976–1977) and Dr. J.A. Edwards at Syntex Research, Palo Alto, CA, USA (1975–1976).

He is currently the Chairman, Division of Chemical Sciences and Professor, Organic Chemistry at the Indian Institute of Science, Bangalore, India. He was earlier the Chairman of the Department of Organic Chemistry (1996–2003) and Amrut Mody Chair Professor of Chemistry. From 1978 to 1989, he worked in the Department of Chemistry at the Indian Institute of Technology, Kanpur, India, where he served as Lecturer (1978–1980), Assistant Professor (1981–1985), and Professor (1985–1989). He has been a visiting professor at the Australian National University, Canberra (1985); University of Karlsruhe, Germany (1987); RWTH, Aachen, Germany (1992, 1996); and Chinese Academy of Sciences, Beijing (2001).

Chandrasekaran has published over 200 research papers and reports in national and international journals. Over the years he has supervised 35 Ph.D students, 60 M.S. students and 48 postdoctoral fellows. He is a consultant to a number of chemical and pharmaceutical industries in India and abroad.

### IUPAC Involvement

Chandrasekaran has been an elected member of the IUPAC Bureau (2002–09) and has served as a member of the Project Committee (2002–07). He is currently a member of the Evaluation Committee and also a member of the Executive Committee. Earlier he served on the IUPAC Commission on Nomenclature of Organic Chemistry (1993–1995). At present he is the Chairman of India's National Committee of IUPAC at the Indian National Science Academy.

### Related Professional Activities

Chandrasekaran has been a member of many committees and organizations: Associate Editor, Proceedings of the Indian Academy of Sciences (Chemical Sciences, 1991–2000); Associate Editor, Tetrahedron Letters; Member: Sectional Committee, Chemistry, Indian Academy of Sciences (1991–1998); Editor, 10th International Conference on Organic Synthesis, Bangalore (1994); Member, Editorial Board, Indian Journal of Chemistry (1995–2001); Member, Program Advisory Committee in Organic Chemistry, Department of Science and Technology, New Delhi (1995–2001); Chairman, Research Committee on Chemistry and Technology, Council of Scientific

and Industrial Research, Govt. of India (CSIR, 2008- ); Member, Council of Indian National Science Academy (1998–2000); Convener, National Symposium in Chemistry, Bangalore (1999); Chairman, Task Force on Green Chemistry, Govt. of India; Chairman, FIST, Dept. of Science & Technology; Secretary, Indian Academy of Sciences, Bangalore ( 2004-09); Vice president, Chemical Research Society of India( 2005-10 ); Co-Convener: Indo-French Centre for Organic Synthesis (2002- ); Secretary, National Organic Symposium Trust ( 2007- 09). He also serves as a member on the Research Councils of a number of CSIR laboratories and leading academic institutions in India. He has also served as a member on the Board of Studies of a number of universities in India. Chandrasekaran has delivered more than 200 invited lectures and seminars at various national and international meetings, universities, and research institutions in India and overseas.

### **Awards**

Chandrasekaran received the Basudev Banerji Medal and Prize from the Indian Chemical Society in 1988 and the Shanti Swarup Bhatnagar Prize from CSIR in 1989. He was Prof. A.B. Kulkarni Endowment Lecturer at the University of Bombay ( 1992); Prof. N. Venkatsubramanian Endowment Lecturer at the University of Madras (1993); Prof. T.R. Seshadri Memorial Lecturer at Delhi University (1998); Prof. Siddappa 60th Birthday Commemoration Lecturer at Dharward University (1999); Professor O.P. Vig Endowment Lecturer, Panjab University, Chandigarh (2000); Jawaharlal Nehru Birth Centenary Lecturer of the Indian National Science Academy (2001); 125 Years-Indian Association for the Cultivation of Science, Kolkata—Commemoration Lecturer (2002) ; Prof. Sukh Dev Endowment Lecturer, Pune University, (2004); Medal of the Material Research Society of India (2005);Kalyani University Endowment Lecturer (2006) ; Ram S.Goyal Prize –Chemistry( (2006). A.V.Rama Rao Foundation Lecture award of JNCASR, Bangalore (2006); JC Bose National Fellowship of Ministry of Science & Technology (2007- 11) Golden Jubilee Commemoration Medal, Indian National Science Academy (2007).

He received the Silver Medal of the Chemical Research Society of India (2002), Medal of the Material Research Society of India (2004), and the Alumni Award for Excellence in Research in Science, IISc (2004). Chandrasekaran was appointed research fellow of the Indian National Science Academy (1985–1987); fellow of the Indian Academy of Sciences (1989); and fellow of the Indian National Science Academy (1992); Honorary Professor of the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore (2000–present); and Fellow of the Third World Academy of Sciences, Trieste, Italy (2000- ).

## <Biographical Sketch>

### Kazuyuki Tatsumi (Japan)

Professor Kazuyuki Tatsumi started his carrier as a theoretical chemist, and his research subjects have shifted into synthetic inorganic chemistry, extending over coordination chemistry, organometallic chemistry, and bioinorganic chemistry. His recent research interests include synthesis of coordinately unsaturated organometallics, transition metal chalcogenides, and transition metal sulfide/thiolate clusters modeling the active sites of reductases such as nitrogenase, hydrogenase, and acetyl-CoA synthase.

### **Education and Career**

Tatsumi received his B.S. (Hons.) in 1971, and obtained a Ph.D. in theoretical inorganic chemistry in 1976 at Osaka University. He held postdoctoral fellowships, first at Texas A&M University (1977-1979), where he studied lanthanide and actinide chemistry with the late Prof. Minoru Tsutsui, and then in the theoretical group of Prof. Roald Hoffmann at Cornell University (1979-1982), where he learned beauty of chemistry. In 1982 he joined the Prof. Akira Nakamura group at Osaka University (Faculty of Science) as Assistant Professor, and started chalcogenide chemistry of early transition metals while he continued the study on theoretical inorganic chemistry. He was awarded Visiting Professorships at University of Helsinki in 1985, and at EPFL (Switzerland) in 1987. He was promoted to Associate Professor at Osaka University (Faculty of Engineering Science) in 1991, and to Professor of Chemistry at Nagoya University in 1994.

### **IUPAC Involvement**

Tatsumi is the President of Inorganic Chemistry Division, which he has been a member since 2002. He was appointed the chairman of IUPAC Subcommittee of Science Council of Japan (NAO) in 2008.

### **Related Professional Activities**

Since 2005 Tatsumi has been on the Council for Science and Technology Committee (Subdivision on Science Committee) of the Ministry of Education, Culture, Sports, Science and Technology, Japan, and he became a member of Science Council of Japan in 2008. He

led the Grant-in-Aid on Priority Area Project, “Reaction Control of Dynamic Complexes” from 2002 to 2006, and has been a head investigator of Grant-in-Aid on Creative Scientific Research on the chemistry of reductases since 2006. He has been a member of the International Organizing Committee of Pacifichem since 1996, where he is currently the vice-chair for Pacifichem 2010. He was on Editorial Advisory Board of New Journal of Chemistry (1995-1997), on International Advisory Editorial Board of JCS Dalton (1998-2002), and he is on Editorial Board of Chemistry: An Asian Journal. He has also been the Regional Editor of J. Organomet. Chem. since 2002.

### **Awards**

Tatsumi received the Inoue Prize for Science in 1998, the Humboldt Research Award in 2004, and The Chemical Society of Japan Award in 2006. He was awarded Lectureships of Chinese Academy of Science in 2000, KAIST (Korea) in 1999 and 2001, and National Science Council (Taiwan) in 2003, and was appointed Honorary Professor of Nanjing University of Science of Technology (2004) and Lanzhou University (2004), Visiting Professor of University of Helsinki (1985), EPFL (Switzerland, 1987), Suzhou University (2001), and University of Heidelberg (2005).

# Curriculum Vitae

## Kazuyuki Tatsumi

Professor, Research Center for Materials Science, and Department of Chemistry,  
Graduate School of Science Nagoya University  
Director of Research Center for Materials Science

Current research interests spans from coordination chemistry, to organometallic chemistry, and to bioinorganic chemistry. He has published 200 research papers and 50 review papers and books, and 15 patents.

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### PERSONAL:

Birth Details: Born January 26, 1949, in Nara prefecture, Japan  
Marital Status: Married (Naomi Iwasa), two sons

### EDUCATION:

1971 B.Sc. (Honors 1) Osaka University  
Department of Chemical Engineering  
Faculty of Engineering Science  
1976 Ph.D. Osaka University  
Graduate School of Engineering Science

### PROFESSIONAL EXPERIENCE:

1977 Postdoctoral Fellow  
Texas A&M University (USA)  
with the late Prof. Minoru Tsutsui  
1979 Postdoctoral Fellow  
Cornell University (USA)  
with Prof. Roald Hoffmann  
1982 Assistant Professor  
Department of Macromolecular Science  
Faculty of Science, Osaka University  
1991 Associate Professor  
Department of Chemistry  
Faculty of Engineering Science  
1994 Professor  
Department of Chemistry  
Faculty of Science, Nagoya University  
1998- Professor  
Research Center for Materials Science, and Department of Chemistry,  
Graduate School of Science, Nagoya University

1997-2001 Director  
 Chemical Instrument Center, Nagoya University  
 2003 - Director  
 Research Center for Materials Science, Nagoya University  
 2004 - 2006 Member of Education & Research Council, Nagoya University  
 2009 -

(Others)

1985 Visiting Professor (2 months)  
 University of Helsinki (Finland)  
 1987 Visiting Professor (8 months)  
 ETH, Lausanne (Switzerland)  
 1993 Visiting Associate Professor (1 year)  
 Tokyo Institute of Technology  
 2001 Guest Professor  
 Suzhou University (China)  
 2003 Visiting Professor  
 Kyusyu University  
 2003 Visiting Professor  
 Kyoto University  
 2005 Visiting Professor  
 University of Heidelberg (Germany)

## HONORS

1998 Inoue Prize for Science  
 Inoue Foundation, Japan  
 2000 Lectureship Chinese Academy of Science  
 (Changchun Institute of Applied Chemistry, Beijing Institute  
 of Chemistry, Nanjing University, Shanghai Institute of  
 Organic Chemistry)  
 2003 Lectureship National Science Council (Taiwan)  
 2004 Humboldt Senior Research Award  
 Av Humboldt Foundation, Germany  
 2004 Honorary Professor Nanjing University of Science and Technology (China)  
 2004 Honorary Professor Lanzhou University (China)  
 2006 The Chemical Society of Japan Award

## COMMITTEE etc.

1996-2001 International Organizing Committee:  
 International Chemical Congress of Pacific Basin Societies  
 (Pacifichem 2000)  
 2000-2008 National Committee for Chemistry: Science Council of Japan  
 2001-2006 Chair: Scientific Program Subcommittee  
 International Organizing Committee, Pacifichem 2005  
 2002-2003 National Representative:

- 2002-2006 Division II (Inorganic Chemistry Division), IUPAC  
Head Investigator: Grant-in-Aid on Priority Area  
“Reaction Control of Dynamic Complexes”
- 2004-2007 Vice President, Titular Member:  
Division II (Inorganic Chemistry Division), IUPAC
- 2005 - Committee Member: Subdivision on Science, Council for Science  
and Technology, Ministry of Education, Culture, Sports, Science and  
technology, Japan
- 2005 - Coordinator:  
“Japanese-German Graduate Externship between Nagoya University  
and Münster University”
- 2006 - Vice Chair:  
International Organizing Committee, Pacificchem 2010
- 2006 - Head Investigator: Grant-in-Aid on Creative Scientific Research:  
“Organometallic and Cluster Chemistry in Metalloenzymes with  
Reducing Activities”
- 2006 - Committee Member: Asian Chemical Editorial Society
- 2007-2009 President:  
Organometallic Division, The Kinki Chemical Society, Japan
- 2008 - President:  
Division II (Inorganic Chemistry Division), IUPAC
- 2008 - Member: Science Council of Japan

#### **OTHER SCIENTIFIC ACTIVITY**

- |        |                           |   |
|--------|---------------------------|---|
| 1994   | co-Organizer              | International Conference on Structures and Functions of<br>Metal Complexes in Biological Processes (Nagoya) |
| 1994   | Organizer                 | The 50th Okazaki Conference on Chemistry of Electron-<br>Deficient Transition Metals (Okazaki)              |
| 1995 - | Member of COE             | The Molecular Chirality Research Unit (Nagoya University)   |
| 1995   | Organizer                 | The Nagoya COE Conference on Molecular Design of<br>Reaction Centers (Nagoya)                               |
| 1999   | CMS Lectureship           | KAIST (Taejon, Korea)   |
| 1999   | co-Organizer              | International Symposium on New Horizons of Coordination<br>Chemistry towards the 21st Century (Kusatsu)     |
| 2001   | External Examiner of PhD: | Department of Chemistry, University of Calgary<br>(Calgary, Canada)   |
| 2001   | CMDS Lectureship          | KAIST (Taejon, Korea)   |
| 2002   | Organizer                 | The Nagoya COE-RCMS Conference on Control of Chemical<br>Reactions for Molecular Architecture (Nagoya)      |
| 2003   | Organizer                 | The International Symposium on Dynamic Complexes<br>(ISDC2003, Tokyo)                                       |
| 2005   | Organizer                 | 21st Century COE-RCMS International Conference  |
| 2005   | Chairman                  | The International Symposium on Dynamic Complexes<br>(ISDC2004, Nagoya)                                      |
| 2005   | Organizer                 | The International Symposium on Dynamic Complexes<br>(ISDC2005, Sendai)                                      |
| 2007   | Organizer                 | Workshop on Bioinorganic and Organometallic Perspectives  |

2008	Chairman	in Activation of Small Molecules (Okazaki) International Symposium on Chemistry of Reductases (Nagoya)
2009	Chairman	International Symposium on Chemistry of Reductases II (Nagoya)

## EDITORIALS

1990 -	Invited Expert Analyst ChemTracts - Inorganic Chemistry Edition
1987	Guest Editorial Advisory Board Inorganica Chimica Acta
1992-1994	Associate Editor Bull. Chem. Soc. Japan (Chemical Society of Japan)
1995-1997	Editorial Advisory Board New Journal of Chemistry (France)
1997 -2002	International Advisory Editorial Board Journal of Organometallic Chemistry (Elsevier)
1998 -2002	International Advisory Editorial Board Journal of Chemical Society, Dalton Transactions (the Royal Society of Chemistry)
2000 -	Associate Editor The Chemical Record (Chemical Society of Japan, Wiley)
2002-	Regional Editor Journal of Organometallic Chemistry (Elsevier)
2006 -	Editorial Board Chemistry: An Asian Journal (Wiley)

## Recent Research Publications (2003 - )

- (1) Copper and Silver Complexes Containing a Novel  $S(SiMe_2S)_2^{2-}$  Ligand: Efficient Entries into Heterometallic Silfido Clusters. T. Komuro, T. Matsuo, H. Kawaguchi, and **K. Tatsumi**, *Angew. Chem. Int. Ed.*, **41**, 465-468 (2003).
- (2) Syntheses and Crystal Structures of Nickel and Manganese Cluster Compounds of the Pentamethylcyclopentadienyl Trisulfido Tungsten. J. P. Lang, H. Yu, S. J. Ji, and **K. Tatsumi**, *Inorg. Chim. Acta*, **344**, 169-173 (2003).
- (3) Structural Aspects of Copper(I) and Silver(I) Sulfide Clusters of Pentamethyl-cyclopentadienyl Trisulfido Tungsten(VI) and Molybdenum(VI). J. P. Lang, S. J. Ji, Q. F. Su, Q. Shen, and **K. Tatsumi**, *Coord. Chem. Rev.*, **241**, 47-60(2003).
- (4) Unusual Coordination Modes of Arylthiolates in  $Mo\{h^5-SC_6H_3-2,6-(SiMe_3)_2\}\{h^7-SC_6H_3-2,6-(SiMe_3)_2\}$ . T. Komuro, T. Matsuo, H. Kawaguchi, and **K. Tatsumi**, *J. Am. Chem. Soc.*, **125**, 2070-2071 (2003).
- (5) [2+2] Cycloaddition Reactions of Bis-Pentamethylcyclopenta-dienyl Zirconium Metal Complexes Containing Terminal Chalcogenide Ligands with the Phospha-alkyne  $PCBu^t$ . Synthesis, Crystal and Molecular Structures of  $[Zr(\eta^5-C_5Me_5)_2(SC^tBu)=P)$ ,  $[Zr(\eta^5-C_5Me_5)_2(SeC^tBu)=P)$ ,  $[Zr(\eta^5-C_5Me_5)_2(SC^tBu)=Pse)$  and  $[Zr(\eta^5-C_5Me_5)_2(SC^tBu)=PC(Ph)=N)$ . S. E. d'Arbeloff, P. B. Hitchcock, J. F. Nixon, H. Kawaguchi, and **K. Tatsumi**, *J. Organomet. Chem.*, **672**, 1-10 (2003).
- (6) Palladium(0)-Catalyzed Intramolecular [2+2+2] Alkyne Cyclotrimerizations with Electron-Deficient Diynes and Triynes. Y. Yamamoto, A. Nagata, H. Nagata, Y. Ando, Y. Arikawa, **K. Tatsumi**, and K. Itoh *Chem. Eur. J.*, **9**, 2469-2483 (2003).
- (7) Synthesis of the P-Cluster Inorganic Core of Nitrogenases. Y. Ohki, Y. Sunada, M. Honda, M. Katada, and **K. Tatsumi**, *J. Am. Chem. Soc.*, **125**, 4052-4053 (2003).
- (8) Stereochemistry of Mono- and Di-nuclear Complexes of Rhodium, Iridium, and Ruthenium Bearing [Bis(diphenylphosphinomethyl)]phenylphosphine. Y. Kosaka, Y. Shinozaki, Y. Tsutsumi, Y. Yamamoto Y. Sunada, and **K. Tatsumi**, *J. Organomet. Chem.*, **671**, 8-12 (2003).
- (9) Heterolytic Cleavage of Dihydrogen Promoted by Sulfido-Bridged Tungsten-Ruthenium Dinuclear Complexes.

- Y. Ohki, N. Matsuura, T. Marumoto, H. Kawaguchi, and **K. Tatsumi**, *J. Am. Chem. Soc.*, *125*, 7978-7988 (2003).
- (10) Synthesis and Characterization of Ti(IV) and Ti(III) Complexes with (2-Dimethylphosphino)ethane-1-thiolate and (3-Dimethylphosphino)propane-1-thiolate as Ligands. K. Matsuzaki, H. Kawaguchi, P. Voth, K. Noda, S. Itoh, H. D. Takagi, K. Kashiwabara and **K. Tatsumi**, *Inorg. Chem.*, *42*, 5320-5329 (2003).
- (11) Optical Limiting Properties of Two Organometallic Half-open Cubane-like Cluster Compounds  $[\eta^5\text{-C}_5\text{Me}_5\text{]WS}_3\text{Cu}_3\text{Br}_2$  ( $\text{EPh}_3$ )<sub>2</sub> (E=As, P). J. -P. Lang, Z. -R. Sun, Q. -F. Xu, H. Yu, and **K. Tatsumi**, *Materials Chem. and Phys.*, *82*, 493-498 (2003).
- (12) Coordination Chemistry of Silanedithiolato Ligands Derived from Cyclotrisilathiane: Synthesis and Structures of Complexes of Iron(II), Cobalt(II) Copper(I), and Silver(I). T. Komuro, T. Matsuo, H. Kawaguchi, and **K. Tatsumi**, *Inorg. Chem.*, *42*, 5340-5347 (2003).
- (13) Neutral and Cationic Trimethylsilylmethyl Complexes of the Rare Earth Metals Supported by a Crown Ether: Synthesis and Structural Characterization. S. Arndt, P. M. Zeimentz, T. P. Spaniol, J. Okuda, M. Honda, and **K. Tatsumi**, *J. Chem. Soc., Dalton*, 3622-3627 (2003).
- (14) Synthesis Crystal Structures and Optical Limiting Properties of Three Novel Organometallic Tungsten-Copper-Sulfur Clusters:  $[\text{PPh}_4][\eta^5\text{-C}_5\text{Me}_5\text{]WS}_3(\text{CuCN})_2$ ,  $[(\eta^5\text{-C}_5\text{Me}_5)\text{WS}_3\text{Cu}_2(\text{PPh}_3)(\mu\text{-CN})]_2$  and  $[\text{PPh}_4][\{(\eta^5\text{-C}_5\text{Me}_5)\text{WS}_3\text{Cu}_2(\text{CN})(\text{Py})\}_2(\mu\text{-CN})]$ , J. -P. Lang, Q. -F. Xu, W. Ji, H. I. Elim, and **K. Tatsumi**, *Eur. J. Inorg. Chem.*, 86-92 (2004).
- (15) Homo- and Heteronuclear Complexes of (Pentamethylcyclopentadienyl)rhodium(III) Bearing [Bis(diphenylphosphanyl)methyl]phenylphosphate. Y. Yamamoto, Y. Kohsaka, Y. Shinozaki, Y. Tsutsumi, Y. Kaburagi, K. Kuge Y. Sunada, and **K. Tatsumi**, *Eur. J. Inorg. Chem.*, 134-142 (2004).
- (16) Homo- and Heteronuclear Complexes Based on Arene Ruthenium Complexes Bearing Bis(diphenylphosphinomethyl)phenylphosphine (dpmp). Y. Yamamoto, Y. Sinozuka, Y. Tsutsumi, K. Fuse, K. Kuge, Y. Sunada and **K. Tatsumi** *Inorg. Chim. Acta*, *356*, 1270-1282 (2004).
- (17) A Coordinatively Unsaturated 2,6-Dimesitylphenyl Thiolate Complex of Half-Sandwich Ruthenium(II). Y. Ohki, H. Sadohara, Y. Takikawa, and **K. Tatsumi**, *Angew. Chem. Int. Ed.*, *43*, 2290-2293 (2004).
- (18) Synthesis and Structural Characterization of Silanethiolato Complexes Having *tert*-Butyldimethylsilyl and Trimethylsilyl Groups, T. Komuro, T. Matsuo, H. Kawaguchi, and **K. Tatsumi**, *J. Chem. Soc., Dalton*, 1618-1625 (2004).
- (19) Reactions of Rhodium(III) and Iridium(III) Complexes Bearing a P, O-Coordination with Tetracyanoethylene in the Presence of KPF<sub>6</sub>. Y. Yamamoto, A. Takahashi, Y. Sunada and **K. Tatsumi**, *Inorg. Chim. Acta*, *357*, 2833-2840 (2004).
- (20) Quasi-octahedral Complexes of Pentamethylcyclopentadienyliridium(III) Bearing Bis(diphenylphosphinomethyl)phenylphosphine (dpmp). Y. Yamamoto, Y. Kosaka, N. Tsutsumi, Y. Sunada, **K. Tatsumi**, T. Fumie, and T. Shigetoshi, *J. Chem. Soc., Dalton*, 2969-2978 (2004).
- (21) Elimination-Addition Mechanism for Nucleophilic Substitution Reaction of Cyclohexenyl Iodonium Salts and Regioselectivity of Nucleophilic Addition to the Cyclohexyne Intermediate. M. Fujita W. -H. Kim, Y. Sakanishi, K. Fujiwara, S. Hirayama, T. Okuyama, Y. Ohki, **K. Tatsumi**, Y. Yoshikawa, *J. Am. Chem. Soc.*, *126*, 7548-7558 (2004).
- (22) Synthesis of a Vanadium(III) Tris(arylthiolato) Complex and Its Reactions with Azide and Azo Compounds: Formation of a Sulfenamide Complex via Cleavage of an Azo N=N Bond. T. Komuro, T. Matsuo, H. Kawaguchi, **K. Tatsumi**, *Inorg. Chem.*, *44*, 175-177 (2005)
- (23) Synthesis of [2Fe-2S] and [4Fe-4S] Clusters Having Terminal Amide Ligands from an Fe(II) Amide Complex. Y. Ohki, Y. Sunada, and **K. Tatsumi**, *Chem. Lett.*, *34*, 172-173 (2005).
- (24) Molybdenum Carbonyl Complexes with Citrate and its Relevant Carboxylates. M. Takuma, Y. Ohki and **K. Tatsumi**, *Organometallics*, *24*, 1344-1347 (2005).
- (25) A Facile Method for Synthesis of (*R*)-(-) and (*S*)-(+)-Homocitric Acid Lactones and Related  $\alpha$ -Hydroxy Dicarboxylic Acids from D- or L-Malic Acid. Peng-Fei Xu, T. Matsumoto, Y. Ohki, and **K. Tatsumi**, *Tetrahedron. Letters*, *46*, 3815-3818 (2005).
- (26) Dithiolato-Bridged Dinuclear Iron-Nickel Complexes  $[\text{Fe}(\text{CO})_2(\text{CN})_2(\mu\text{-SCH}_2\text{CH}_2\text{CH}_2\text{S})\text{Ni}(\text{S}_2\text{CNR}_2)]$  Modeling the Active Site of [NiFe] Hydrogenase. Z. Li, Y. Ohki, and **K. Tatsumi**, *J. Am. Chem. Soc.*, *127*, 8950-8951(2005).
- (27) Sulfido-bridged Dinuclear Molybdenum-Copper Complexes Related to the Active Site of CO Dehydrogenase:  $[(\text{dithiolate})\text{Mo}(\text{O})\text{S}_2\text{Cu}(\text{SAr})]^{2-}$  (dithiolate = 1,2-S<sub>2</sub>C<sub>6</sub>H<sub>4</sub>, 1,2-S<sub>2</sub>C<sub>6</sub>H<sub>2</sub>-3,6-Cl<sub>2</sub>, 1,2-S<sub>2</sub>C<sub>2</sub>H<sub>4</sub>). M. Takuma, Y. Ohki, and **K. Tatsumi**, *Inorg. Chem.*, *44*, 6034-6043 (2005).
- (28) Metal-assisted Preparation of the Alkenyl Ketone and Carbonyl Complexes from 1-Alkyne and H<sub>2</sub>O: C-C Triple Bond Cleavage of Terminal Alkyne. K. Ogata, J. Seta, K. Sugawara, N. Tsutsumi, Y. Yamamoto, K. Kuge, and **K. Tatsumi**, *Inorg. Chim. Acta*, *359*, 1549-1558 (2006).

- (29) Nickel(II) Thiolate Complexes with a Flexible *cyclo*-[Ni<sub>10</sub>S<sub>20</sub>] Framework. C. Zhang, S. Takada, M. Kolzer, T. Matsumoto, and **K. Tatsumi**, *Angew. Chem. Int. Ed.*, **45**, 3768-3772 (2006).
- (30) Reductive N-N Bond Cleavage of Diphenylhydrazine and Azobenzene Induced by Coordinatively Unsaturated Cp\*Fe{N(SiMe<sub>3</sub>)<sub>2</sub>}. Y. Ohki, Y. Takikawa, T. Hatanaka, and **K. Tatsumi**, *Organometallics*, **25**, 3111-3113 (2006).
- (31) Synthesis of Oxo- and Sulfido-bridged Germanium–Ruthenium Complexes and Reactions on the Chalcogenido Bridges. T. Matsumoto, Y. Nakaya, and **K. Tatsumi**, *Organometallics*, **25**, 4835-4845 (2006).
- (32) New Porphyrin Based MOF (Metal-Organic Framework) with High-Porosity: 2-D Infinite 22.2 Å Square Grid Coordination Network. T. Ohnuma, A. Usuki, K. Fukumoto, T. Ohta, M. Ito, and **K. Tatsumi**, *Inorg. Chem.*, **45**, 7988-7990 (2006).
- (33) Mono{Hydrotris(mercaptoimidazolyl)borato} Complexes of Manganese(II), Iron(II), Cobalt(II), and Nickel(II) Halides. S. Senda, Y. Ohki, T. Hirayama, D. Toda, J. –L. Chen, T. Matsumoto, H. Kawaguchi, and **K. Tatsumi**, *Inorg. Chem.*, **45**, 9914-9925 (2006).
- (34) Theory of Chemical Bonds in Metalloenzymes V: Hybrid-DFT Studies of the Inorganic [8Fe-7S] Core. M. Shoji, K. Koizumi, Y. Kitagawa, S. Yamasaka, M. Okumura, K. Yamaguchi, Y. Ohki, Y. Sunada, M. Honda, and **K. Tatsumi**, *Int. J. Quantum Chem.*, **106**, 3288-3302 (2006).
- (35) [MoFe<sub>3</sub>S<sub>4</sub>]<sup>3+</sup> and [MoFe<sub>3</sub>S<sub>4</sub>]<sup>2+</sup> Cubane Clusters Containing a Pentamethyl-cyclopentadienyl Molybdenum Moiety. T. Komuro, H. Kawaguchi, J. –P. Lang, T. Nagasawa, and **K. Tatsumi**, *J. Organomet. Chem.*, **692**, 1-9 (2007).
- (36) Synthesis and Dehydrogenation of M(AlH<sub>4</sub>)<sub>2</sub> (M = Mg, Ca). K. Komiya, N. Morisaku, Y. Shinzato, K. Ikeda, S. Orino, Y. Ohki, **K. Tatsumi**, H. Yukawa, and M. Morinaga, *J. Alloys Compd.*, **446-447**, 237-241 (2007).
- (37) One-pot Synthesis of Alkenylphosphonio Complexes of Ruthenium(II), Rhodium(III) and Iridium(III) Bearing p-Cymene or Pentamethylcyclopentadienyl Groups. K. Ogata, J. Seta, Y. Yamamoto, K. Kuge, and **K. Tatsumi**, *Inorg. Chim. Acta*, **360**, 3296-3303 (2007).
- (38) Synthesis of [8Fe-7S] Clusters: A Topological Link Between the Core Structures of P-Cluster, FeMo-co, and FeFe-co of Nitrogenases. Y. Ohki, Y. Ikagawa, and **K. Tatsumi**, *J. Am. Chem. Soc.*, **129**, 10457-10465 (2007).
- (39) Synthesis of Heteroleptic Iron(II) Thiolate Complexes with Weak Iron-Arene Interactions. S. Ohta, Y. Ohki, Y. Ikagawa, R. Suizu, and **K. Tatsumi**, *J. Organomet. Chem.*, **692**, 4792-4799 (2007).
- (40) 3-(Dimethylboryl)pyridine: Synthesis, Structure, and Remarkable Steric Effects in Scrambling Reactions. S. Wakabayashi, S. Imamura, Y. Sugihara, M. Shimizu, T. Kitagawa, Y. Ohki, and **K. Tatsumi**, *J. Org. Chem.*, **73**, 81-87 (2008).
- (41) Synthesis of syn-2,4-Dimercapto-1,3,2,4-dithiadigeretane and Its Application for Ge<sub>2</sub>PdS<sub>4</sub> Cluster Synthesis. T. Matsumoto, Y. Matsui, M. Ito, and **K. Tatsumi**, *Chemistry, An Asian J.*, **3**, 607-613 (2008).
- (42) Heterolytic Dihydrogen Activation by a Sulfido- and Oxo-Bridged Dinuclear Germanium-Ruthenium Complex. T. Matsumoto, Y. Nakaya, and **K. Tatsumi**, *Angew. Chem. Int. Ed.*, **47**, 1913-1915 (2008).
- (43) A Functional Hydrogenase Model: Reversible Interconversion of H<sub>2</sub> and H<sub>2</sub>O by a Hydroxo/Sulfido-Bridged Dinuclear Ruthenium-Germanium Complex. T. Matsumoto, Y. Nakaya, N. Itakura, and **K. Tatsumi**, *J. Am. Chem. Soc.*, **130**, 2458-2459 (2008).
- (44) Synthesis of Ge<sub>2</sub>NiS<sub>4</sub> Clusters and the Thermal Transformation to a Ge<sub>4</sub>Ni<sub>6</sub>S<sub>12</sub> Cluster. T. Matsumoto, Y. Matsui, M. Ito, and **K. Tatsumi**, *Inorg. Chem.*, **47**, 1901-1903 (2008).
- (45) Modulation of Third-Order Nonlinear Optical Properties by Backbone Modification of Polymeric Pillared-Layer Heterometallic Clusters. C. Zhang, Y. Cao, J. Zhang, S. Meng, T. Matsumoto, Y. Song, J. Ma, Z. Chen, **K. Tatsumi**, M. G. Humphrey, *Adv. Mater.* **20**, 1870-1875 (2008).
- (46) Trithio-Chloro Molybdate [MoClS<sub>3</sub>]<sup>-</sup>: A Versatile Precursor for Molybdenum Trisulfido Complexes. J. Ito, Y. Ohki, M. Iwata, and **K. Tatsumi**, *Inorg. Chem.*, **47**, 3763-3771 (2008).
- (47) Thiolate-Bridged Dinuclear Iron(tris-Carbonyl)-Nickel Complexes Relevant to the Active Site of [NiFe] Hydrogenase. Y. Ohki, K. Yasumura, K. Kuge, S. Tanino, M. Ando, Z. Li, and **K. Tatsumi**, *Proc. Nat. Acad. Sci. (USA)*, **105**, 7652-7657 (2008).
- (48) Heterocyclic Dihydrogen Cleavage with B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>/α-di-mesitylphosphinoferrrocene derived Frustrated Lewis Pairs. D. P. Huber, S. Tanino, G. Kehr, K. Bergander, R. Fröhlich, Y. Ohki, **K. Tatsumi**, and G. Erker, *Organometallics*, **27**, 5279-5284 (2008).
- (49) Coordinatively Unsaturated Ruthenium Complexes Having a Tethered 2,6-Dimesitylphenyl Thiolate and Reactivity of their Ru-S Bonds. Y. Ohki, Y. Takikawa, S. Sadohara, C. Kesenheimer, B. Engendahl, E. Kapatina, and **K. Tatsumi**, *Chemistry, An Asian J.*, **3**, 1625-1635 (2008).
- (50) Reversible Heterolysis of H<sub>2</sub> Mediated by an M-S(thiolate) Bond (M = Ir, Rh): A Mechanistic Implication for [NiFe] Hydrogenase. Y. Ohki, M. Sakamoto, and **K. Tatsumi**, *J. Am. Chem. Soc.*, **130**, 11610-11611 (2008).
- (51) C-H Bond Activation of Heteroarenes Mediated by a Half-Sandwich Iron Carbene Complex,

- Y. Ohki, T. Hatanaka, and **K. Tatsumi**, *J. Am. Chem. Soc.*, *130*, 17174-17186 (2008).
- (52) Cationic and Anionic Dinuclear Nickel Complexes  $[\text{Ni}(\text{N}_2\text{S}_2)\text{Ni}(\text{dte})]^\text{n}$  ( $\text{n} = -1, +1$ ) Modeling the Active Site of Acetyl CoA Synthase. Y. Song, M. Ito, M. Kotera, T. Matsumoto, and **K. Tatsumi**, *Chem. Lett.*, 184-185 (2009).
- (53) Structural Models for the Active Site of Acetyl-CoA Synthase: Synthesis of Dinuclear Nickel Complexes Having Thiolate, Isocyanide, and Thiourea on the  $\text{Ni}_\text{p}$  Site. M. Ito, Y. Song, T. Matsumoto, and **K. Tatsumi**, *Inorg. Chem.*, *48*, 1250-1256 (2009).
- (54) Dithiolate-bridged Fe-Ni-Fe Trinuclear Complexes Consisting of  $\text{Fe}(\text{CO})_{3-\text{n}}(\text{CN})_\text{n}$  ( $\text{n} = 0, 1$ ) Components Relevant to the Active Site of [NiFe] Hydrogenase. S. Pal, Y. Ohki, T. Yoshikawa, K. Kuge, and **K. Tatsumi**, *Chemistry, An Asian J.*, (2009), in press.
- (55) Synthesis and Reactions of Mono- and Di-nuclear Ni(I) Thiolate Complexes. M. Ito, T. Matsumoto, and **K. Tatsumi**, *Inorg. Chem.*, *48*, 2215-2223 (2009).
- (56) A Dithiolate-Bridged  $(\text{CN})_2(\text{CO})\text{Fe-Ni}$  Complex Reproducing the IR Bands of [NiFe] Hydrogenase. S. Tanino, Z. Li, Y. Ohki, and **K. Tatsumi**, *Inorg. Chem.*, *48*, 2358-2360 (2009).

## Colin Humphris, MRSC

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West Sussex  
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United Kingdom  
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### Personal Profile

Former business leader of speciality chemical and technology activities, who had a 32-year career in BP. Represented the Chemicals industry at European level (with the Commission) and international level (United Nations bodies including WHO). Bringing clarity and action to complex situations are core strengths.

### Achievements:

- 2006 onwards Consulting to Cefic and other industry groups on European issues relating to Innovation, Environment and Health, and alternatives to animals in toxicological testing. Member of ITFEX and member of the RSC Roadmap Steering Committee. Forthcoming chair of RSC IUPAC Committee. Titular member of the Committee for the Chemical Industry, IUPAC, responsible for developing linkages to the global industry on international issues – managing the developing IUPAC involvement in SAICM and with UNEP and WHO. Organised WCLM in 2006 in Turin. Representing ICCA on the IUPAC UN International Year of Chemistry Management Committee.
- 2003-2006 Executive Director European Chemical Industry Council, CEFIC (Brussels)  
Responsible for developing industry programmes in research and science that underpinned industry commitments to Sustainable Development. Originator of SUSCHEM which came about as a result of a discussion with Commissioner Busquin about the weaknesses of FP6. This focused on European policy for innovation and economic growth, and on research into the health and environmental impacts of industry products and operations. Represented the World Business Council for Sustainable Development on the WHO's European Environment & Health Committee.
- 2002 Chemicals Innovation and Growth Team, CIGT (BP/ UK Government, DTI)  
Worked for the UK chemicals industry and organised a multi-stakeholder review of its future. The recommendations were adopted and laid out the key industry responsibilities and how Government can support these. Co-authored the final report.
- 2001 BP Polyethylene Business Leader  
Led BP's Low Density Polyethylene business (LDPE/LLDPE)  
This included significant restructuring involving plant closures and new supply arrangements to customers. This was a period of very poor profitability. As a result, I also led a review of the underlying organisational philosophy behind BP's Petrochemicals business in Europe, which included the elimination of my post in 2002.

- 1999 – 2000 BP Business Technology Manager Polyethylene  
Responsible for the worldwide sales of licenses for BP's Polyethylene process and the research and technical support to the overall Polyethylene business from BP's European research centres. Resolved a major intellectual property dispute with Dow.
- 1998 Business Unit Leader BP Specialities  
Led the merger of BP and Amoco's speciality chemicals interests resolving potential competition issues for the overall Amoco merger in Europe. Successfully divested Adibis.
- 1994 - 1997 Managing Director Adibis (BP Subsidiary)  
Returned Adibis to profit after three years of losses and failed attempts to divest it.
- 1989 - 1993 Business Venture Manager for the Polyketones  
Managed the business development of a new plastic for BP as part of wider responsibilities for the Specialities Businesses technology programmes. The venture successfully linked BP's manufacturing and catalyst expertise with major cooperative programmes with world leading engineering plastics, packaging and fibre companies to provide market access.
- 1986 -1989 Senior Planner for Specialities Division  
Planning manager in a four-man team, which managed BP's portfolio of speciality chemicals businesses (turnover \$500m p.a.)
- 1984 -1985 Analyst BP Policy Review Unit.  
Member of the 7-person team working for the BP Chairman whose job was to challenge the conventional thinking in the company and promote alternative options.
- 1970 -1984 Research (BP Corporate Research)  
Joined BP from school as a BP University apprentice. After graduation in 1974, worked as a materials scientist rising to Project Leader (8 man Team) in 1982

### Personal Details

British, born 2.11.51. Married with two grown up children. Hobbies are cricket (playing, coaching and club administration but now mainly watching), motorcycling, guitar, photography and travel.

### Education

BSc 1<sup>st</sup> Class Honours in Applied Chemistry (BP Sunbury/Kingston Polytechnic)  
Programme for Executive Development IMEDE (now IMD – Business School) Lausanne January - March 1989  
*Manager of the Future Programme*, JMW Consultants 1996, part of BP Senior Management Training  
BP Senior Executive Modules at Harvard and Stanford 2002 and 2003

Professor Penczek's research activities have focused on kinetics, thermodynamics, and mechanisms of the polymerization processes, as well as on the synthesis of new polymer structures. He established identical reactivities of ions and ion-pairs in some polymerizations at a time when the paradigm of higher reactivity of ions (free) was generally accepted as a dominating viewpoint. He also applied for the first time in macromolecular chemistry, dynamic NMR for studies of the ultra fast reactions.

#### Education and Career

Since 1974, Penczek has been a professor of the Department of Polymer Chemistry at the Polish Academy of Science in Lodz. He received his PhD in 1963 and D Sci (Habilitation) in 1970 at the Lodz Technical University. Professorship in 1970. From 1966–1967, he was a post-doctoral fellow under Prof. M. Szwarc at Syracuse University, New York, USA.

Penczek has been a visiting professor at nine universities in Europe and the United States. He has given invited lectures at 80 international meetings and made over 300 printed contributions; 8 monographs (including "Models of Biopolymers", 1990) and textbooks; 15 chapters in books and monographs. His works were cited 270 times in 2008.

#### IUPAC Involvement

Penczek is a titular member of the Polymer Division and was elected to the Bureau in 2006 (the Evaluation Committee). He was chairman of the IUPAC World Polymer Congress 2000. He has also been chairman of two, and co-chairman of four, international IUPAC symposia. Recently he published (Pure Appl. Chem., 80, 2163-2193 (2008)) Glossary of Terms Related to Kinetics, Thermodynamics, and Mechanisms of Polymerization - prepared at the Polymer Division.

#### Related Professional Activities

In 1998, Penczek was elected a member of the Polish Academy of Science. He is also a longstanding member of the Polish Chemical Society; served as chairman of the Division of Kinetics (1978–1988) and chairman of the Polymer Division (1988–1998). From 1997–1999 he was president of the European Polymer Federation and in 1993 he was a titular professor of the French Academy of Science.

Penczek is a member of the editorial boards of 9 international scientific journals, and is *co*-Editor-in-Chief of *e*-Polymers.

Penczek is giving polymer courses at the graduate school at the Jagiellonian University (Cracow) and every second year at the KTH, Stockholm.

#### Awards

Penczek has received numerous honors: Medal of the University of Jena (1988); M. Sklodowska-Curie Prize (1990); Medal of the French Academy of Science (1993); Chevalier dans l'Ordre de Palmes Académiques, France (1998); Biannual International Award of the Belgian Polymer Group

(2001); International Award and Personal Medal of the Society of Polymer Science, Japan (2002); Otto Warburg Foundation Award, Germany (2003).

Penczek is *Doctor of Honoris Causa* of the University Pierre and Marie Curie in Paris (2003) and *Doctor of Honoris Causa* of the Russian Academy of Sciences (2004). The same year he was given a title of honorary professor of the Jagiellonian University in Cracow. Elected to the German Nordrhein-Westfälische Academy of Sciences (2006).

**Elsa Reichmanis** recently joined the faculty of the School of Chemical and Biomolecular Engineering of the Georgia Institute of Technology. Prior to joining Georgia Tech she was Bell Labs Fellow and Director of the Materials Research Department at Bell Labs, Alcatel-Lucent. She received her Ph. D. and BS degrees in chemistry from Syracuse University. In 1984, she was promoted to Supervisor of the Radiation Sensitive Materials and Application Group, followed by promotion to Head of the Polymer and Organic Materials Research Department in 1994. Her research interests include the chemistry, properties and application of materials technologies for photonic and electronic applications, with particular focus on polymeric and nanostructured materials for advanced technologies.

She has had impact on the field of microlithography, which is central to the manufacture of electronic devices. Her work has contributed to the development of a molecular level understanding of how chemical structure affects materials function leading to new families of lithographic materials and processes that may enable advanced VLSI manufacturing. Notably, she was responsible for the design of new imaging chemistries for 193 nm lithography that were the first, readily accessible and manufacturable materials for this technology. In a related area she was involved in the design and characterization of “closed-pore” nanoporous low-dielectric constant ( $k > 1.4$ ) materials exhibiting a high degree of mechanical and environmental stability. She is currently exploring imaging and hybrid organic/inorganic materials chemistries for photonic applications, in addition to materials and processes for plastic electronics.

Elsa Reichmanis was elected to the National Academy of Engineering in 1995 and has participated in several National Research Council (NRC) activities. She currently served as co-chair of the NRC Board on Chemical Sciences and Technology, and is a member of the Visiting Committee on Advanced Technology of the National Institute of Standards and Technology (NIST). She is also a member of the Bureau of the International Union for Pure and Applied Chemistry (IUPAC). She has been active in the American Chemical Society throughout her career. Most recently, she was 2003 President of the Society. In other technical activities, she served as a member of the Air Force Scientific Advisory Board.

Elsa Reichmanis is the recipient of several awards, including named university lectureships. She was presented with the 1993 Society of Women Engineers Achievement Award and in 1995, was named Bell Laboratories Fellow. She is the 1996 recipient of the ASM Engineering Materials Achievement Award, she was elected a Fellow of the American Association for the Advancement of Science in 1998, and was awarded the ACS Award in Applied Polymer Science in 1999. In 2001, she was awarded the Society of Chemical Industry’s Perkin Medal and was the recipient of the Arents Medal from Syracuse University. In 2002, she was elected Fellow of the Polymer Materials Division of the American Chemical Society and in 2003 she was the recipient of the first Braude Award from the ACS Maryland local section. In 2004 she was elected as a Foreign Member of the Latvian Academy of Sciences, and in 2005 was named Fellow of the Royal Society of Chemistry. She is also a member of the American Physical Society, the Materials Research Society, the Institute of Electrical and Electronics Engineers, the Society of Photo-optical Engineers; and is associate editor of the ACS Journal, *Chemistry of Materials*.

## ELSA REICHMANIS

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### EDUCATION:

B.S., 1972, Chemistry - Syracuse University  
Ph.D., 1975, Organic Chemistry - Syracuse University

### WORK EXPERIENCE:

2008-present Georgia Institute of Technology, Atlanta, Georgia, *Professor, Chemical and Biomolecular Engineering*  
2006-2007 Bell Laboratories, Alcatel-Lucent, Murray Hill, New Jersey. *Director, Materials for Communications Research Department*  
2001 -2006 Bell Laboratories, Lucent Technologies, Murray Hill, New Jersey. *Director, Materials Research Department.*  
1996 - 2001 Bell Laboratories, Lucent Technologies, Murray Hill, New Jersey. *Director, Polymer and Organic Materials Research Department.*  
1994-1995 AT&T Bell Laboratories, Murray Hill, New Jersey. *Head, Polymer and Organic Materials Research Department.*  
1984 - 1994 AT&T Bell Laboratories, Murray Hill, New Jersey. *Supervisor, Radiation Sensitive and Applications Group.*  
1978 - 1984 AT&T Bell Laboratories, Murray Hill, New Jersey. *Member of Technical Staff, Organic Chemistry Research and Development Department.*  
1976 - 1978 Syracuse University, Syracuse, New York, Dr. Chaim Weizmann Fellow  
1975 - 1976 Syracuse University Postdoctoral Intern  
1973 - 1975 Syracuse University, Syracuse, New York. Syracuse University Research Fellow  
1972 Syracuse University, Syracuse, New York. Teaching Assistant - Organic Chemistry

### AWARDS AND APPOINTMENTS

1972 Phi Beta Kappa  
1986 Member, Japanese Technology Evaluation Program Panel on Advanced Materials sponsored by the National Science Foundation  
1987 Member, Committee to Survey Materials Research Opportunities and Needs for the Electronics Industry sponsored by the National Research Council  
1986 - 1990 American Chemical Society Division of Polymeric Materials: Science and Engineering, Member-at-Large  
1987 - 1990 Member ACS Books Advisory Board  
1991 - 1992 American Chemical Society Division of Polymeric Materials: Science and Engineering, Secretary  
1992 R&D 100 Award for the development of the CAMP-6 deep-UV photoresist  
1993 American Chemical Society Division of Polymeric Materials: Science and Engineering Vice Chairman  
Society of Women Engineers Achievement Award  
1993-1998 Member, National Materials Advisory Board  
1993-present Semiconductor Research Corporation Mentor, Cornell University  
1994 American Chemical Society, Division of Polymeric Materials: Science and Engineering, Chair-

## Elect

1994-1995	American Chemical Society, Committee on Publications, Associate Member
1995	American Chemical Society, Division of Polymeric Materials: Science and Engineering, Chair Elected to the National Academy of Engineering Named AT&T Bell Laboratories Fellow
1995-1997	Member, Chemistry of Materials Editorial Advisory Board
1996	ASM International Engineering Materials Achievement Award
1996-1997	University of Connecticut, Polymer Science Program Advisory Board
1996-2001	Member, U.S. National Committee for the International Union of Pure and Applied Chemistry
1996-present	Member, American Chemical Society Committee on Publications Associate Editor, Chemistry of Materials
1997	Fellow of the American Association for the Advancement of Science
1997-2002	Member, American Chemical Society Committee on Science
1998	Photopolymer Science and Technology Award
1998-2002	Member, Air Force Science Advisory Board
1999	ACS Award in Applied Polymer Science
2001	Society of Chemical Industry, Perkin Medalist
2001	Syracuse University, George Arents Pioneer Medal
2002	Fellow, ACS Division of Polymeric Materials: Science and Engineering
2002	President-Elect, American Chemical Society
2002-2005	Member, Journal of the American Chemical Society Editorial Advisory Board
2003	President, American Chemical Society George Braude Award, ACS Maryland Local Section
2004	Immediate Past President, American Chemical Society National Science Council Distinguished Lecturer, Taiwan 2004 Meek Lecturer, Department of Chemistry, Ohio State University 2004
2005	Member, NRC Board on Chemical Sciences and Technology Mason Lecturer, Department of Chemical Engineering, Stanford University Member, NRC Committee on Policy Implication of International Graduate Students and Postdoctoral Scholars in the United States
2005	Elected, Member, Bureau of the Union of Pure and Applied Chemistry
2006	Co-Chair, NRC Board on Chemical Sciences and Technology
2006-present	Member, Chemical Heritage Foundation Board of Directors
2007-2010	Member, Visiting Committee on Advanced Technologies of the National Institute for Standards and Technology

## PROFESSIONAL SOCIETIES

American Chemical Society  
American Physical Society  
American Association for the Advancement of Science  
Materials Research Society  
IEEE  
SPIE  
Society of Women Engineers  
National Academy of Engineering

**EXPERTISE:** Research at the interface of chemistry, materials science, optics, electronics and engineering spanning the range from fundamental concept to technology development and implementation. Has extensive experience in leading cross-cultural, multi-disciplinary research teams from multiple organizations, and generating value for the Intellectual Property through patent and technology license agreements.

Internationally recognized expert in organic and polymer materials design for electronic and

photonic applications. Published extensively; organized national and international symposia and conferences; mentored students and post-doctoral fellows; and taught courses.

**PUBLICATIONS:** >150

**PATENTS:** >15

**TALKS:** >100

**BOOKS:** 5

**PERSONAL**

Date of Birth: December 9, 1953; Melbourne, Australia

Citizenship: USA (Naturalization Date: 9/17/70)

Marital Status: Married, 4 children

## **CV of M.C.E. (Rietje) van Dam-Mieras,**

Rietje van Dam-Mieras was born in Dordrecht, the Netherlands, in 1948. She studied chemistry at Utrecht University (UU), The Netherlands, graduated in 1973 and did her PhD thesis at the same university in 1976. After that period she worked at Maastricht University (UM) and the Open University of the Netherlands (OUNL). In 1993 she was appointed as a professor (chair: natural sciences, especially biochemistry and biotechnology) at OUNL. From 1996-1998 she has been the chairperson of the board of professors (rector) at the Open University of the Netherlands. In September 2007 she was nominated Vice-Rector Magnificus at Leiden University. At Leiden University she also holds the chair Sustainable Development and Innovation of Education.

She has been and still is a member of several advisory and supervisory committees: the Programme Committee Science and Technology of the European Association of Distance Teaching Universities (EADTU), a Dutch national committee which defined a new natural sciences component in Dutch secondary education, the scientific advisory board of the Deutsches Institut für Fernstudien Forschung an der Universität Tübingen (DIFF), the supervisory board of AKZO Nobel Nederland BV, the Copernicus Working group of the European Association of University Rectors (CRE), the Dutch Scientific Council for Government Policy, the Advisory Board of AXIS, the national platform for science and technology in education and labour market, the scientific advisory board of Delft Cluster, a consortium of research Institutions for civil engineering, the supervisory board of the Netherlands Organisation for Applied Scientific Research (TNO), the societal advisory board for chemical sciences of the Netherlands Council for Scientific Research (NWO), the programme committee 'The societal component in genomics research' of that same organisation, the Stiftungsrat of Lüneburg University, the Dutch/Flemish Association of Science Centre's, the supervisory board of Unilever the Netherlands and the advisory board of Deltares.

She is a founding member of the Regional Centre of Expertise on Education for Sustainable Development (RCE) Rhine-Meuse and is actively involved in the RCE-initiative of United Nations University as visiting professor for RCE's at the United Nations Institute for Advanced Studies (UNU-IAS) in Yokohama and as a member of the Ubuntu Committee of Peers for RCE's.

**Curriculum Vitae -Professor Itamar Willner**  
(Synopsis)

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Tel: 972-2-6585272  
E-mail: willnea@vms.huji.ac.il

Academic Background:

1974-1978 Ph.D. Thesis, Physical Organic Chemistry, The Hebrew University of Jerusalem  
1978-1980 Post-doctoral fellow, U.C. Berkeley, Physical Chemistry  
1980-1981 Staff Scientist and Adjunct Assistant Professor, U.C. Berkeley  
1981-1983 Senior Lecturer, Hebrew University of Jerusalem  
1983-1986 Associate Professor, Hebrew University of Jerusalem  
1986- Professor, Hebrew University of Jerusalem

Research Activities:

Supramolecular Chemistry, Molecular Self-Assembly, Molecular and Biomolecular Machines, Molecular and Biomolecular Electronics, Bionanotechnology, Sensors and Biosensors.

Awards and Honors:

Bergmann Award - 1986  
Honorary Professor, Osaka University - 1991  
Kolthoff Award - 1993  
AAAS (American Association for the Advancement of Science) Fellow - 1996  
Sandoz-Novartis Award - 1997  
The Kaye Innovations Award – 1998, 2004  
Max Planck Research Award for International Cooperation – 1998  
Israel Chemical Society Award – 2001  
**Israel Prize in Chemistry – 2002**  
**Member of The Israel Academy of Sciences – 2002**  
The Klachky Family Prize for the Advancement of the Frontiers of Science – 2003  
Member of the European Academy of Sciences and Arts - 2004  
Honorary Guest Professorship, Tsinghua University, Beijing, China – 2005  
Honorary Professor, East China University of Science and Technology, Shanghai, China – 2007  
**Rothschild Prize in Chemistry – 2008**  
**EMET Prize in chemistry (under the auspices of the Prime Minister of Israel) – 2008**

Publications:

Over 500 papers and 26 patents.

## **Biographical sketch of Qi-Feng ZHOU**

Qi-Feng ZHOU was born in Hunan province, China in 1947, graduated from Peking University and became a teaching assistant of the same university in 1970. He worked there until January 1980 when he was accepted by the graduate school of the University of Massachusetts at Amherst, USA, where he was awarded a master's degree in 1981 and a PhD in 1983, majoring in polymer science and engineering.

Immediately after receiving his PhD he came back to China and returned to his post at Peking University. He is a hard-working scientist and an excellent collaborator and has been successful in both teaching and research as partly shown by the awards he obtained during the years.

He has been deeply involved in the study of liquid crystalline polymers with over 200 papers and a few books, including a textbook on liquid crystalline polymers published by World Scientific Publishing Co.

His academic contributions include the proposal and experimental verification of the concept of "Mesogen-Jacketed Liquid Crystalline Polymers" which leads to a group of novel LCPs with very interesting properties, the first observation of some perforated layer structures in liquid crystalline rod-coil block copolymers, the design and synthesis of a wide variety of mesogenic polymers without using mesogenic building blocks, the synthesis of macromolecular helix and optically active materials by using "jacket effect" in molecular designs, the discovery of the oldest synthetic thermotropic liquid crystalline polymer, and the understanding of molecular parameters controlling the monotropic-enantiotropic transition of LCPs. These findings have attracted much interest in this area and deepened the understanding of polymers and macromolecular liquid crystals.

In addition to the scientific contributions briefly cited above, he also makes great contributions as an administrator. He served as the executive dean of the Graduate School of Peking University for 6 years, the Director-General of the Office of Academic Degrees Committee of the State Council and Director-General of Department of Postgraduate Education of the Ministry of Education for 3 years, the president of Jilin University for 4 years. Since November, 2008 He has been the president of Peking University.

A photograph of Qi-Feng ZHOU

Curriculum Vitae of  
**Qi-Feng Zhou**

**Surname**

ZHOU

**name**

Qi-Feng

**Nationality**

P.R.China

**Date of Birth**

October 8, 1947

**Place of birth**

Liuyang County, Hunan Province, China

**Gender**

Male

**Scientific Field**

Polymer Chemistry

**Position / Title**

Member of Chinese Academy of Sciences

Professor, Polymer Science and Engineering, Peking University, China

President of Jilin University, China

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Jilin University

2699 Qianjin Street, Changchun 130012, Jilin Province, China

[qfzhou@pku.edu.cn](mailto:qfzhou@pku.edu.cn)

**Degrees held**

1970

Graduation Certificate, Chemistry Dept., Peking University, Beijing, China

Sept. 1981

M.S., Polymer Science and Engineering, Dept. of Polymer Science and Engineering, University of Massachusetts, Amherst, Massachusetts, USA

Feb. 1983

Ph.D., Polymer Science and Engineering, Dept. of Polymer Science and Engineering, University of Massachusetts, Amherst, Massachusetts, USA

### **Professional Appointments**

1983

Teaching Assistant, Dept. of Chemistry, Peking University, China

1984-1986

Lecturer, Dept. of Chemistry, Peking University, China

1986-1990

Associate Professor, Dept. of Chemistry, Peking University, China

1990-present

Professor, College of Chemistry and Molecular Engineering, Peking University, China

1995-2001

Executive Dean of Graduate School, Peking University, China

2001-2004

Director General, Office of Academic Degrees Committee, the State Council, China

Director General, Department of Postgraduate Education, Ministry of Education, China

2004–present

President of Jilin University, Jilin, China

### **Membership of Science Academy and Professional Societies and Others**

Chinese Academy of Sciences

Executive Committee, National Natural Science Foundation of China

Academic Degrees Committee of the State Council, China

Association For Science and Technology of Jilin Province, China

Committee for moral reconstruction, Chinese Academy of Sciences

Chinese Chemical Society

People's Congress of Jilin Province, China (2005-2007; 2008-2012)

The National People's Congress of the People's Republic of China (2008-2012)

### **Awards and honours**

1986

Peking University Award for Excellent Teaching

1988

Wang Bao-Yun Award of Chinese Chemical Society

1988

Fok Ying Tung award of Ministry of Education

1991

Science Advancement Award of Ministry of Education

1997

China Natural Science Award

1999-

Member of Chinese Academy of Sciences, elected

2001

Peking University Award for Excellent Teaching

2001

Chinese Chemical Society Award for Innovation Paper on Polymer Chemistry

2006

Honorary Fellow, The Institute of Higher Education of The University of Georgia, USA

Honorary Doctorate, Far Eastern State Technical University, Russia

2007

Yang Shixian Lectureship, Nankai University, China

### **Biographical information**

Qi-Feng Zhou was born in Hunan province in 1947, graduated from Peking University in 1970 and became a teaching assistant of the same university. He worked there until January 1980 when he was accepted by the graduate school of the University of Massachusetts at Amherst, USA, where he was awarded a master's degree in 1981 and a PhD in 1983, majoring in polymer science and engineering. Immediately after receiving his PhD he came back to China and returned to his post at Peking University. He is a hard-working scientist and an excellent collaborator and has been successful in both teaching and research as partly shown by the awards he obtained during the years.

He has been deeply involved in the study of liquid crystalline polymers with more than 200 papers and a few books, including a textbook on liquid crystalline polymers published by World Scientific Publishing Co.

His academic contributions include the proposal and experimental verification of the concept of "Mesogen-Jacketed Liquid Crystalline Polymers" which leads to novel LCPs and block copolymers with very interesting properties, the first observation of some perforated layer structures in liquid crystalline rod-coil block copolymers, the design and synthesis of a wide variety of mesogenic polymers without using mesogenic building blocks, the synthesis of macromolecular helix and optically active materials by using "jacket effect" in molecular designs, the discovery of the oldest synthetic thermotropic liquid crystalline polymer, and the understanding of molecular parameters controlling the monotropic-enantiotropic transition of LCPs. These findings have attracted much interest in this area and deepened the understanding of polymers and macromolecular liquid crystals.

In addition to the scientific contributions briefly cited above, he also makes great contributions as an administrator. He served as the executive dean of the Graduate School of Peking University for 6 years, and the Director General of the Office of Academic Degrees Committee of the State Council and Director General of Department of Postgraduate Education of the Ministry of Education for 3 years. He is now the beloved president of Jilin University, the largest and one of the most prestigious universities in China.

### **Citation of major research accomplishments**

- 1, The proposal and experimental verification of the concept of "Mesogen-Jacketed Liquid Crystalline Polymers" which lay the foundation of a group of novel Liquid Crystal Polymers with interesting unique properties.
- 2, The use of this type of polymers as molecular building blocks in structure and property design of new materials, such as novel rod-coil copolymers and materials with interesting optical properties.
- 3, Published over 200 peer-reviewed papers and a few books,
- 4, A few patents granted

#### **List of Selected papers**

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