

## Biographical Sketch

### MITSUO KIRA

#### Personal Data

Present Addresses:

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##### Home

6-30, 3-Chome, Nakayama, Aoba-ku, Sendai 981-0952, Japan

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Birthdate: August 6, 1943

Birthplace: Osaka, Japan

#### Present Employment

Professor of Chemistry, Graduate School of Science, Tohoku University, Sendai, Japan, since 1995.

#### Education

B.Eng. Synthetic Chemistry 1963-1967

Faculty of Engineering, Kyoto University, Japan

M.Eng. Synthetic Chemistry 1967-1970

Graduate School of Engineering, Kyoto University, Japan

#### Degrees

B.Eng. (1967), Kyoto University (Supervisor: Prof. Makoto Kumada)

M.Eng. (1969), Kyoto University (Supervisor: Prof. Makoto Kumada)

D.Sc. (1974), Tohoku University (Supervisor: Prof. Hideki Sakurai)

#### Academic Appointments

Instructor, Tohoku University, Faculty of Science 1970 – 1986

Associate Professor, Tohoku University, Faculty of Science 1986 – 1995

Professor, Tohoku University, Graduate School of Science 1995 – Present

Alexander von Humboldt Research Fellow, 1977 – 1978

Institute für Anorganische Chemie der Universität Frankfurt

(Prof. Hans Bock)

Team Leader, Photodynamics Research Center, 1990 – 1998

The Institute of Physical and Chemical Research (RIKEN)

## Award

|                                                                 |      |
|-----------------------------------------------------------------|------|
| The Chemical Society of Japan Young Chemists Award (Shimpo-sho) | 1978 |
| The Chemical Society of Japan Award                             | 2005 |
| Wacker Silicone Award                                           | 2005 |

## Research Activity

Organosilicon and related chemistry, Photochemistry, Physical Organic Chemistry, etc.

His recent research interests have been centered on organosilicon, germanium and tin chemistry, with particular focus on structure and reactivity of polysilanes, stable unsaturated group-14 organometallic compounds, and giant organosilicon compounds.

## Plenary and Invited Lectures in International Conferences (1995 – present)

1. "Reactions of Tetrakis(trialkylsilyl)disilenes and digermenes", The 6th Japan-Korea Joint Symposium on Organometallic and Coordination Chemistry, 6/1995, Osaka, Japan.
2. "Salient Effects of Trialkylsilyl Substituents on Structure and Reactions of Digermenes", The 8th International Conference on the Organometallic Chemistry of Germanium, Tin, and Lead, 9/1995, Sendai, Japan.
3. "Thermally Stable Triplet Hexasilylbenzene Dianion", Gordon Research Conference on Organic Structures and Properties, 9/1996, Fukuoka, Japan.
4. "Control of Organic Photoreaction Pathways by Non-Resonant Two-Photon Excitation", The 166th WE Heraeus Seminar on Multi-Photon Photochemistry on Biological Systems, Bornhofen, Germany, 10/1996.
5. "Interconversion between Tetrasilacyclobutene and Tetrasilabicyclo[1.1.0]butane", The 7th Korea-Japan Joint Symposium on Organometallic and Coordination Chemistry, Cheju-Do, Korea, 11/1996.
6. "Organic Photoreactions via Non-Resonant Two-Photon (NRTP) Excitation", The 4th Sino-Japan Binational Symposium on Photochemistry, Huangshan, China, 10/1997.
7. "New Chemical Aspects of Group-14 Organometallic Divalent Species", The 6th International Conference on Chemistry of Carbene and Related Intermediates, St. Petersburg, Russia, 5/1998.
8. "A Stable Cyclic Dialkylgermylene", The 9th International Conference on the Coordination and Organometallic Chemistry of Germanium, Tin, and Lead, Melbourne, Australia, 9/1998.
9. "Structure, Photochemistry, and Optoelectronic Properties of Oligosilanes and Polysilanes", The 2nd SANKEN International Symposium: Chemical and Physical Perspective for Molecular Devices, 1/1999, Osaka, Japan.
10. "The First Isolable Dialkylsilylene", The 8th Kyushu International Symposium on Physical Organic Chemistry, 9/1999, Fukuoka, Japan.
11. "Structure and Reactions of First Isolable Dialkylsilylene", 9th Korea-Japan Joint Symposium on Organometallic and Coordination Chemistry, 11/1999, Seoul, Korea.
12. "Stable Dialkylsilylene and Cyclic Disilenes", 33rd Organosilicon Symposium, 5/2000, Saginaw, USA.
13. "Comparative Chemistry of Unsaturated Compounds of Group-14 Elements", 15th IUPAC Conference on Physical Organic Chemistry, 7/2000, Göteborg, Sweden.

14. "Structure and Reactivity of Isolable Group-14 Divalent Species", PACIFICHEM 2000, 12/2000, Honolulu, USA.
15. "Stable Cyclic and Acyclic Persilylated Disilenes as Novel Silicon Electron Systems", PACIFICHEM 2000, 12/2000, Honolulu, USA.
16. "Stable Dialkylsilylene", International Symposium on Inorganometallic Chemistry–Commemorative Meeting of the Retirement of Prof. H. Ogino, 5/2001, Sendai.
17. "Bond-stretch Isomerization in 1,3-Disilabicyclo[1.1.0]butane", 10th Japan-Korea Joint Symposium on Organometallic and Coordination Chemistry, 6/2001, Tsukuba.
18. "Structure and Reactions of a Storable Dialkylsilylene", International Symposium on Reactive Intermediates and Unusual Molecules (ISRIUM), 9/2001, Nara.
19. "Frontiers of the Chemistry of Unsaturated Silicon and Related Compounds", 88th Annual Meeting of the Korean Chemical Society, 10/2001, Pusan, Korea.
20. "Recent advances in the chemistry of a storable dialkylsilylene", 13th International Symposium on Organosilicon Chemistry, 8/2002, Guanajuato, Mexico.
21. "The first stable trisilaallene", 11th Korea-Japan Joint Symposium on Organometallic and Coordination Chemistry, 11/2002, Pusan, Korea.
22. "Structure and photochemical properties of oligosilanes and polysilanes", 1st International Symposium on "Future-oriented Interdisciplinary Materials Science", 2/2003, Tsukuba.
23. "A stable dialkylsilylene and its application to synthesis of the first trisilaallene", 7th International Conference on the Chemistry of Carbenes and Related Intermediates", 6/2003, Kazan, Russia.
24. "Novel silicon multiple-bond systems as dynamic complexes", International Symposium on Dynamic Complexes (ISDC 2003), 8/2003, Tokyo.
25. "From stable silylene to stable trisilaallene", International Symposium on Reactive Intermediates and Unusual Molecules (ISRIUM), 8/2003, Reykjavik, Iceland.
26. "New molecular systems with silicon-silicon multiple bonds", 2nd European Organosilicon Days, 9/2003, Munich, Germany.
27. "New Insights into Silicon Multiple-bond Systems", 10th Kyusyu International Symposium on Physical Organic Chemistry, 9/2003, Fukuoka.
28. "Novel Multiple-Bond Systems of Heavy Group-14 Elements", 21st International Conference on Organometallic Chemistry, 7/2004, Vancouver, Canada.
29. "Structure and Reactions of Trisilaallene and Trigermaallene", 7th IUPAC International Symposium on Heteroatom Chemistry (ICHAC-7), 8/2004, Shanghai, China.
30. "A Stable Silylene: A Key Building Block For Novel Unsaturated Silicon Compounds", 14th International Symposium on Organosilicon Chemistry (XIV ISOS), 8/2005, Würzburg, Germany.
31. "Silicon-based molecular rotors", 13th Korea-Japan Joint Symposium on Organometallic and Coordination Chemistry, 11/2005, Juju, Korea.
32. "Recent advances in the chemistry of stable dialkylsilylene", 2nd Tsukuba International Symposium on Organic Main Group Chemistry, 12/2005, Tsukuba, Japan.
33. "Unusual dynamic structure of heavy group-14 element trimetallaallenes", International Chemical Congress of Pacific Basin Societies (PACIFICHEM 2005), 12/2005, Honolulu, USA.
34. "Novel disilene- and digermene-transition metal complexes", International Chemical Congress of Pacific Basin Societies (PACIFICHEM 2005), 12/2005, Honolulu, USA.

35. "Unique reactions of transition metal complexes of disilenes and digermenes", 2nd International Symposium of Core-to-Core Program on Main Group Chemistry, Tokyo, 8/2006, Tokyo.
36. "Recent advances in the chemistry of a helmeted dialkylsilylene", 1st International Conference on Cutting-Edge Organic Chemistry in Asia, 10/2006, Naha.

#### **Other Activities**

1. Associate Editor, *Chem. Lett.* (1993-1997)
2. International Advisory Editorial Board Member, *Dalton Trans.*, Royal Society of Chemistry (2000-present)
3. Advisory Board Member, *Organometallics*, American Chemical Society (2000-2003)
4. Subject Editor, *Silicon Chemistry*, Kluwer (2002-present)
5. Advisory Board Member, *J. Phys. Org. Chem.*, John Wiley (2007-)
6. Standing Trustee, The Society of Silicon Chemistry Japan (1996-present)
7. Vice President, The Society of Silicon Chemistry Japan (2002-2004)
8. President, The Society of Silicon Chemistry Japan (2006-2008)
9. Chair of Tohoku and Hokkaido Branch, The Society of Synthetic Organic Chemistry, Japan (2003)
10. Chair of Tohoku Branch, The Chemical Society of Japan (2005)
11. International Advisory Board Member, International Symposium on Organosilicon Chemistry (1999-present)
12. Chairman, Local Organizing Committee, 12th International Symposium on Organosilicon Chemistry, Sendai (1999)
13. International Advisory Board Member, Conference on the Chemistry of Carbenes and Related Intermediates (2002-present)
14. Chairperson, 12th Japan-Korea Joint Symposium on Organometallic and Coordination Chemistry, Sendai (2004).
15. Chairperson, International Symposium on Dynamic Complexes, Sendai (2005, October).