



Professor Kazuo Murota

Dept. of Mathematical Informatics
Graduate School of Information Science and Technology
University of Tokyo

CV of Kazuo Murota:

Born in Japan, 1955.

Graduated from University of Tokyo, 1978.

Doctor of Engineering, 1983 (Univ. Tokyo).

Doctor of Science, 2002 (Kyoto Univ.).

Professor at Dept. of Mathematical Informatics, Graduate School of Information Science and Technology at Univ. of Tokyo, since 2002.

Research Associate at Dept. of Mathematical Engineering, Univ. of Tokyo, 1980.

Lecturer at Institute of Socio-Economic Planning, Univ. of Tsukuba, 1983.

Associate Professor at Dept. of Mathematical Engineering, Univ. of Tokyo, 1986.

Associate Professor at Research Institute for Mathematical Sciences (RIMS), Kyoto University, 1992.

Professor at Research Institute for Mathematical Sciences (RIMS), Kyoto University, 1994.

Visiting Fellow at Institute of Discrete Mathematics, Univ. Bonn, 1988-1989, 1994-1995.

Guest Professor at Dept. of Mathematical Engineering, Univ. of Tokyo, 1998-2000.

Professor at Dept. of Mathematical Engineering, Univ. of Tokyo, 2000-2002.

Visiting Professor at University of Grenoble, CNRS, 2001.

Professor at Research Institute for Mathematical Sciences (RIMS), Kyoto University, 2002-2003.

Research interests:

Mathematical methods in/for engineering. In particular, discrete mathematics (combinatorial optimization on matroids and related structures), combinatorial matrix theory, numerical analysis, group-theoretic methods for structural engineering.

Awards:

2nd IBM Japan Science Prize, 1988.

21st Inoue Prize for Science, 2005.

Selected publications, Books:

“Bifurcation Theory for Hexagonal Agglomeration in Economic Geography” by Kiyohiro Ikeda and Kazuo Murota, Springer-Verlag, 2014

“Discrete Convex Analysis” by Kazuo Murota, SIAM, 2003

“Imperfect Bifurcation in Structures and Materials: Engineering Use of Group-Theoretic Bifurcation Theory” by Kiyohiro Ikeda and Kazuo Murota, Springer-Verlag, 2002; 2nd ed. 2010

“Matrices and Matroids for Systems Analysis” by Kazuo Murota, Springer-Verlag, 2000; paperback 2010

“Systems Analysis by Graphs and Matroids” by Kazuo Murota, Springer-Verlag, 1987

Selected publications, Papers:

1. K. Murota and K. Ikeda (1991): Computational use of group theory in bifurcation analysis of symmetric structures, *SIAM Journal on Scientific and Statistical Computing*, 12, 273-297.
2. K. Murota and K. Ikeda (1991): Critical imperfection of symmetric structures. *SIAM Journal on Applied Mathematics*, 51, 1222-1254.
3. K. Ikeda and K. Murota (1991): Bifurcation analysis of symmetric structures using block-diagonalization, *Computer Methods in Applied Mechanics and Engineering*, 86, 215-243.
4. K. Murota and K. Ikeda (1992): On random imperfections for structures of regular-polygonal symmetry, *SIAM Journal on Applied Mathematics*, 52, 1780-1803.
5. K. Ikeda and K. Murota (1993): Statistics of normally distributed random initial imperfections. *International Journal of Solids and Structures*, 30, 2445-2467.
6. K. Ikeda and K. Murota (1999): Systematic description of imperfect bifurcation behavior of symmetric systems, *International Journal of Solids and Structures*, 36, No. 11, 1561-1596.