

**Curriculum Vitae**  
**Junko Murakami 村上純子**

**Address**

Tokyo, Japan

E-mail: junko.murak AT gmail.com

Homepage: <http://www.mathjm.com>

**Citizenship**

Japanese citizen

**Language**

English: fluent; Japanese: native

**Education**

Ph.D. in Mathematics, Arizona State University, Tempe, AZ

May 2005

Dissertation: *Parameter Estimate of a Hidden Markov Chain*

Advisor: Tom Taylor

M.A. in Mathematics, University of Kansas, Lawrence, KS

August 1995

Thesis: *Parameter Identification for Stochastic Systems*

Advisor: Bozenna Pasik-Duncan

B.S. in Computer Science, University of Kansas, Lawrence, KS

May 1993

High School Diploma, Metropolitan Ueno High School, Tokyo

March 1972

**Honors/Awards**

New Zealand Institute of Mathematics and its Applications (NZIMA) Post-Doctoral Fellowship,  
June 2005

Master's Degree with Honors, University of Kansas, August 1995

Graduation with Honors & with Highest Distinction, University of Kansas, May 1993

Paul F. Huebner Memorial Award for Outstanding Senior Academic Achievement by the  
Department of Computer Science, University of Kansas, April 1993

Liberal Arts and Science Honor Roll, University of Kansas, Fall 1989-Spring 1993

## **Work experience**

September 2011-August 2024: Adjunct Professor in statistics and mathematics at School of International Liberal Studies, Waseda University, Japan. (Retired at 70 due to the age limit.)

April 2011-August 2020: Adjunct Professor in statistics and mathematics at Faculty of Liberal Arts, Sophia University, Japan.

February 2010-2020: Self-employed iPhone App Developer. The products used to be shown at ParsleyStreet.com.

January 2008-December 2008: Visiting Assistant Professor at Department of Mathematics, Knox College, US. Instructor in statistics and mathematics. This includes the use of Mathematica, SPSS, and Excel functions.

June 2005-June 2007: Post-Doctoral Fellow at School of Mathematics, Statistics and Computer Science, Victoria University of Wellington, New Zealand. The position is for the NZIMA Programme on "Hidden Markov Models and Complex Systems," and the research was focused on the analysis of seismic data. This includes the development of simulation software in C++ and some use of R and Perl.

August 1999-May 2005: Graduate Teaching Assistant at Department of Mathematics and Statistics of Arizona State University. Duties included presenting lectures and assigning the final grades.

July 1995-December 1998: Customer Support Engineer at Gemplus Japan Co., Ltd., Japan. The company was the Japanese subsidiary of a French smart-card manufacturer. Duties included management of smart-card nationwide projects with major Japanese companies, development of software in Visual Basic as the team leader, translation of specifications, and technical training to customers in Japan, Taiwan, and Korea.

August 1993-May 1995: Graduate Teaching Assistant at Department of Mathematics and Statistics of University of Kansas. Duties included presenting lectures and assigning the final grades.

April 1972-August 1989: Worked for several companies in Tokyo, Japan. Word Processor Operator, Data Entry Operator, and Office Clerk. (It took these seventeen years for me to save enough money for the high-education, working as a female high-school graduate in Japan back then.)

## **Computer skills**

Experienced programmer: Familiar with various computer languages including C++, C, Objective-C, Visual Basic (VB), Matlab, Maple, HTML, PhP, Javascript, mySQL, Mathematica, SPSS, R, Pascal, etc. This includes the first commercial version of NEC software product 'BIOS Lock' as the team leader. Programmed simulation programs in C++ and Matlab for mathematical researches for about five years.

## **Publications**

J. Murakami, "Bayesian posterior mean for Poisson hidden Markov models," *Computational Statistics & Data Analysis*, vol. 53, no. 4, pp. 941-955, Feb. 2009.

J. Murakami and T. Taylor, "Least square estimation of a hidden Markov chain parameters," in *Proceedings of the 17<sup>th</sup> International Symposium on Mathematical Theory of Networks and Systems (MTNS)*, pp. 2151-2156, Kyoto, Japan, July 2006.

D. Vere-Jones, J. Murakami, and A. Christophersen, "A further note on Båth's law," manuscript submitted to *Bulletin of the Seismological Society of America*, 2006.

J. Murakami, Parameter estimate of a hidden Markov chain, Ph.D. thesis, Arizona State University, ISBN:054201453X, ProQuest/UMI, Mar. 2006.

D. Vere-Jones, J. Murakami, and A. Christophersen, "A further note on Båth's law," in *Proceedings of the 4<sup>th</sup> International Workshop on Statistical Seismology (Statsei4)*, pp. 244-247, Zushi, Japan, Jan. 2006.

D. Armbruster, E.S. Gel, and J. Murakami, "Bucket brigades with worker learning," *European Journal of Operations Research*, vol. 176, no. 1, pp. 264-274, Jan. 2007.

## **Presentations**

"Least square estimation of a hidden Markov chain parameters," at the 17<sup>th</sup> International Symposium on Mathematical Theory of Networks and Systems (MTNS 2006), Kyoto, Japan, July 2006 (coauthored with T. Taylor).

"Parameter estimation for discrete hidden Markov models," at Cherry Bud Workshop 2006 - Building Models from Data, Keio University, Japan, Mar. 2006.

"Three different approaches to parameter estimation for simple HMMs," at Hidden Markov Models and Complex Systems, Second Workshop, New Zealand, Dec. 2005.

"Hidden Markov models," at The NZSA 2005 Conference, New Zealand, July 2005.

"Parameter estimation," at Hidden Markov Models and Complex Systems, First Workshop, New Zealand, June 2005.

## **Professional memberships**

American Mathematical Society (AMS), Mathematical Association of America (MAA).