

CURRICULUM VITAE

Name.

Masahiro Yamamoto

Position.

Associate Professor

Department of Mathematical Sciences, the University of Tokyo

3-8-1 Komaba Meguro Tokyo 153 Japan

e-mail:myama@ms.u-tokyo.ac.jp

Degree.

Doctor of Science

Place of birth.

Tokyo, Japan

Date of birth.

17 August, 1958

Nationality.

Japanese, Passport number : TE5883877 (till 20 May, 2007)

Home address. 2-15-17 Nishisugamo, Toshima Tokyo 170 Japan

tel: +81-3-3910-1231

Marital status.

married

Education.

1965–1977 ; school (12 years)

April 1977 ; entered the University of Tokyo

March 1981 ; graduated with the degree of Bachelor of Science

March 1983 ; obtained the degree of Master of Science from the University of Tokyo

March 1988 ; received the degree of Doctor of Science from the University of Tokyo for a thesis entitled "Inverse Spectral Problem for Systems of Ordinary Differential Equations"

Occupation.

April 1985 – March 1990; Research Associate at the Department of Mathematics, College of Arts and Sciences, the University of Tokyo

April 1990 – March 1992; Associate Professor at the Department of Mathematics, College of Arts and Sciences, the University of Tokyo

April 1992 – ; Associate Professor at the Department of Mathematical Sciences, the University of Tokyo

Membership in editorial boards.

Journal of Inverse and Ill-posed Problems

Computer Mathematics and its Applications (the Hellenic Mathematical Society)

Inverse Problems

Bulletin of the Japan Society for Industrial and Applied Mathematics

Bulletin of the Mathematical Society of Japan

Applicable Analysis

List of publications (except publications in Japanese).

- (1) Observability, controllability, and feedback stabilizability for evolution equations, I., Japan Journal of Applied Mathematics **2** (1985), 211-228 (with T. Suzuki)
- (2) Observability, controllability, and feedback stabilizability for evolution equations, II., Japan Journal of Applied Mathematics **2** (1985), 309-327 (with T. Suzuki)
- (3) Observability, controllability, and feedback stabilizability for evolution equations, III., Japan Journal of Applied Mathematics **4** (1987), 185-203 (with T. Suzuki)
- (4) On the stabilization of evolution equations by feedback with time-delay; an operator theoretical approach, J. of the Faculty of Science, The University of Tokyo **34** (1987), 165-191
- (5) Identifiability, observability, controllability and pole assignability for evolution equations: a unified approach, Preprint No. 87-15, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1987 (with S. Nakagiri)
- (6) Identifiability of linear retarded systems in Banach spaces, Funkcial. Ekvac. **31** (1988), 315-329 (with S. Nakagiri)
- (7) Inverse spectral problem for systems of ordinary differential equations of first order, I., J. of the Faculty of Science, The University of Tokyo, **35** (1988), 519-546
- (8) Continuous dependence problem in an inverse spectral problem for systems of ordinary differential equations of first order, Scientific Papers of the College of Arts and Sciences, The University of Tokyo, **38** (1988), 69-130
- (9) Inverse spectral problem for systems of ordinary differential equations of first order, II., Preprint No. 88-02, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1988
- (10) On isolated spectrum points of linear operators: multiplicities and degenerate perturbations, Preprint No. 88-09, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1988 (with S. Nakagiri)
- (11) Controllability and observability of linear retarded systems in Banach spaces, International Journal of Control **49** (1989), 1489-1504 (with S. Nakagiri)
- (12) Identification problem for partial differential equations, Funkcial. Ekvac. **32** (1989), 483-505 (with S. Nakagiri)
- (13) Spectral mode controllability, observability and identifiability for isolated spectrum points, Kobe J. Math. **6** (1989), 93-116 (with S. Nakagiri and G.D. Lee)
- (14) Admissible controllability for linear time-delay systems in Banach spaces—a problem in game theory, Scientific Papers of the College of Arts and Sciences, The University of Tokyo, **39** (1989), 45-55 (with S. Nakagiri and

- J.Y. Park)
- (15) Inverse eigenvalue problem for a vibrating of a string with viscous drag, *J. Math. Anal. Appl.* **152**(1990), 20-34
 - (16) Controllability for parabolic equations with uniformly bounded nonlinear terms, *J. Optim. Theory Appl.* **66** (1990), 515-532 (with J.Y. Park)
 - (17) Max-min controllability of delay-differential games in Banach spaces, *Kobe J. Math.* **7** (1990), 147-165 (with S. Nakagiri and J.Y. Park)
 - (18) On the well-posedness and the stiffness of feedback systems, Preprint No. 90-02, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1990
 - (19) Feedback stabilization for nondissipative hyperbolic equations, *International Series of Numerical Mathematics*, **100**(1991), 379-389, Birkhäuser Verlag
 - (20) Determination of discontinuity from eigenvalues, Preprint No. 91-01, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1991
 - (21) Determination of constant parameters in diffusion equations: uniqueness and continuous dependence, Preprint No. 91-07, Department of Mathematics, College of Arts and Sciences, The University of Tokyo, 1991 (with S. Nakagiri)
 - (22) Determination of constant parameters in some semilinear parabolic equations, the Proceedings of Ill-posed Problems in Natural Sciences (eds:A.N.Tikhonov), 439-445, 1992, VSP International Science Publisher
 - (23) An algorithm for a heat control problem, *Control-theory and Advanced Technology* **8** (1992), 707-720 (with M. Kobayashi)
 - (24) Conditional stability in determination of force terms of heat equations in a rectangle, *Mathl. Comput. Modelling* **18**(1993),79-88
 - (25) Generic uniqueness and stability in some inverse parabolic problem, *Lecture Notes in Physics*, Springer Verlag, Vol.422(1993), 49-54 (with K.-H. Hoffmann)
 - (26) Identifiability of operators for evolution equations in Banach spaces with an application to transport equations, *J. of Math. Anal. Appl.***186**(1994), 161-181 (with S. Nakagiri)
 - (27) Well-posedness of an inverse hyperbolic problem by the Hilbert Uniqueness Method, *J. Inverse and Ill-posed Problems*, **2** (1994), 349-368
 - (28) Conditional stability in determination of densities of heat sources in a bounded domain, *International Series of Numerical Mathematics*, **118**(1994), 359-370, Birkhäuser Verlag
 - (29) Uniqueness and stable determination of forcing terms in linear partial differential equations with overspecified boundary data, *Inverse Problems* **10**(1994), 1253-1276 (with H.W. Engl and O. Scherzer)
 - (30) Stability and regularization in an inverse source hyperbolic problem: degenerate case, *Journal of the Hellenic Mathematical Society: Computer Mathematics and Applications* **1** (1994), 41-48
 - (31) Exact controllability method and multidimensional linear inverse problems, Preprint No. 94-72, Department of Mathematical Sciences, The University of Tokyo, 1994 (to appear in "Recent Trends of Inverse and Ill-posed Problems", edited by Y. Iso and M. Yamamoto), VSP, Utrecht, 1996
 - (32) Stability, reconstruction formula and regularization for an inverse source hyperbolic problem by a control method, *Inverse Problems* **11** (1995), 481-

496

- (33) Unique identification of coefficient matrices, time delays and initial functions of functional differential equations, *J. Mathematical Systems, Estimation, and Control* **5** (1995), 323-344 (with S. Nakagiri)
- (34) Applications de la contrôlabilité exacte à quelques problèmes inverses hyperboliques, *C. R. Acad. Sci. Paris Sér.I Math.* **320** (1995), 1171–1176 (with J.-P. Puel)
- (35) Application of the Hilbert Uniqueness Method to inverse source problems : stability and regularization, *Z. angew. Math. Mech.* **75** (1995), 515-516
- (36) Application of exact controllability to some inverse problems for the wave equations, *Control of Partial Differential Equations and Applications* (edited by E. Casas), 241-249, Marcel-Dekker, Inc., 1995 (with J.-P. Puel)
- (37) Uniqueness, stability and regularization in finding force terms of a wave equation by interior observations, *Publications of the HoChiMinh City Mathematical Society* **2** (1995), 208-217
- (38) On regularized inversion of Abel integral operators, *Publications of the HoChiMinh City Mathematical Society* **3** (1995), 162-182 (with R. Gorenflo)
- (39) Unique continuation and identification of boundary of an elastic body, *Journal of Inverse and Ill-posed Problems* **3** (1995) 417-428 (with D.D. Ang and D.D. Trong)
- (40) Identification of forces in vibrating plates by pointwise and line observations - uniqueness and stability, *Proceedings of the Design Engineering Technical Conferences, DE-Vol.84-3, The American Society of Mechanical Engineers, Book No. H1000C, 973-978, 1995*
- (41) Smoothing property in multidimensional inverse hyperbolic problems: applications to uniqueness and stability, *Journal of Inverse and Ill-posed Problems* **4** (1996) 283-296 (with J.-P. Puel)
- (42) Determination of forces in vibrations of beams and plates by pointwise and line observations, *Journal of Inverse and Ill-posed Problems* **4** (1996) 437-457
- (43) Generic well-posedness of an inverse parabolic problem - Hölder-space approach, *Inverse Problems* **12** (1996), 195-205 (with M. Choulli)
- (44) Generic well-posedness of a linear inverse parabolic problem with diffusion parameters, *Prépublications de l'Équipe de Mathématiques de Besançon, No. 96/04, 1996* (with M. Choulli)
- (45) On the determination of point sources by boundary observations: uniqueness, stability and reconstruction, *Preprint No. 252, Weierstraß-Institut für Angewandte Analysis und Stochastik, Berlin, 1996* (with G. Bruckner)
- (46) Well-posedness of multidimensional hyperbolic inverse problem: a prospect, *Preprint No. 96-29, Department of Mathematical Sciences, The University of Tokyo, 1996*
- (47) The Gel'fand-Levitan theory for a stationary system: uniqueness and reconstruction formula, *Preprint No. 96-31, Department of Mathematical Sciences, The University of Tokyo, 1996*
- (48) On a global estimate in a linear inverse hyperbolic problem, *Inverse Problems* **12** (1996), 995-1002 (with J.-P. Puel)
- (49) On ill-posedness and a Tikhonov regularization for a multidimensional inverse hyperbolic problem, *Journal of Mathematics of Kyoto University*, **36** (1996) 825-856

- (50) Exact internal observability and controllability for the wave equation with a lower order term, in the Proceedings of Nonlinear Functional Analysis and Applications, **2** (1997), 1-11 (with J.-P. Puel)
- (51) Generic well-posedness in a multidimensional hyperbolic inverse problem, Journal of Inverse and Ill-posed Problems **5** (1997) 55-83 (with J.-P. Puel)
- (52) General theorems on the exact controllability of conservative systems, Int. J. of Control **67** (1997) 371-379 (with Q. Zhou)
- (53) Stability of Lipschitz type in determination of initial heat distribution, Journal of Inequalities and Applications **1** (1997), 73-83 (with S. Saitoh)
- (54) An inverse parabolic problem with non-zero initial condition, Inverse Problems **13** (1997), 19-27 (with M. Choulli)
- (55) A mathematical aspect of inverse problems for non-stationary Maxwell's equations, Int. J. of Applied Electromagnetics and Mechanics **9** (1997), 1-22
- (56) On uniqueness in multidimensional hyperbolic inverse problems: less regular case, Preprint No. 97-1, Department of Mathematical Sciences, The University of Tokyo, 1997
- (57) On the regularization of linear Abel-type integral equations of first kind with Hölder-continuous kernels, Preprint Series A27/97, Freie Universität Berlin, 1997 (with R. Gorenflo and A. Iskenderov).
- (58) Conditional stabilizing estimation for first kind integral equation with analytic kernel, to appear in Journal of Integral Equations and Applications (with J. Cheng)
- (59) Unique continuation for a stationary isotropic Lamé system with variable coefficients, Commun. in Partial Differential Equations **23** (1998), 371-385 (with D.D. Ang, M. Ikehata, D.D. Trong)
- (60) Unique continuation on a line for harmonic equations, Inverse Problems **14** (1998), 869-882 (with J. Cheng).
- (61) Identifying a spatial body force in linear elastodynamics via traction measurements, SIAM J. Control and Optim. **36** (1998), 1190-1206 (with M. Grasselli)
- (62) Local estimation for an integral equation of first kind with analytic kernel, J. of Inverse and Ill-posed Problems, **6** (1998), 115-126 (with S. Pröbldorf and J. Cheng).
- (63) Lipschitz stability in inverse parabolic problems by the Carleman estimate, Inverse Problems **14**(1998), 1229-1245 (with O. Imanuvilov).
- (64) Stability in line unique continuation of harmonic functions: general dimensions, J. of Inverse and Ill-posed Problems, **6** (1998), 319-326 (with J. Cheng and Y.C. Hon).
- (65) On an inverse problem of determining source terms in Maxwell's equations with a single measurement, in "Inverse Problems, Tomography, and Image Processing" edited by A.G. Ramm, Plenum Press, New York, 1998, pp.241-256.
- (66) Uniqueness in inverse problems for the isotropic Lamé system, J. Math. Anal. Univ. Tokyo. **5** (1998), 627-692. (with M. Ikehata and G. Nakamura).
- (67) The inverse problem for systems of Maxwell equations, J. of Inverse and Ill-posed Problems. **6** (1998), 563-570.
- (68) Uniqueness and stability for an inverse problem of determining a part of

- boundary, in "Inverse Problems in Engineering Mechanics" edited by M. Tanaka and G.S. Dulikravich, Elsevier Science B.V., 1998, pp.327–336 (with A.L. Bukhgeim and J. Cheng).
- (69) On a sharp estimate in a non-destructive testing: determination of unknown boundaries, in "Applied Electromagnetism and Mechanics" edited by K. Miya, M. Yamamoto and Nguyen Xuan Hung, 1998, pp.64–75 (with A.L. Bukhgeim and J. Cheng).
- (70) A transient inverse scattering problem for acoustic waveguides, to appear in *Applicable Analysis* (with G. Makrakis).
- (71) Uniqueness and stability in multidimensional hyperbolic inverse problems, *J. Math. Pures Appl.* **78** (1999), 65-98.
- (72) Operator theoretical treatment of linear Abel integral equations of first kind, *Japan Journal of Industrial and Applied Mathematics*, **16** (1999), 137-161 (with R. Gorenflo)
- (73) On an operator equation with noise in the operator and the right-hand side with application to an inverse vibration problem, No. 407, Weierstraß-Institut für Angewandte Analysis und Stochastik, Berlin, 1998 (with G. Bruckner)
- (74) Local stability of a linearized inverse problem in detecting steel reinforcement bars, Preprint No. 98-17, Department of Mathematical Sciences, 2s The University of Tokyo, 1998 (with J. Cheng).
- (75) Uniqueness in determining piecewise analytic coefficients in hyperbolic equations, Preprint No. 98-24, Department of Mathematical Sciences, The University of Tokyo, 1998 (with Yu. E. Anikonov and J. Cheng).
- (76) Error estimates of the real inversion formulas of the Laplace transform, Preprint No. 98-29, Department of Mathematical Sciences, The University of Tokyo, 1998 (with K. Amano and S. Saitoh).
- (77) Determination of two convection coefficients from Dirichlet to Neumann map in two dimensional case, Preprint No. 98-31, Department of Mathematical Sciences, The University of Tokyo, 1998 (with J. Cheng).
- (78) Stability for an inverse boundary problem of determining a part of boundary, Preprint No. 98-32, Department of Mathematical Sciences, The University of Tokyo, 1998 (with A.L. Bukhgeim and J. Cheng).
- (79) Conditional stability in an inverse boundary problem of determining non-smooth boundary, Preprint No. 98-36, Department of Mathematical Sciences, The University of Tokyo, 1998 (with A.L. Bukhgeim and J. Cheng).
- (80) Crack identification in plane nonhomogeneous isotropic elasticity, Preprint No. 98-37, Department of Mathematical Sciences, The University of Tokyo, 1998 (with D.D. Ang and D.D. Trong).
- (81) Identification of convection term in a parabolic equation with single measurement, Preprint No. 98-38, Department of Mathematical Sciences, The University of Tokyo, 1998 (with J. Cheng).
- (82) On a Carleman inequalities for parabolic equations in Sobolev spaces of negative order and exact controllability for semilinear parabolic equations Preprint No. 98-46, Department of Mathematical Sciences, The University of Tokyo, 1998 (with O. Imanuvilov).