

Curriculum Vitae

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EDUCATION

1971-1975 U. of Washington, BA, BS

1976-1981 Dartmouth College, PhD.

PROFESSIONAL EXPERIENCE

1975-1976 Research Technician, Dept. of Zoology, Friday Harbor Labs, at the University of Washington, laboratory of Dr. Thomas Schroeder.

1976-1981 Graduate Student, Dept. of Biological Sciences, Dartmouth College, Hanover, NH, laboratory of Dr. David R. Burgess.

1981 Postdoctoral Fellow, Abteilung Biochemistry, Max Planck Institute for Biophysical Chemistry, Goettingen, FRG, laboratory of Dr. Klaus Weber.

1981-1984 Postdoctoral Fellow, Division of Structural Studies, Medical Research Council Laboratory of Molecular Biology, Cambridge, UK, supervisor: Dr. Alan Weeds.

1985-1989 Associate Member, Whitehead Institute for Biomedical Research and Assistant Professor of Biology, Dept. of Biology, MIT.

1989-1992 Associate Professor of Biology, Dept. of Biology, MIT.

1992- 2008 Member, Whitehead Institute for Biomedical Research

1995- 2000 Director, Program in Molecular Engineering at the MIT Center for Biomedical Engineering

1998- 2008 Professor of Biology, Dept. of Biology, MIT.

1998- 2008 Professor of Bioengineering, Department of Biological Engineering, MIT.

1999-2001 Associate Chair of the Faculty, MIT

2001-2008 Director, Whitehead Institute /MIT Center for BioImaging

2005-present member, Singapore-MIT Alliance 2 (SMA2) CSB Program

2005-2008 Co-Director, Singapore-MIT Alliance 2 (SMA2) CSB Program

2005-2007 Director, Computational and Systems Biology Initiative (CSBi)

2009-present Professor of Biological Sciences and Head, Department of Biological Sciences, NUS

2009-present Director, NUS Centre for BioImaging Sciences

2009-present co-Director, MechanoBiology Institute

2009-present Professor of Bioengineering, Division of Bioengineering, NUS

2009-present Faculty Member, NGS

2010-2013 Joint Appointment, University Scholars Programme

PUBLICATIONS (170)

1. *Matsudaira, P.T.*, Burgess, D.R. SDS Microlab Linear Gradient Polyacrylamide-Gel Electrophoresis. *Anal. Bioc.* 87:386-396 (1978).
2. *Matsudaira, P.T.*, Burgess, D.R. Identification and Organization of the Components in the Isolated Microvillus Cytoskeleton. *J. Cell Biol.* 83:667-673 (1979).
3. Glenney, J.R. Jr., Kaulfus, P., *Matsudaira, P.T.*, Weber, K. F-Actin Binding and Bundling Properties of Fimbrin, a Major Cytoskeletal Protein of Microvillus Core Filaments. *J. Biol. Chem.* 256:9283-9289 (1981).
4. *Matsudaira, P.T.*, Burgess, D.R. Partial Reconstruction of the Microvillus Core Bundle: Characterization of Villin as a Ca⁺⁺-dependent, Actin-Bundling/ Depolymerizing Protein. *J. Cell Biol.* 92:648-656 (1982).
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12. *Matsudaira, P.T.*, Bordas J., Koch, M.H.J. Synchrotron X-ray Diffraction Studies of Actin Structure During Polymerization. *PNAS* 84:3151-3155 (1987).
13. *Matsudaira, P.T.* Sequence from Picomole Quantities of Proteins Electroblotted onto Polyvinylidene Difluoride Membranes. *J. Biol. Chem.* 262:10035-10038 (1987).
14. Legendre, J., *Matsudaira, P.T.* Direct Protein Microsequencing from Immobilon-P Transfer Membrane. *BioTechniques* 6:154-159 (1988).
15. Bazari, W.L., *Matsudaira, P.T.*, Wallek, M., Smeal, T., Jakes, R., and Ahmed, Y. The Villin Sequence and Peptide Map Identify Six Homologous Domains. *PNAS* 85:4986-4990 (1988).
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17. Janmey, P., *Matsudaira, P.T.* Functional Comparison of Villin and Gelsolin: Effects of Ca²⁺, KCl, and Polyphosphoinositides. *J. Biol. Chem.* 263:16738-16743 (1988).
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19. Ezzell, R.M., Chafel, M.M., *Matsudaira, P.T.* Differential Localization of Villin and Fimbrin During Development of the Mouse Visceral Endoderm and Intestinal Epithelium. *Development* 106:407-419 (1989).
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21. *Matsudaira, P.T.* Purification of Proteins and Peptides for Limited N-terminal Sequence Analysis. *Methods in Enzymology* (M. Deutscher, ed.). Academic Press, Vol. 182 [45] (1989).

22. Zon, L.I., Tsai, S.-F., Burgess, S., *Matsudaira, P.T.*, Bruns, G.A.P., Orkin, S.H. The Major Human Erythroid DNA-Binding Protein (GF-1) Primary Sequence and Localization of the Gene to the X Chromosome. *PNAS* 87:668-672 (1990).
23. Kodama, T., Freeman, M., Rohrer, L., Zabrecky, J., *Matsudaira, P.T.*, Krieger, M. Type I Macrophage Scavenger Receptor Contains α -Helical and Collagen-like Coiled Coils. *Nature* 343:531-535 (1990).
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33. Schmid, M.F., Jakana, J., *Matsudaira, P.T.*, Chiu, W. Effects of Radiation Damage with 400-kV Electrons on Frozen, Hydrated Actin Bundles. *J. Struct. Biol.* 108:62-68 (1992).
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63. Schmid, M., Jakana, J., *Matsudaira, P.T.*, W. Chiu, Three-Dimensional Structure of the Acrosomal Filament of *Limulus* Sperm by 400 kV Electron Cryomicroscopy. *Biophysical Journal* 68:8s-11s (1995).
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65. Way, M., Sanders, M.C., Chafel, M., Tu, Y-H., Knight, A., *Matsudaira, P.T.* β -Scruin, A Homologue of the Actin Crosslinking Protein Scruin, is Localized to the Acrosomal Vesicle of *Limulus* Sperm. *J. Cell Sci.* 108:3155-3162 (1995).
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