

NAME Matthias Mann
POSITION TITLE Professor and Director at the Max-Planck-Institut for Biochemistry, Martinsried, Germany
BIRTHDATE 10/10/1959

EDUCATION

Georg August Universität Göttingen; B.A.; 1982; Physics, Mathematics
Georg August Universität Göttingen; Master's Degree.; 1984; Physics
Yale University; Ph.D.; 1988; Chemical Engineering

Professional Experience:

1989 – 92 Post doctoral fellow and later Senior Scientist in the Department of Molecular Biology, University of Southern Denmark, Denmark
1992-98 Group leader of the Protein & Peptide Group, European Molecular Biology Laboratory, Heidelberg.
1998- 2005 Professor of Bioinformatics, Department of Biochemistry and Molecular Biology, University of Southern Denmark; Director of the Center for Experimental BioInformatics (CEBI, www.cebi.sdu.dk)
2005 - present Director at the Max-Planck Institute for Biochemistry, Martinsried, Germany

Honors:

- 1991 Malcom Award by the journal Organic Mass Spectrometry
- 1996 Mattauch Herzog Prize in Mass Spectrometry
- 1997 Hewlett-Packard Prize for Strategic Research in Automation of Sample Preparation
- 1998 Edman Prize by the “Methods in Protein Structure Analysis” Society
- 1999 Bieman Medal for Outstanding Achievement in Mass Spectrometry (American Society for Mass Spectrometry)
- 1999 Named second most cited scientist in chemistry in the years 1994 to 1996 by the Institute of Scientific Information
- 1999 Elected visiting professor Harvard Medical School
- 1999 Elected to the European Molecular Biology Organization (EMBO)
- 2001 Bernhard and Matha Rasmussens Memorial award in Cancer Research
- 2001 Meyenburg Cancer Research Award given by the German Cancer Research Center
- 2001 Fesenius Prize and Medal for Analytical Chemistry given by the German Chemical Society
- 2004 Honorary Doctorate University Utrecht, Netherlands
- 2004 Lundbeck Prize
- 2004 Novo-Nordisk Prize (shared with Prof. Peter Roepstorff)
- 2005 Anfinsen Award of the Protein Society
- 2006 “Biochemical Analysis” prize by the German Society for Clinical Chemistry and Laboratory Medicine
- 2007 2nd most cited European Scientist for the last ten years according to ScienceWatch (ISI)

Recent Editorial Board Memberships:

Journal of Proteome Research
Journal of Chemistry and Biology
Protein Science

More than 300 publications with a total of more than 42,000 citations:

- 1) Fenn, J. B., **M. Mann**, C. K. Meng, S. F. Wong and C. M. Whitehouse (1989). "Electrospray ionization for mass spectrometry of large biomolecules." Science **246**(4926): 64-71.
- 2) **M. Mann** and M. Wilm (1994). "Error-tolerant identification of peptides in sequence databases by peptide sequence tags." Anal. Chem. **66**(24): 4390-4399.
- 3) Wilm, M., A. Shevchenko, T. Houthaeve, S. Breit, L. Schweigerer, T. Fotsis and **M. Mann** (1996). "Femtomole Sequencing of Proteins from Polyacrylamide Gels by Nano Electrospray Mass Spectrometry." Nature **379**: 466 - 469.
- 4) Neubauer, G., A. King, J. Rappsilber, C. Calvio, M. Watson, P. Ajuh, J. Sleeman, A. I. Lamond and **M. Mann** (1998). "Mass spectrometry and EST-database searching allows characterization of the multi-protein spliceosome complex." Nat Genet **20**: 46-50.
- 5) Rigaut, G., A. Shevchenko, B. Rutz, M. Wilm, **M. Mann** and B. Seraphin (1999). "A generic protein purification method for protein complex characterization and proteome exploration." Nat Biotechnol **17**: 1030-2.
- 6) Pandey, A. and **M. Mann** (2000). "Proteomics to study genes and genomes." Nature **405**(6788): 837-46.
- 7) Pandey, A., A. V. Podtelejnikov, B. Blagoev, X. R. Bustelo, **M. Mann** and H. F. Lodish (2000). "Analysis of receptor signaling pathways by mass spectrometry: Identification of Vav-2 as a substrate of the epidermal and platelet-derived growth factor receptors." PNAS **97**(1): 179-184.
- 8) Lasonder, E., Y. Ishihama, J. S. Andersen, A. M. Vermunt, A. Pain, R. W. Sauerwein, W. M. Eling, N. Hall, A. P. Waters, H. G. Stunnenberg and **M. Mann** (2002). "Analysis of the Plasmodium falciparum proteome by high-accuracy mass spectrometry." Nature **419**(6906): 537-42.
- 9) Ong, S. E., B. Blagoev, I. Kratchmarova, D. B. Kristensen, H. Steen, A. Pandey and **M. Mann** (2002). "Stable Isotope Labeling by Amino Acids in Cell Culture, SILAC, as a Simple and Accurate Approach to Expression Proteomics." Mol Cell Proteomics **1**(5): 376-86.
- 10) Aebersold, R. and **M. Mann** (2003). "Mass spectrometry-based proteomics." Nature **422**(6928): 198-207.
- 11) Andersen, J. S., C. J. Wilkinson, T. Mayor, P. Mortensen, E. A. Nigg and **M. Mann** (2003). "Proteomic characterization of the human centrosome by protein correlation profiling." Nature **426**(6966): 570-574.
- 12) Blagoev, B., I. Kratchmarova, S. E. Ong, M. Nielsen, L. J. Foster and **M. Mann** (2003). "A proteomics strategy to elucidate functional protein-protein interactions applied to EGF signaling." Nat Biotechnol **21**(3): 315-8.
- 13) Foster, L. J., C. L. De Hoog and **M. Mann** (2003). "Unbiased quantitative proteomics of lipid rafts reveals high specificity for signaling factors." Proc Natl Acad Sci U S A **100**(10): 5813-8.

- 14) **Mann, M.** and O. N. Jensen (2003). "Proteomic analysis of post-translational modifications." Nat Biotechnol **21**(3): 255-61.
- 15) Mootha, V. K., J. Bunkenborg, J. V. Olsen, M. Hjerrild, J. R. Wisniewski, E. Stahl, M. S. Bolouri, H. N. Ray, S. Sihag, M. Kamal, N. Patterson, E. S. Lander and **M. Mann** (2003). "Integrated analysis of protein composition, tissue diversity, and gene regulation in mouse mitochondria." Cell **115**(5): 629-40.
- 16) Tyers, M. and **M. Mann** (2003). "From genomics to proteomics." Nature **422**(6928): 193-7.
- 17) Blagoev, B., S. E. Ong, I. Kratchmarova and **M. Mann** (2004). "Temporal analysis of phosphotyrosine-dependent signaling networks by quantitative proteomics." Nat Biotechnol **22**(9): 1139-45.
- 18) Steen, H. and **M. Mann** (2004). "The abc's (and xyz's) of peptide sequencing." Nat Rev Mol Cell Biol **5**(9): 699-711.
- 19) Andersen, J. S., Y. W. Lam, A. K. Leung, S. E. Ong, C. E. Lyon, A. I. Lamond and **M. Mann** (2005). "Nucleolar proteome dynamics." Nature **433**(7021): 77-83.
- 20) Foster, L. J., P. A. Zeemann, C. Li, **M. Mann**, O. N. Jensen and M. Kassem (2005). "Differential expression profiling of membrane proteins by quantitative proteomics in a human mesenchymal stem cell line undergoing osteoblast differentiation." Stem Cells **23**(9): 1367-77.
- 21) Ishihama, Y., Y. Oda, T. Tabata, T. Sato, T. Nagasu, J. Rappsilber and **M. Mann** (2005). "Exponentially modified protein abundance index (emPAI) for estimation of absolute protein amount in proteomics by the number of sequenced peptides per protein." Mol Cell Proteomics **4**(9): 1265-72.
- 22) Kerner, M. J., D. J. Naylor, Y. Ishihama, T. Maier, H. C. Chang, A. P. Stines, C. Georgopoulos, D. Frishman, M. Hayer-Hartl, **M. Mann** and F. U. Hartl (2005). "Proteome-wide analysis of chaperonin-dependent protein folding in Escherichia coli." Cell **122**(2): 209-20.
- 23) Khan, S. M., B. Franke-Fayard, G. R. Mair, E. Lasonder, C. J. Janse, **M. Mann** and A. P. Waters (2005). "Proteome analysis of separated male and female gametocytes reveals novel sex-specific Plasmodium biology." Cell **121**(5): 675-87.
- 24) Kratchmarova, I., B. Blagoev, M. Haack-Sorensen, M. Kassem and **M. Mann** (2005). "Mechanism of divergent growth factor effects in mesenchymal stem cell differentiation." Science **308**(5727): 1472-7.
- 25) Ong, S. E. and **M. Mann** (2005). "Mass spectrometry-based proteomics turns quantitative." Nature Chemical Biology **1**: 252-262.
- 26) Adachi, J., C. Kumar, Y. Zhang, J. V. Olsen and M. Mann (2006). "The human urinary proteome contains more than 1500 proteins including a large proportion of membranes proteins." Genome Biol **7**(9): R80.
- 27) Foster, L. J., A. Rudich, I. Talior, N. Patel, X. Huang, L. M. Furtado, P. J. Bilan, M. Mann and A. Klip (2006). "Insulin-dependent interactions of proteins with GLUT4 revealed through stable isotope labeling by amino acids in cell culture (SILAC)." J Proteome Res **5**(1): 64-75.

- 28) Becker, D., M. Selbach, C. Rollenhagen, M. Ballmaier, T. F. Meyer, M. Mann and D. Bumann (2006). "Robust Salmonella metabolism limits possibilities for new antimicrobials." Nature **440**(7082): 303-7.
- 29) de Godoy, L. M., J. V. Olsen, G. A. de Souza, G. Li, P. Mortensen and M. Mann (2006). "Status of complete proteome analysis by mass spectrometry: SILAC labeled yeast as a model system." Genome Biol **7**(6): R50.
- 30) de Souza, G. A., L. M. Godoy and M. Mann (2006). "Identification of 491 proteins in the tear fluid proteome reveals a large number of proteases and protease inhibitors." Genome Biol **7**(8): R72.
- 31) Forner, F., E. A. Arriaga and M. Mann (2006). "Mild protease treatment as a small-scale biochemical method for mitochondria purification and proteomic mapping of cytoplasm-exposed mitochondrial proteins." J Proteome Res **5**(12): 3277-87
- 32) Foster, L. J., C. L. de Hoog, Y. Zhang, X. Xie, V. K. Mootha and M. Mann (2006). "A Mammalian Organelle Map by Protein Correlation Profiling." Cell **125**(1): 187-199.
- 33) Mann, M. (2006). "Functional and quantitative proteomics using SILAC." Nat Rev Mol Cell Biol **7**(12): 952-8.
- 34) Olsen, J. V., B. Blagoev, F. Gnad, B. Macek, C. Kumar, P. Mortensen and M. Mann (2006). "Global, In Vivo, and Site-Specific Phosphorylation Dynamics in Signaling Networks." Cell **127**(3): 635-648.
- 35) Ong, S. E. and M. Mann (2006). "A practical recipe for stable isotope labeling by amino acids in cell culture (SILAC)." Nat Protoc **1**(6): 2650-60.
- 36) Pasini, E. M., M. Kirkegaard, P. Mortensen, H. U. Lutz, A. W. Thomas and M. Mann (2006). "In-depth analysis of the membrane and cytosolic proteome of red blood cells." Blood **108**(3): 791-801.
- 37) Selbach, M. and M. Mann (2006). "Protein interaction screening by quantitative immunoprecipitation combined with knockdown (QUICK)." Nat Methods. **3**(12): 981-3.
- 38) Trinkle-Mulcahy, L., J. Andersen, Y. W. Lam, G. Moorhead, M. Mann and A. I. Lamond (2006). "Repo-Man recruits PP1 gamma to chromatin and is essential for cell viability." J Cell Biol **172**(5): 679-92.
- 39) Cox, J. and M. Mann (2007). "Is proteomics the new genomics?" Cell **130**(3): 395-8.
- 40) Lam, Y. W., A. I. Lamond, M. Mann and J. S. Andersen (2007). "Analysis of nucleolar protein dynamics reveals the nuclear degradation of ribosomal proteins." Curr Biol **17**(9): 749-60.
- 41) Olsen, J. V., B. Macek, O. Lange, A. Makarov, S. Horning and M. Mann (2007). "Higher-energy C-trap dissociation for peptide modification analysis." Nat Methods.
- 42) Ong, S. E. and M. Mann (2007). "Stable isotope labeling by amino acids in cell culture for quantitative proteomics." Methods Mol Biol **359**: 37-52.
- 43) Schandorff, S., J. V. Olsen, J. Bunkenborg, B. Blagoev, Y. Zhang, J. S. Andersen and M. Mann (2007). "A mass spectrometry-friendly database for cSNP identification." Nat Methods **4**(6): 465-6.