

Curriculum Vitae

Thomas C. Ransohoff

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EDUCATION

1986 M.S. Chemical Engineering
University of California, Berkeley

1984 S.B. Chemical Engineering
Massachusetts Institute of Technology, Cambridge, MA

PROFESSIONAL EXPERIENCE

2007 – Present Vice President and Senior Consultant
BioProcess Technology Consultants, Inc., Acton, MA
CMC consultant to the biopharmaceutical industry providing strategic and technical services related to development, scale-up, manufacturing, and outsourcing for biopharmaceutical products. Additional responsibilities for internal management and strategic planning.

2002 – 2007 Senior Consultant
BioProcess Technology Consultants, Inc., Acton, MA
CMC consultant to the biopharmaceutical industry.

2000 – 2002 Vice President, Operations
TranXenoGen, Inc., Shrewsbury, MA
Responsible for process and analytical development and facility renovation for a start-up avian transgenic company. Supported CEO in establishing collaborations with large biopharmaceutical firms.

1996 – 2000 Vice President, Program Management and Product Development (1999-2000)
Vice President, Bioseparations (1996-1999)
Dyax Corp, Cambridge, MA
Directed technical and commercial development for RSD, a new business unit formed to commercialize technology in the bioseparations market. Built business from concept stage to established leadership position in affinity separations field.

- 1992 – 1996 Senior Director, Manufacturing (1995-1996)
Director, Cambridge Manufacturing (1993-1995)
Manager, Cambridge Manufacturing (1992-1993)
Repligen Corp., Cambridge, MA
Directed manufacturing operations at two facilities to support clinical trials, contract obligations, and rProtein A product sales. Led the procurement and successful execution of contract business.
- 1989 – 1992 Development Manager and Senior Process Engineer
Dorr-Oliver, Inc.
Milford, CT
Biotage, Charlottesville, VA
Responsible for the development, design, and project management of preparative HPLC and sanitary production LC systems for use in cGMP production facilities.
- 1986 – 1989 Process Engineer
Xoma Corporation, Berkeley, CA
Developed new formulations for antibody-based products, solving critical stability problems. Scaled up purification processes for antibody-based therapeutics.

SELECTED PROFESSIONAL ASSOCIATIONS AND BOARD MEMBERSHIPS

Scientific Advisor, IBC BPI Conference
Editorial Advisory Board, BioPharm Magazine
Committee on Opportunities in Biotechnology for Future Army Applications, BAST, Division of Engineering and Physical Science, National Research Council, 1999 – 2000
International Society of Pharmaceutical Engineering (ISPE)
Member, Boston Area Chapter Advisory Board, 1994 – 1997

SELECTED PRESENTATIONS

- “The Ever-Changing Landscape of Biopharmaceutical API Outsourcing,” presented at DCAT/ISM/ICIS Strategic Sourcing Summit & Showcase, New Brunswick, New Jersey, USA (Oct 2007).
- “Evaluating Strategic Options for Biomanufacturing,” presented at IBC Biomanufacturing and Development summit, Orlando, FL (Dec 2006).
- “The Use of Disposable and Alternative Purification Technologies for Biopharmaceuticals,” presented at IIR Biopharmaceutical Production Conference, San Francisco, CA (July 2005).
- T.C. Ransohoff and H.L. Levine, “Assessing Strategic Options for Biologics Manufacturing,” presented at SRI World Antibody Summit, Philadelphia, PA (July 2004) and IBC Bioprocess International Conference, Boston, MA (October 2004).
- “Capacity Analysis for Biomanufacturing,” presented at CHI Pep Talk Conference, San Diego, CA (Jan. 2004).

A.M. Mika, E. Komkova, J. Zhou T.C. Ransohoff, R. Ghosh, L. Crossley, and R. Childs, "A new type of membrane for chromatography applications," poster presented at Recovery for Biologics, XI, Banff, Canada. (September 2003).

T.C. Ransohoff, P. Latham, and H.L. Levine, "The Use of Economic Models to Support Biopharmaceutical Capital Decisions," presented at Recovery for Biologics XI, Banff, Canada. (September 2003).

"Implementation of New Technologies in Biopharmaceutical Manufacturing," presented Barnett Biomufacturing Conference, Boston, MA (Oct. 2002).

"Primary Recovery of Therapeutic Proteins from Egg Albumen," poster presented at Recovery of Biological Products X, Cancun, Mexico, (June 2001).

"Considerations Affecting Affinity Membrane Performance," presented IBC Conference on Affinity Separations, San Diego, CA (April 1998).

T.C. Ransohoff, and J. Forstrom, "Process Economic Modeling for Biologic Products," presented BioWest, San Jose, CA (Oct. 1995).

T.C. Ransohoff, and J.T. Mahar, "Engineering Trade-Offs in Process Liquid Chromatography," presented ASME Winter Annual Meeting, Nov. 1990, Dallas, TX and at Prep LC, Arlington, VA (May 1991).

M.B. Burnett, T.C. Ransohoff, and D.T. Reardan, "Mathematical Modeling of Tumor Penetration by Immunoconjugates," poster presentation 4th International Conference on Monoclonal Antibody Immunoconjugates for Cancer, San Francisco, CA (March, 1989).

SELECTED PATENTS AND PUBLICATIONS

T. Ransohoff, H. Levine, G. Went, "Methods of Delivering Therapeutic Agents to the Central Nervous System." US Patent Application 60/876,876, filed December 26, 2006

US Patent 7,074,560 "Purification of Tissue Plasminogen Activator," Inventors: John M. Maclellan, Robert C. Ladner, Thomas C. Ransohoff, Issue Date: July 11, 2006.

US Patent 6,171,486 "Liquid Chromatography Column," Inventors: Jeffrey R. Green, Jeffrey A. Kaster, Victor R. Lancaster, Peter J. Leavesley, Gary L. McNeil, Thomas C. Ransohoff, and Peter C. Van Davelaar, Issue Date: Jan 9, 2001.

US Patent 6,084,062 "Polypeptides that bind to Tissue Plasminogen Activator (TPA)," Inventors: John M. Maclellan, Robert C. Ladner, Thomas C. Ransohoff. Issue Date: July 4, 2000.

US Patent 6,001,253, "Liquid Chromatography Column," Inventors: Christine M. Conroy, Jeffrey R. Green, Jeffrey A. Kaster, Peter J. Leavesley, Thomas C. Ransohoff, Issue Date: Dec 14 1999.

US Patent 5,242,586, "Column Protection System for Liquid Chromatography System;" Inventor: T.C. Ransohoff; Issue Date: Sep 07 1993.

US Patent 5,112,492, "Automated Bubble Trap; Liquid Chromatography;" Inventor: T.C. Ransohoff; Issue Date: May 12 1992.

US Patent 5,089,124, "Gradient Generation Control for Large Scale Liquid Chromatography; Computer Controller Valve;" Inventors: Kettler, T., Levin, A.H., Mahar, J.T., and T.C. Ransohoff; Issue Date: Feb 18 1992.

T.C. Ransohoff, "The Rise of Biopharmaceutical Contract Manufacturing," *Biopharm International*, 20(11), 165 – 174 (2007).

T.C. Ransohoff and H.L. Levine, "A Method for Forecasting Industrywide Biopharmaceutical Manufacturing Capacity Requirements," in *Advances in Large-Scale Biopharmaceutical Manufacturing and Scale-Up Production* (E. Langer, Ed.), 2nd Edition, ASM Press (2007).

J.V. Blackwell, H.L. Levine, and T.C. Ransohoff, "4th Annual Report and Survey: Biopharmaceutical Manufacturing Capacity and Production: An In-Depth Industry Analysis, (E. Langer, Ed.), Institute for Science and Technology Management, Washington, DC (2006).

T.C. Ransohoff, R.E. Mittendoff II, and H.L. Levine, "Forecasting Industry-wide Biopharmaceutical Manufacturing Capacity Requirements" in *Advances in Large Scale BioManufacturing and Scale-up Production* (E. Langer, Ed.), ASM Press, New York, New York and Institute for Science and Technology Management, Washington, DC, p 619 – 668 (2004).

T.C. Ransohoff, "Considerations Impacting the Make v. Buy Decision," *American Pharmaceutical Outsourcing*, (Mar-Apr 2004).

T.C. Ransohoff and H.L. Levine, "Purification and Analysis of Recombinant Proteins" in *Large Scale Purification of Monoclonal Antibodies* (R. Seetharam and S.K. Sharma, Ed.), Marcel Dekker, New York, p. 213 (1991).

H.L. Levine, T.C. Ransohoff, R.T. Kawahata and W.C. McGregor, "The Use of Surface Tension Measurements in the Design of Antibody-Based Product Formulations," *J Parenteral Sci and Tech*, 45, 160 (1991). [Awarded PDA Paper of the Year, 1991].

T.C. Ransohoff, M.K. Murphy and H.L. Levine, "Automation of Biopharmaceutical Purification Processes," *Biopharm Magazine*, 3, 20 (1990).

T.C. Ransohoff, and C.J. Radke, "Laminar Flow of a Wetting Liquid Along the Corners of a Predominantly Gas-Occupied Noncircular Pore," *J. Coll. Int. Sci.*, 121(2), 392 – 401 (1988).

T.C. Ransohoff, and C.J. Radke, "The Mechanisms of Foam Generation in Glass Bead Packs," *SPE Res. Eng.*, 3(2), 573 – 585 (1988).

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T.C. Ransohoff, P.A. Gauglitz, and C.J. Radke, "A Corner Flow Hydrodynamic Model of the Snap-Off of Gas Bubbles in Smoothly Constricted Noncircular Capillaries," *AIChE J.*, 33(5), 753 – 765 (1987).

T.C. Ransohoff, and C.J. Radke, "Weeping Flow around Nonwetting Bubbles Trapped in Constricted Noncircular Pores," *Physicochemical Hydrodynamics*, 8(3), 255 – 263 (1987).