

## **Curriculum Vitae Rick Stock, Ph.D.**

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### **EDUCATION**

2000 Ph.D., Biochemical Engineering  
Worcester Polytechnic Institute, Worcester, MA

1996 M.S., Chemical Engineering  
Worcester Polytechnic Institute, Worcester, MA

1994 B.S., Chemical Engineering  
The Ohio State University, Columbus, OH

### **PROFESSIONAL EXPERIENCE**

2006 – present Consultant  
BioProcess Technology Consultants, Inc., Acton, MA  
Consultant providing full service cost of goods and supply chain management modeling to the biopharmaceutical industry. Experience focus in fermentation process development and manufacturing, process modeling and analysis. Other experience includes cell banking and manufacturing oversight, facility audits, market analysis & biologics pipeline analysis.

2002 – 2006 Consultant  
BioPharm Services, Inc., Acton, MA  
Computer modeling of small and large scale biomanufacturing facilities, marketing and support of online and modeling software products; benchmarking biomanufacturing facilities; writing and securing contracts. Modeling included detailed analysis of capital, labor, operational, validation and QA/QC expenses.

1997 – Pres Scientific Advisor  
Crescent Innovations, Inc., Worcester, MA (1999-Pres)  
Developed fermentation and purification processes for pilot scale production of biopolymer.

Carbomer, Inc., Westboro, MA (1997-2002)

Developed production and purification processes for pilot scale production of medical grade biopolymer.

1999 – 2002      Assistant Director, Bioprocessing Pilot Laboratory  
Worcester Polytechnic Institute, Worcester, MA  
Responsible for contract R&D; operation and maintenance of upstream and downstream equipment; supervising student research; training personnel; marketing and execution for contract research in the area of biopolymer and macromolecular characterizations.

### **AWARDS AND GRANTS**

2007      Kalenian Award. Presented by the WPI Venture Forum to help develop its new technology for treating bone defects.

2004      Phase 1 SBIR grant from the Department of Health and Human Services' National Institute of Dental and Craniofacial Research to develop a new treatment for Temporomandibular Joint Disorders

2001      Microencapsulation of Porcine Islet Cells with poly-gamma-Glutamic Acid. NIH, 2001 (with MIT & Carbomer, Inc)

1995      Sustained Drug Delivery and poly-gamma-Glutamic Acid. Fairlawn Foundation

1994      Society of Professional Engineers, Columbus, OH

### **PROFESSIONAL ASSOCIATIONS**

Society for Industrial Microbiology  
American Institute of Chemical Engineers

### **SELECTED PRESENTATIONS**

“Rheological Characterization of (poly)-gamma-Glutamic Acid”, presented at ACS National Meeting, New Orleans, LA (August 1995).

“The NPV of Exploring Plant Made Pharmaceuticals as a Dual Approach with Cell Culture”, presented at the Conference on Plant-Made Pharmaceuticals, Montreal, Canada, (February 2005).

### **SELECTED PATENTS AND PUBLICATIONS**

A.Prescott, and L. Stock, L. “Method for producing medical and commercial grade poly-gamma-glutamic acid of high molecular weight”, US Patent Application 20050095679, filed October 27, 2004.

P. Latham, and L. Stock, “The Contract Manufacturing Opportunity In Biologics”, *In-house Publication*, April (2004).

Curriculum Vitae  
Rick Stock, Ph.D.

R. Venkat, L. Stock, and J.J. Chalmers. Study of Hydrodynamics in Microcarrier Culture Spinner Vessels: A Particle Tracking Velocimetry Approach, *Biotechnology and Bioengineering* 49, 456-466 (1996).