

## **Benjamin J. Glasser**

Distinguished Professor  
Department of Chemical and Biochemical Engineering  
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### **Overview**

Dr. Glasser has worked on particle technology applied to catalyst and pharmaceutical processes. Dr. Glasser's research has been in the area of transport processes in fluid-particle and particulate systems. His research has focused on developing a fundamental understanding of the hydrodynamics, heat and mass transfer, and reactions in these systems and applying this knowledge to improve the design and operation of industrial processes. His research on granular processes has hinged on developing understanding at the micro, meso and macro scales and this has led to multi-scale models that have been used to develop and improve catalyst and pharmaceutical manufacturing processes. The research has been carried out through combined numerical, theoretical, and experimental efforts, utilizing high performance computing and state-of-the-art analytical techniques. Dr. Glasser serves as Director of the [Pharmaceutical Engineering Program](#) and Director of the [Catalyst Manufacturing Consortium](#) at Rutgers.

### **Research Interests**

Particle technology, flow and segregation of granular materials, the mechanics of fluidized beds, multiphase flows and reactors, drying of particles, pharmaceutical engineering, catalyst manufacturing.

### **Education**

Ph.D., Princeton University, Chemical Engineering, 1996.

M.Sc., University of the Witwatersrand, South Africa, Chemical Engineering, 1991.

B.Sc. University of the Witwatersrand, South Africa, Chemical Engineering, 1989.

### **Professional Career**

Director, [Pharmaceutical Engineering Program](#), Rutgers University, 2006 - present

Director and Principal Investigator, [Catalyst Manufacturing Consortium](#), 2005-present

Distinguished Professor, Rutgers University, 2022-present

Professor, Rutgers University, 2009-2022

Associate Professor, Rutgers University, 2003-2009

Assistant Professor, Rutgers University, 1997-2003

## Awards and Honors (Since 2009)

2019	Elected Fellow of the American Institute of Chemical Engineers (AIChE)
2019	Excellence in Teaching and Advising Award from the Graduate Students of Rutgers Department of Chemical and Biochemical Engineering
2019	Most Promising New Textbook Award (College) from the Textbook & Academic Authors Association (TAA) for “Attainable Region Theory: An Introduction to Choosing an Optimal Reactor” co-authored by B.J. Glasser
2018	Rutgers Outstanding Engineering Faculty Award
2016	PSRI Award in Fluidization and Fluid Particle Systems from the AIChE
2015-present	Editor (US) and Member of Editorial Board, Advanced Powder Technology Journal (Elsevier)
2012-present	Consulting Editor, AIChE Journal (Wiley)
2009	ISPE – International Society for Pharmaceutical Engineering -Poster of the Year Award (with M. Metzger)
2009	AIChE Particle Technology Forum Best Poster Award (with B. Remy)
2009	The Scholar-Teacher Award from the President of Rutgers University

## Current Graduate Students and Postdoctoral/Research Associates

A list of former students and postdocs who have completed their research with Prof. Glasser is available at his [Research Group Website](#). Current students and postdocs are given below.

### *Postdoctoral/Research Associates*

- Yangyang Shen

### *PhD Students*

- Carlin Leung
- Yi Tao
- Riya Shinde
- Simon Zhao

### *Masters Students*

- Tejas Jadhav
- Sai Yellapragada
- Marcella Alves

### *Undergraduate Student*

- Angie Hernandez

## Books Co-authored

David Ming, David Glasser, Diane Hildebrandt, Benjamin Glasser, Matthew Metzger, *Attainable Region Theory: An Introduction to Choosing an Optimal Reactor*, Wiley, ISBN: 978-1-119-15788-5, 352 pages, (2016). <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1119157889.html>

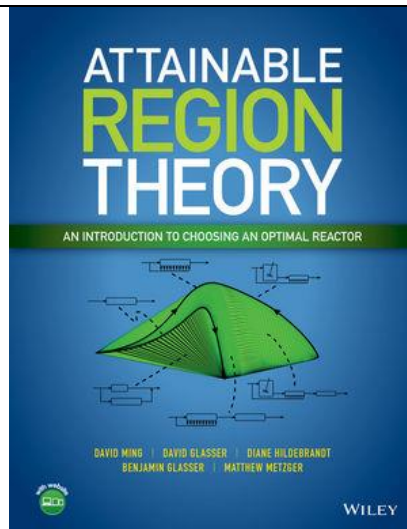
### Attainable Region Theory: An Introduction to Choosing an Optimal Reactor

David Ming, David Glasser, Diane Hildebrandt, Benjamin Glasser, Matthew Metzger

Wiley, NJ, USA  
October 2016  
ISBN: 978-1-119-15788-5

*Recipient of a 2019 Most Promising New Textbook Award (College) from the Textbook & Academic Authors Association (TAA)*

*The book has a companion website: <http://attainableregions.com> with interactive examples.*



## Publications

*Recent Publications (out of 122)*

Further details on Dr. Glasser's publication can be found on his [Research Group Website](#) and [Google Scholar Page](#).

(\* Glasser is corresponding author, † graduate student supervised by Glasser, ‡ postdoctoral associate or research associate supervised by Glasser, ¶ undergraduate student supervised by Glasser)

- P1. Leung, C.†, Adler, J.†, Langrish, T.A.G, Shapley, N., and **Glasser, B.J.\***, Fluidized Bed Drying of Supported Catalysts: Effect of Process Parameters, *Chemical Engineering Science*, **282**, 119280, 1-9, (2023), DOI: 10.1016/j.ces.2023.119280
- P2. Ardalani, E.†, Borghard, W.G., **Glasser, B.J.**, and Cuitino, A., Scale-up of Heat Transfer in a Rotary Drum Equipped with Baffles, *Powder Technology*, **429**, 118879, 1-15, (2023), DOI: 10.1016/j.powtec.2023.118879
- P3. Kottlan, A.†, Zirkl, A., Geistlinger, J., Machado Charry, E., **Glasser, B.J.**, and Khinast, J.G., Single-Tablet-Scale Direct-Compression: An On-Demand Manufacturing Route for Personalized Tablets, *International Journal of Pharmaceutics*, **643**, 123274, 1-13, (2023), DOI: 10.1016/j.ijpharm.2023.123274

- P4. Chaksmithanont, P.<sup>†</sup>, McEntee, G.<sup>¤</sup>, Hartmanshenn, C.<sup>†</sup>, Leung, C.<sup>†</sup>, Khinast, J.G., Papageorgiou, C.D., Mitchell, C., Quon, J., and **Glasser, B.J.\***, The Effect of Intermittent Mixing on Particle Heat Transfer in an Agitated Dryer, *Powder Technology*, **422**, 118459, 1-13, (2023), DOI: 10.1016/j.powtec.2023.118459
- P5. Chen, Y., Kotamarthy, L., Dan, A., Sampat, C., Bhalode, P., Singh, R., **Glasser, B.J.**, Ramachandran, R., Ierapetritou, M., Optimization of Key Energy and Performance Metrics for Drug Product Manufacturing, 631, 122487, 1-10, *International Journal of Pharmaceutics*, (2023), DOI: 10.1016/j.ijpharm.2022.122487
- P6. Kottlan, A.<sup>†</sup>, **Glasser, B.J.**, and Khinast, J.G., Powder Bed Dynamics of a Single-tablet-scale Vibratory Mixing Process, *Powder Technology*, **414**, 118029, 1-14, (2023), DOI: 10.1016/j.powtec.2022.118029
- P7. Sampat, C., Kotamarthy, L., Bhalode, P., Chen, Y., Dan, A., Parvani, S., Dholakia, Z., Singh, R., **Glasser, B.J.**, Ierapetritou, M., Ramachandran, R. Enabling Energy-Efficient Manufacturing of Pharmaceutical Solid Oral Dosage Forms via Integrated Techno-Economic Analysis and Advanced Process Modeling, *Journal of Advanced Manufacturing and Processing*, **4**, e10136, 1-20, (2022), DOI: 10.1002/amp2.10136
- P8. Chaksmithanont, P.<sup>†</sup>, Milman, F.<sup>†</sup>, Leung, C.<sup>†</sup>, Khinast, J.G., Papageorgiou, C.D., Mitchell, C., Quon, J., and **Glasser, B.J.\***, Scale-Up of Granular Material Flow in an Agitated Filter Dryer, *Powder Technology*, **407**, 117684, 1-10, (2022), DOI: 10.1016/j.powtec.2022.117684
- P9. Hartmanshenn, C.<sup>†</sup>, Chaksmithanont, P.<sup>†</sup>, Leung, C.<sup>†</sup>, Ghare, D.V.<sup>†</sup>, Chakraborty, N.<sup>†</sup>, Patel, S.<sup>†</sup>, Halota, M.<sup>¤</sup>, Khinast, J.G., Papageorgiou, C.D., Mitchell, C., Quon, J., and **Glasser, B.J.\***, Infrared Temperature Measurements and DEM Simulations of Heat Transfer in a Bladed Mixer, *AIChE Journal*, **68**, e17636, 1-16, (2022), DOI: 10.1002/aic.17636
- P10. Ardalani, E.<sup>†</sup>, Yohannes, B.<sup>+</sup>, Borghard, W.G., **Glasser, B.J.**, and Cuitino, A., DEM Analysis of the Thermal Treatment of Granular Materials in a Rotary Drum Equipped with Baffles, *Chemical Engineering Science*, **251**, 117476, 1-13, (2022), DOI: 10.1016/j.ces.2022.117476
- P11. Li, T.<sup>†</sup>, Meng, W., Wang, Y.<sup>†</sup>, Valia, A., Jamsandekar, R.<sup>†</sup>, Kumar, R., Muzzio, F.J., **Glasser, B.J.\***, Effect of Liquid Addition on the Bulk and Flow Properties of Fine Cohesive Powders, *Particulate Science and Technology*, **40**, 141-150, (2022), DOI: 10.1080/02726351.2021.1924328
- P12. Fathollahi, S., Kruisz, J., Sacher, S., Rehrl, J., Escotet-Espinoza, M.S., DiNunzio, J., **Glasser, B.J.**, Khinast, J.G., Development of a Controlled Continuous Low-Dose Feeding Process, *AAPS PharmSciTech*, **22**, 247, 1-14, (2021), DOI: 10.1208/s12249-021-02104-9
- P13. Boonkanokwong, V.<sup>†</sup>, Khinast, J.G., and **Glasser, B.J.**, Scale-up and Flow Behavior of Cohesive Granular Material in a Four-Bladed Mixer: Effect of System and Particle Size, *Advanced Powder Technology*, **32**, 4481-4495, (2021), DOI: 10.1016/j.appt.2021.09.044