

# Bo Song, Ph.D.

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## Summary of Qualifications

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- Diverse industrial experience spanning R&D, intellectual property/technology development, logistics, operations, marketing, and sales within the life sciences sector.
- Managerial experience in a CRO in drug discovery, from gene to structure, overseeing logistics, operations, inventory, and marketing/sales of recombinant drug target proteins.
- Product development scientist/engineer in a medical device company, specializing in developing spray-dried human plasma products and evaluating emerging technologies.
- Process engineer in biologics/biosimilar drug substance development and manufacturing, with expertise in cytokine and monoclonal antibody (*mAbs*) cell culture, bioreactor innovation, and single-use technologies.
- Academic research background in molecular dynamics simulations, investigating nanoparticle–lipid membrane interactions for novel drug delivery applications.
- Strong academic foundation with a Ph.D. in Chemical Engineering (2012) and an M.S. in Statistics (2012), from the University of Illinois, Chicago, IL, USA.

## Work Experience

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**BIORTUS BIOSCIENCES - DRUG TARGET PROTEIN SUPPLIER, DRUG DISCOVERY CRO** 2023- present

### MANAGER, BIORTUS BIOSCIENCES USA OFFICE

- **Operations & Logistics Management**
  - Oversaw day-to-day operations and logistics at the Biortus Biosciences USA site.
  - Managed import/export processes for client samples, including room temperature and cold chain logistics.
  - Maintained strong relationships with logistics partners, operational vendors, and service providers.
  - Communicated regularly with clients to provide shipping updates and resolve logistics-related issues.
  - Procured and installed office and lab supplies and fixed assets essential for daily operations.
- **Website Development & Digital Marketing**
  - Led the development, administration, and promotion of the Biortus USA website ([www.biortusUSA.com](http://www.biortusUSA.com)).
  - Created and maintained Biortus business profiles across major platforms: Google, Facebook, X (formerly Twitter), LinkedIn, and Instagram.
  - Utilized web analytics tools to monitor and enhance website performance and content.
  - Executed various digital marketing initiatives, including blog and social media content creation, SEO, and email marketing campaigns.
- **Product Development Support – Drug Target Proteins**
  - Supported the product team in expanding the recombinant protein portfolio, focusing on soluble and membrane drug target proteins.
  - Collaborated with product managers on market research, pricing strategies, and go-to-market planning.
  - Contributed to segmentation and differentiation of a 1900+ catalog protein product line.
- **Sales Support – Catalog Proteins**
  - Managed catalog proteins USA site inventory, including -80°C freezers and associated equipment.
  - Provided front-end sales support: responding to customer inquiries, preparing quotes, and managing communications.
  - Handled back-end operations: domestic and international protein shipments and generated invoices.
  - Delivered after-sales support: followed up with customers for feedback and future needs assessment.
- **QuickBooks Online Administration**
  - Led the implementation of QuickBooks Online for Biortus USA.
  - Designed a custom CRM and sales record database within QuickBooks.

- Defined and assigned user roles and permissions to ensure secure system access.
- Integrated inventory, time tracking, and invoice management modules to improve operational efficiency.

#### **VELICO MEDICAL - MEDICAL EQUIPMENT MANUFACTURING COMPANY**

2020

##### **PRODUCT DEVELOPMENT SCIENTIST/ENGINEER**

- Spray-dried human plasma product development, disposable, and Frontline ODP™ technology evaluation.
- Developed preclinical test protocols and reports, designed R&D experiments, and analyzed large data sets to evaluate the quality and performance of spray-dried plasma.

#### **THERAPEUTIC PROTEINS INTERNATIONAL – BIOSIMILAR DEVELOPER AND MANUFACTURER**

2013 – 2015

##### **PROCESS ENGINEER – INTELLECTUAL PROPERTY DEVELOPMENT**

- Developed a single-use bioreactor technology platform for microbial (*E. coli*) fermentation and mammalian (*CHO*) cell culture, supporting the production of cytokines and monoclonal antibodies (*mAbs*)
  - Designed custom bioreactor bags and conducted bioreactor characterization studies (mixing dynamics and mass transfer)
  - Evaluated and sourced single-use components and equipment (e.g., pH/DO sensors, glucose monitoring systems) through vendor collaboration, sample testing, and technical demonstrations
- Executed fed-batch and perfusion cell culture experiments to support upstream process development, scale-up (up to 150 L for bacterial and 500 L for mammalian systems), and process validation.
- Collaborated with the Intellectual Property (IP) team to prototype innovative designs and assess novel approaches for *mAbs* clarification processes.
- Conducted statistical data analysis and process capability studies to evaluate process performance and product consistency.
- Performed exploratory testing (descriptive, range, and equivalence) to assess product bio-similarity.
- Operated in a cGMP-compliant environment; authored technical reports, standard operating procedures (SOPs), protocols, and internal memos.

#### **UNIVERSITY OF ILLINOIS AT CHICAGO**

2008 – 2012

##### **RESEARCH ASSISTANT**

- Performed research on molecular simulation of nanoparticles and their behaviors in biological systems
- Published 3 peer-reviewed journal articles, 1 chapter book, and 5 national conference presentations
- Supported lab researchers and supervisors in generating grant (NSF, DOE, NIH, etc.) proposals
- Mentored junior students in the lab at the undergraduate and graduate levels
- Member of the American Institute of Chemical Engineers (AIChE) and American Chemical Society (ACS)

#### **Education**

UNIVERSITY OF ILLINOIS AT CHICAGO, USA

**Ph. D. in Chemical Engineering | M.S in Statistics**

XIAMEN UNIVERSITY, CHINA

**B.S./M.S in Chemical Engineering**

#### **Selected Books, Publications, and Presentations**

- Cynthia J. Jameson, Priyanka Oroskar, **Bo Song**, Huajun Yuan, Sohail Murad, Molecular Dynamics Studies of Nanoparticle Transport Through Model Lipid Membranes, Biomimetic Lipid Membranes: Fundamentals, Applications, and Commercialization, Chapter 5 p. 109 – 165, Fatma N. (Editor), Springer, Heidelberg, 2019
- **Bo Song**, Huajun Yuan, Sydney V. Pham, Cynthia J. Jameson, Sohail Murad, Nanoparticle permeation induces water penetration, ion transport and lipid molecule flip-flop, Langmuir, 28, 16989-17000, 2012.
- **Bo Song**, Huajun Yuan, Cynthia J. Jameson, Sohail Murad, Nanoparticle Permeation Induced Water Penetration and Ion Transport Through a Lipid Membrane, AIChE Annual Meeting, oral presentation, 2012
- **Bo Song**, Huajun Yuan, Cynthia J. Jameson, Sohail Murad, Role of surface ligands in nanoparticle permeation through a model membrane: A coarse-grained molecular dynamics simulations study, Molecular Physics 110, 2181-2195, 2012