Sarfaraz K. Niazi, Ph.D., SI, FRSB, FPAMS, FACB

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Expertise:

- Pharmaceutical Preformulation
- Pharmaceutical Formulations
- Commercial Manufacturing
- Bioequivalence Testing

- Biological Products Formulation
- Clinical Testing
- Statistical Modeling
- Bioprocess Technology
- New Chemical Entities

Education:

- 1974: Ph.D., Pharmaceutical Sciences, University of Illinois, Chicago, IL
- 1970: MS, Pharmaceutical Sciences, Washington State University, Pullman, Washington
- 1969: B. Pharm., Karachi University, Pakistan
- 1968: Diploma Marketing, Institute of Business Administration, Karachi, Pakistan
- 1966: BSc., Karachi University, Pakistan

Professional:

Patent Agent, US Patent and Trademark Office, 2002-present. Prosecuted 200+ patents.

Positions:

Academic:

- 1972-1988: Instructor to Tenured Associate Professor at University of Illinois College of Pharmacy, Chicago, Illinois.
- 2000-Present: Visiting and Foreign Professor, HEJ Research Institute, Karachi, Pakistan.
- 2004-present: Visiting Professor, National University of Science and Technology, Islamabad, Pakistan.
- 2012-Present: Visiting Professor, University of Houston College of Pharmacy.
- 2015-Present: Adjunct Professor of Biopharmaceutical Sciences, University of Illinois College of Pharmacy

Corporate:

- 1988-1995: Director Technical Affairs, Abbott International.
- 1995-Present: Founder and Executive Chairman, Pharmaceutical Scientist, LLC, Chicago, IL.
- 2003-2017: Founder and Executive Chairman, Adello Biologics, LLC (formerly Therapeutic Proteins Inc.), the first and fully integrated biosimilar products company in US, now owned by Kashiv Biosciences.



• 2017-present: Founder and Executive Chairman, Karyo Biologics, LLC, a virtual biosimilar products development company with several products in clinical approval stage with FDA.

Professional

• 2002-present: United States Patent and Trademark Office, Patent Agent.

Recognitions, Awards, and Contributions

- Civil Award by the President of Pakistan (Sitara-e-Imtiaz) for contribution to biotechnology.
- Fellowship of Royal Society of Biology, Pakistan Academy of Medical Sciences, American Society of Clinical Biochemistry.
- Forbes Magazine's Cover Pages:
 - "The Most Interesting Man Revolutionizing The Health World" 2014
 - "Scientist Invented A New Pathway To Approve Biosimilars, And The FDA Is Listening." 2019
- Invited contributor to BPCIA as advisor to the US Congress
- Invited advisor to President Obama.
- Advisor to US FDA on Biosimilars Guidance and Bioequivalence Testing
- Volwiler Fellow Abbott Laboratories (tenured)
- US Pharmacopoeia: advisor on Biosimilar Monographs, teaching faculty
- Inductee as US Entrepreneur Hall of Fame.
- University of Illinois Alumni of the Year
- TOKTEN Fellow for US Aid under PL-480 program.
- March of Dimes grant reviewer.
- Editorial boards of scientific journals.
- Radio host for Voice of America since 2008.
- Advisor to Higher Education Commission of Pakistan on intellectual property management since 2012
- Pro bono service to scientist in the developing countries to secure US patents.
- Invited speaker 500+ engagements worldwide.
- Innovation of the Year, Sponsored by Honeywell; Global Generics and Biosimilars Awards 2014: https://www.generics-bulletin.com/media/19636/Winners-for-Website1.jpg
- Finalists Best Upstream Technology Application 2012: TPI Single-use technology for production of bacterial proteins, Bioprocess International (http://www.bioprocessintl.com/bioprocess-international-2016-awards/past-winners-of-bioprocess-international-awards/).

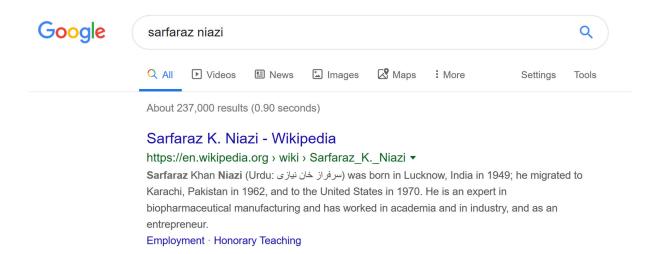
Achievements

- Created the first line of generic products for Abbott Laboratories, solid dosage forms, suspensions, liquids.
- Assisted 10+ companies worldwide to establish biosimilar development and manufacturing.



- Convinced FDA to withdraw its Biosimilars Statistical Modeling Guidance and suggested replacement with a rational approach (August 2018).
- Convinced FDA to declare that comparative clinical efficacy trials are not appropriate (May 20190.
- Trained new hires as FDA inspectors in cGMP compliance.
- Trained 46 graduate students: MS. Ph.D.
- 100+ US patents; largest solo inventor of bioprocessing patents; NCE, NBE, drug delivery, natural products, drug testing, wine aging, automobile safety, disease management, and other technologies.
- Developed a fourth-dimension analytical similarity testing to achieve fingerprint-like similarity for biosimilars.
- Developed a biodistribution PK model recommended by FDA in 2019 to establish interchangeability (May 2019)
- Developed an ISO 9 bioreactor used to file the first BLA of a biosimilar.
- First handbook authored on biosimilars. Largest number of books on biosimilars.
- First book on FDA views on biosimilarity; dedicated to Dr. Woodcock.
- Coordinated dozens of FDA audits of generic and biological manufacturers, secured first FDA approval of a product from ME countries.
- Advised dozens of regulatory authorities on creating guidelines: Indonesia, Canada, Japan, US and Australia.
- Consultant to investment bankers, VC groups and private investors on value proposition analysis in the field of pharmaceutical and biopharmaceuticals.
- Served as expert witness in IP and pharmaceutical cases.
- Taught physicians in the US on the regulatory pathways and safety features of biosimilars on behalf of large pharma companies.
- Founded the first US biosimilars company—raised \$500 Million [largest funding of startup biotech in US history].
- Chicago Marathon runner 2014.

Press





- https://bioprocessintl.com/2019/january-february-2019/january-february-bioprocess-insider/
- https://bioprocessintl.com/bioprocess-insider/global-markets/biosimilars-big-pharmas-imminent-exit-in-sight-says-expert/
- https://bioprocessintl.com/2018/january-february-2018/january-february-editor/
- https://bioprocessintl.com/wp-content/uploads/2015/06/13-6-SpRptSecured.pdf
- https://bioprocessintl.com/wp-content/uploads/2015/05/13-5-Simon3-Secured.pdf
- https://bioprocessintl.com/wp-content/uploads/2014/08/Process_Innovation_Biosimilars_TheraProteins.pdf
- https://bioprocessintl.com/wp-content/uploads/2014/05/BPI A 110909SUPAR03 167974a.pdf
- http://www.bioprocessintl.com/wp-content/uploads/2014/05/0648su02 78490a.pdf
- http://www.bioprocessintl.com/wp-content/uploads/2014/05/0648su02_78490a.pdf
- https://www.centerforbiosimilars.com/news/citizen-petition-asks-fda-to-withdraw-contentious-biologic-naming-guidance
- https://www.centerforbiosimilars.com/news/biosimilar-regulatory-roundup-march-2019
- https://www.centerforbiosimilars.com/contributor/sarfaraz-niazi/2018/12/the-fda-biosimilar-action-plan-making-biologics-more-accessible
- http://gabi-journal.net/rationalizing-fda-guidance-on-biosimilars-expediting-approvals-and-acceptance.html
- https://www.forbes.com/sites/nicolefisher/2018/07/25/one-mans-mission-to-fix-the-fdas-biosimilar-problem/#1d8b19792380
- https://www.forbes.com/sites/nicolefisher/2014/08/30/the-most-interesting-manrevolutionizing-the-health-world/#442d379f20ba
- https://www.europeanpharmaceuticalreview.com/article/70987/obstacles-success-biosimilars-us-market/
- http://gabionline.net/Biosimilars/Research/Impact-of-proposed-changes-to-FDA-approach-to-biosimilars

Publications

Books (Partial List): (https://isbnsearch.org/search?s=Sarfaraz+Niazi); 170 ISBNs

- Textbook of Biopharmaceutics and Clinical Pharmacokinetics, J Wiley & Sons, New York, NY, 1979; ISBN-13: 9789381075043
- The Omega Connection, Esquire Press, Illinois, 1982; ISBN-13: 9780961784102
- Adsorption and Chelation Therapy, Esquire Press, Illinois; 1987. ISBN-9780961784140
- <u>Attacking the Sacred Cows: The Health Hazards of Milk</u>, Esquire Press, Illinois; 1988; ISBN-13: 9780961784119
- Endorphins: The Body Opium, Esquire Press, Illinois; 1988; ISBN 9780961784126
- Nutritional Myths: The Story No One Wants to Talk About, Esquire Press, Illinois. ISBN 9780961784133
- Wellness Guide, Ferozsons Publishers, Pakistan 2002, ISBN 9789690017932



- Love Sonnets of Ghalib: Translations, Explication and Lexicon, Ferozsons Publishers, Lahore, Pakistan 2002 and Rupa Publications, New Delhi, India 2002; ISBN-13: 9788171675968
- Filing Patents Online, CRC Press, Boca Raton, Florida, 2003; ISBN-13: 9780849316241
- Pharmacokinetic and Pharmacodynamic Modeling in Early Drug Development in Charles G. Smith and James T. O'Donnell (eds.), The Process of New Drug Discovery and Development (2nd ed.). New York: CRC Press, 2004; ISBN-13: 978-0849327797.
- Handbook of Biogeneric Therapeutic Proteins: Manufacturing, Regulatory, Testing and Patent Issues, CRC Press, Boca Raton, FL, 2005; ISBN-13: 9780971474611
- Handbook of Preformulation: Chemical, Biological and Botanical Drugs, Informa Healthcare, New York, NY, 2006; ISBN-13: 9780849371936
- Handbook of Bioequivalence Testing. New York: Informa Healthcare, 2007; ISBN-13: 978-0849303951
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 6 Second Edition: Sterile Products, Informa Healthcare, New York, NY, 2009; ISBN-13: 9781420081305
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 1 Second Edition: Compressed Solids, Informa Healthcare, New York, NY, 2009; ISBN-13: 9781420081169
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 2 Second Edition: Uncompressed Solids, Informa Healthcare, New York, NY, 2009; ISBN-13: 9781420081183
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 3 Second Edition: Liquid Products, Informa Healthcare, New York, NY, 2009; ISBN-13: 9780849317484
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 4 Second Edition: Semisolid Products, Informa Healthcare, New York, NY, 2009 ISBN-13: 9781420081268;
- Handbook of Pharmaceutical Manufacturing Formulations, Volume 5 Second Edition: Over the Counter Products, Informa Healthcare, New York, NY, 2009; ISBN-13: 978-1420081282
- Textbook of Biopharmaceutics and Clinical Pharmacokinetics. Hyderabad, India: The Book Syndicate, 2010. ISBN 978-93-8107-504-3
- Wine of Passion: Love Poems of Ghalib, Ferozsons (Pvt) Ltd., Lahore, Pakistan, 2010; ISBN-13: 9780971474611
- Disposable Bioprocessing Systems, CRC Press, Boca Raton, FL, 2012; ISBN-13: 9781439866702
- Handbook of Bioequivalence Testing. Second Edition, New York, NY: Informa Healthcare, 2014 ISBN-13: <u>9781482226379</u>
- There is No Wisdom: Selected Love Poems of Bedil. Translations from Darri Farsi, Sarfaraz K. Niazi and Maryam Tawoosi, Ferozsons Private (Ltd), Lahore, Pakistan, 2015 ISBN 978969025036



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