BIOGRAPHICAL SKETCH

NAME: Stefano Giovagnoli

POSITION TITLE: Associate Professor, Dept. of Pharmaceutical Sciences, via del Giochetto, 06122, University of Perugia, Perugia, Italy

A. Personal Statement

Personal long-term research experience involves several areas of drug discovery and development with a special focus on technologies applied to drug delivery. In particular, personal expertise includes chemical/physical modification and microencapsulation techniques for biomolecules and antibiotics. Research interests encompass respirable powders for the treatment of pulmonary infections by host-directed approaches along with organic/inorganic nanoparticles for targeted and local delivery. Since 2018, I have been involved in Cystic Fibrosis research by participating to and leading several projects focused on the treatment of pathological inflammation and infection in CF. In particular, we delivered xenobiotic receptor agonists to prove the efficacy of the AhR targeting strategy in CF lung and intestinal pathology but also developed inhaled and oral platforms for targeting the IL-1 pathway in CF as a potent treatment and prevention of CF disease progression either locally or systemically.

Latest interests include the avail of the microfluidic technology to promote the development of biomimetic nanoparticles and protein-based nanoparticle delivery systems, extracellular vesicles as potential carriers and therapeutic agents as well as leveraging AI based strategies to promote process development and drug discovery. My professional teaching experience includes biotechnology biopolymers and nanotechnology in drug delivery and gene therapy as well as industrial development and manufacturing of pharmaceutical products.

My current scientific production encompasses more than 140 publications and 150 presentations to international meetings, several books and book chapters and patents (H-index scopus = 39).

B. Contributions to Science

Most Relevant Publications, last 3 years

See https://orcid.org/0000-0001-5043-7233 for a complete list of contributions

1. Wojtyło, P.A.; Łapińska, N.; Bellagamba, L.; Camaioni, E.; Mendyk, A.; Giovagnoli, S. Initial Development of Automated Machine Learning-Assisted Prediction Tools for Aryl Hydrocarbon Receptor Activators. Pharmaceutics 2024, 16, 1456
2. Russo MA, Puccetti M, Costantini C, Giovagnoli S, Ricci M, Garaci E and Romani L (2024) Human and gut microbiota synergy in a metabolically active superorganism: a cardiovascular perspective. Front. Cardiovasc. Med. 11:1411306
3. Pariano M, Gidari A, Stincardini C, Pierucci S, Bastianelli S, Puccetti M, Giovagnoli S, Bellet MM, Fabi C, Castronari R, Antognelli C, Costantini C, Ricci M, Francisci D, Romani L. Protective Effect of Indole-3-Aldehyde in Murine COVID-19-Associated Pulmonary Aspergillosis. J Fungi (Basel). 2024 22;10(7):510
4. Giorgia Renga, Marilena Pariano, Fiorella D'Onofrio, Giuseppe Pieraccini, Claudia Di Serio, Valeria Rachela Villella, Carlo Abbate, Matteo Puccetti, Stefano Giovagnoli, Claudia Stincardini, Marina Maria Bellet, Maurizio Ricci, Claudio Costantini, Vasileios Oikonomou, Luigina Romani The immune and microbial homeostasis determines the Candida–mast cells cross-talk in celiac diseaseLife Science Alliance. 2024, 7 (7) e202302441;
5. Costantini C, Pariano M, Puccetti M, Giovagnoli S, Pampalone G, Dindo M, Cellini B and Romani L (2024) Harnessing inter-kingdom metabolic disparities at the human-fungal interface for novel therapeutic approaches. Front. Mol. Biosci. 11:1386598
6. Zelante, T., Paolicelli, G., Fallarino, F. et al. A microbially produced AhR ligand promotes a Tph1-driven tolerogenic program in multiple sclerosis. Sci Rep 14, 6651 (2024)

7. Matteo Puccetti, Marilena Pariano, Aurélie Schoubben, Stefano Giovagnoli, Maurizio Ricci, Biologics, theranostics, and personalized medicine in drug delivery systems, Pharmacological Research, 201,2024,107086,
8. Cellini, Barbara; Pampalone, Gioena; Camaioni, Emidio; Pariano, Marilena; Catalano, Flavia; Zelante, Teresa; Dindo, Mirco; Macchioni, Lara; Di Veroli, Alessandra; Galarini, Roberta; Paoletti, Fabiola; Davidescu, Magdalena; Stincardini, Claudia; Vascelli, Gianluca; Bellet, Marina Maria; Saba, Julie; Giovagnoli, Stefano; Giardina, Giorgio; Romani, Luigina; Costantini, Claudio. Dual species sphingosine-1-phosphate lyase inhibitors to combine antifungal and anti-inflammatory activities in cystic fibrosis: a feasibility study. Scientific Reports, 2023, 13, 22692.
9. Puccetti M, Pariano M, Wojtylo P, Schoubben A, Giovagnoli S, Ricci M. Turning Microbial AhR Agonists into Therapeutic Agents via Drug Delivery Systems. Pharmaceutics. 2023 3;15(2):506.
10. Puccetti, M., Pariano, M., Stincardini, C., Wojtylo, P., Schoubben, A., Nunzi, E., Ricci, M., Romani, L., Giovagnoli, S. Pulmonary drug delivery technology enables anakinra repurposing in cystic fibrosis. (2023) Journal of Controlled Release, 353, pp. 1023-1036.
11. Xiroudaki, S., Sabbatini, S., Pecoraro, C., Cascioferro, S., Diana, P., Wauthoz, N., Antognelli, C., Monari, C., Giovagnoli, S., Schoubben, A. Development of a new indole derivative dry powder for inhalation for the treatment of biofilm-associated lung infections. (2023) International Journal of Pharmaceutics, 631, art. no. 122492.
12. Pariano M, Puccetti M, Stincardini C, Napolioni V, Gatticchi L, Galarini R, Renga G, Barola C, Bellet MM, D'Onofrio F, Nunzi E, Bartoli A, Antognelli C, Cariani L, Russo M, Porcaro L, Colombo C, Majo F, Lucidi V, Montemitro E, Fiscarelli E, Ellemunter H, Lass-Flörl C, Ricci M, Costantini C, Giovagnoli S, Romani L. Aryl Hydrocarbon Receptor Agonism Antagonizes the Hypoxia-driven Inflammation in Cystic Fibrosis. Am J Respir Cell Mol Biol. 2023 68(3):288-301.
13. Pacławski, A., Politis, S., Balafas, E., Mina, E., Papakyriakopoulou, P., Christodoulou, E., Kostomitsopoulos, N., Rekkas, D.M., Valsami, G., Giovagnoli, S. Development and Pharmacokinetics of a Novel Acetylsalicylic Acid Dry Powder for Pulmonary Administration. (2022) Pharmaceutics, 14 (12), art. no. 2819.
14. Renga, G., Nunzi, E., Pariano, M., Puccetti, M., Bellet, M.M., Pieraccini, G., D'Onofrio, F., Santarelli, I., Stincardini, C., Aversa, F., Riuzzi, F., Antognelli, C., Gargaro, M., Bereshchenko, O., Ricci, M., Giovagnoli, S., Romani, L., Costantini, C. Optimizing therapeutic outcomes of immune checkpoint blockade by a microbial tryptophan metabolite. (2022) Journal for immunotherapy of cancer, 10 (3).
15. van de Veerdonk, F.L., Renga, G., Pariano, M., Bellet, M.M., Servillo, G., Fallarino, F., de Luca, A., Iannitti, R.G., Piobbico, D., Gargaro, M., Manni, G., D'Onofrio, F., Stincardini, C., Sforna, L., Borghi, M., Castelli, M., Pieroni, S., Oikonomou, V., Villella, V.R., Puccetti, M., Giovagnoli, S., Galarini, R., Barola, C., Maiuri, L., della Fazia, M.A., Cellini, B., Talesa, V.N., Dinarello, C.A., Costantini, C., Romani, L. Anakinra restores cellular proteostasis by coupling mitochondrial redox balance to autophagy. (2022) Journal of Clinical Investigation, 132 (2), art. no. 144983.