



Name: Luis Padrela

Degree	Awarding Institution	Topic/title
PhD in Chemical Engineering	Instituto Superior Técnico, University of Lisbon (Portugal)	“Formation of pharmaceutical cocrystals using supercritical fluid technology”
Graduation in Biochemistry	Faculty of Sciences, University of Lisbon (Portugal)	Final year project: “Encapsulation of nutraceuticals with interest for the food industry”

Current research:

- Spray drying for pharmaceuticals and biopharmaceuticals.
- Development of nano-spray drying processes (using supercritical CO₂ or N₂) for the continuous production of pharmaceuticals (e.g. amorphous solid dispersions, polymorphs, cocrystals) and biopharmaceuticals
- Development of high-pressure processes (supercritical fluids) for the production of pharmaceutical cocrystals

Position	Company/institution	Key responsibilities
Senior Research Fellow	SSPC, University of Limerick (Ireland)	Projects involved: <ul style="list-style-type: none"> - LT2 (“Tailoring crystal size distributions for improved formulation performance”) - NSF-SFI Center to Center US-Ireland Partnership (“Partnership in continuous manufacturing for nano-based drug products”) - MOMEnTUM SPOKES project (“Modelling of Multi-Phase Transport Processes to Enable Automation in Manufacturing”) - T8 (“Novel technologies and optimised formulations for delivery of solid dispersions of BCS Class II drugs”)

Synthesis & Solid State Pharmaceutical Centre, Materials & Surface Science Institute (MSSI),
 University of Limerick, Ireland
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Postdoctoral Researcher	SSPC, University of Limerick (Ireland)	<ul style="list-style-type: none"> - Development of supercritical fluid and spray drying processes for tailoring drug solid-state and crystal size distributions (micro-to nanoscale) - Assistant coordination of a SSPC linker project (LT2) - Invited assistant lecturer in Analytical Chemistry 3 module
Process Development Scientist	Hovione FarmaCiência SA (Portugal)	<ul style="list-style-type: none"> - Lead engineer on several R&D projects - API process development, manufacturing and final dosage formulation - cGLP and cGMP experience using distinct particle engineering technologies (bottom-up, top-down) at laboratory, pilot and industrial scales - Experience in Quality by Design, DoE and rheology fine-tuning of powdered materials.
Assistant Research Fellow	Instituto Superior Técnico and Faculty of Pharmacy, University of Lisbon (Portugal)	<ul style="list-style-type: none"> - Microencapsulation of proteins using supercritical fluid technology - Particle design of small and large molecules APIs for sustained drug delivery.

Research expertise keywords: QbD, scale-up, particle engineering, spray drying, supercritical fluids, (co)crystallization, amorphous solid dispersions.

Existing industry interaction to date:

Industrial experience in the development of spray drying and wet polishing processes at Hovione FarmaCiência SA for oral dosage forms.

Additional information/hobbies/interests/expertise:

- SSPC PDRA's Industry sub-group representative
- SFI "Smart Futures" STEM volunteer
- Consulting Editor and reviewer for the International Journal of Nanomedicine (Dovepress)
- 10 years' experience in professional photography (photojournalism, social photography)

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