

PERSONAL INFORMATION

Carlos Duarte da Silva Completo

 ... Portugal

 (+351) ...

 carloscompleto@gmail.com

 www.linkedin.com/in/carlos-completo-342993b

WORK EXPERIENCE

2019 - 2025

Project EngineerSmartfreez (www.smartfreez.com)

- Development of processes and equipment to freeze/thaw pharmaceutical formulations.

2018 - 2018

Research engineerSmartfreez (www.smartfreez.com)

- Perform computational simulations of air flow inside wind tunnels.

2012 - 2018

PhD studentInstituto Superior Técnico (www.tecnico.ulisboa.pt)

- Concentration of small-volume samples by centrifugal and tangential flow nanofiltration.

2009 - 2012

Junior researcherChemical Engineering Department, Instituto Superior Técnico (www.tecnico.ulisboa.pt).

- Experimental and computational studies on the fluid flows inside channels and micro-channels.

2004 - 2004

TraineeValbopan (www.investwood.pt)

- Study on the wood board manufacturing and on the waste water treatment processes.

1999 - 2008

Monitor in a computer labChemical Engineering Department, Instituto Superior Técnico (www.tecnico.ulisboa.pt).

- User support and web maintenance.

EDUCATION AND TRAINING

2018

Doctor of Philosophy (PhD) in Chemical Engineering

EQF: 8; ISCED: 8

Universidade de Lisbon (Portugal)

- Main subjects: separation by membrane processes; microfluidics.
- Thesis: [Concentration of small-volume samples by centrifugal and tangential flow nanofiltration.](#)

2008

Master of Science in Chemical Engineering

EQF: 7; ISCED: 7

Universidade Técnica de Lisboa (Portugal)

- Main subjects: mathematics, chemistry, transport phenomena, chemical engineering processes.
- Thesis: [Adsorption of bovine albumin and hyaluronic acid onto titanium ceramics. Analysis by QCM-D and AFM.](#)

2021

Specialization course on Mechatronics Technology

EQF: 5; ISCED: 4

Cenfim (Portugal)

- Main subjects: electricity, electronics, automation.
- Final project: [Calibration of heat flux sensors.](#)

LANGUAGE SKILLS

Mother tongue	Portuguese				
Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English (<u>certificate</u>)	C1	C1	C1	C1	C1
German (<u>declaration</u>)	A2	A2	A1	A1	A1
Spanish	A2	A2	A2	A2	A2

PERSONAL SKILLS

- Communication skills**
- Good communication and social skills gained through my academic/professional experiences.
- Job-related skills**
- Member of the Portuguese Order of the Engineers (member nr. 82624).
 - Individual work and teamwork skills..
- Computer skills**
- Microsoft Office software (Word, Excel and Powerpoint and Project) and basic Power BI.
 - 3D modeling: Autocad (Autocad 2013 Fundamental and Autocad 3D 2014 courses), Onshape, etc.
 - Basic knowledge of programming languages.
 - Basic knowledge of Artificial Intelligence utilization.
 - Currently attending bachelor's degree in Informatics Engineering at Universidade Aberta.
- Training courses**
- Pedagogic Training for Trainers* →
- Initial pedagogic training course for Trainers (92 hours), in 2012.
- Quality* →
- Tools for quality management course (14 hours), in 2018.
 - Quality management system ISO 9001:2015 course (50 hours), in 2018.
 - Environmental management ISO 14001:2015 course (30 horas), in 2024.
 - Laboratory accreditation course - NP EN 17025:2018 (14 hours), in 2023.
- Chemical / Industrial Engineering* →
- Key performance indicators (KPI) course (4 hours), in 2024.
 - Industrial Maintenance (288 hours), in 2023.
 - Legal compliance on the Portuguese environmental legislation course (14 hours), in 2018.
 - Nanofiltration and reverse osmosis in water treatment course (30 hours), in 2018.
 - Industrial R&D course (10 horas), in 2024.
- Food Safety* →
- Food safety – HACCP course (20 hours), in 2009.
 - BRC Food and IFS Food course (40 hours), in 2023.
- Management* →
- Project management – Fundamentals course (20 hours), in 2024.
- Other* →
- Electrical Installations course (125 hours), in 2019.
 - Industrial Automation course (175 hours), in 2023.
- Driving licence**
- Holder of a Portuguese driver's licence for the vehicles of the Category B.

ADDITIONAL INFORMATION

- Papers**
- Comparison between microfluidic tangential flow NF and centrifugal NF for the concentration of small samples.
 - Centrifugal nanofiltration for small-volume samples.
 - Efficient CFD-based method for designing cross-flow nanofiltration small devices.
 - Rheological and dynamical characterization of blood analogue flows in a slit.
 - Micro-PIV characterization of laminar developed flows of Newtonian and non-Newtonian fluids in a slit channel.
 - A comparative study of titanium nitrides, TiN, TiNbN and TiCN, as coatings for biomedical applications.
- Conferences / Posters**
- Concentration of small volume samples using Centrifugal Nanofiltration.
 - Effective methods for nanofiltration of small volume samples.
 - Micro-PIV characterization of laminar developed flows of Newtonian and non-Newtonian fluids in a slit channel.
- Patent applications**
- Differential air flow system for promoting bottom-up freezing of blood plasma in compressed bags.
 - Multi-purpose single-use transporter for biopharmaceutical solutions.
 - Centrifugal filtration device and method for concentrating liquid mixtures.