



Marc Parrilla Pons

WORK EXPERIENCE

16/01/2020 – CURRENT Antwerp, Belgium

POSTDOCTORAL RESEARCHER UNIVERSITY OF ANTWERP

Design of electrochemical devices for illicit drug detection in the field.
Investigation and engineering of microneedle-based electrochemical sensors.

02/01/2018 – 31/12/2019 Stockholm, Sweden

POSTDOCTORAL RESEARCHER KTH ROYAL INSTITUTE OF TECHNOLOGY

Investigation, development and engineering of wearable electrochemical sensors.

01/09/2016 – 31/08/2017 San Sebastian, Spain

RESEARCH ENGINEER CIDETEC

Investigation of enzymatic biosensors and manufacturing of screen-printed electrodes.

11/11/2015 – 25/04/2016 La Jolla, United States

VISITING RESEARCHER UNIVERSITY CALIFORNIA SAN DIEGO

Development of stretchable electrochemical sensors for wearable applications

01/10/2012 – 31/08/2016 Tarragona, Spain

UNIVERSITY RESEARCH ASSOCIATE UNIVERSITY ROVIRA I VIRGILI

- PhD in Nanoscience, Materials and Chemical Engineering.
- Research in miniaturised electrochemical sensors for point-of-care testing and wearable devices.

01/03/2012 – 28/09/2012 Barcelona, Spain

BUSINESS STRATEGY ANALYST FARMANTRA

Analysis of startups and design strategies to enter the market.

07/01/2011 – 30/09/2011 Barcelona, Spain

UNIVERSITY RESEARCH ASSISTANT LEITAT TECHNOLOGICAL CENTER

-Culture of cancer cells and identification of cancer stem cells.

EDUCATION AND TRAINING

03/09/2012 – 31/08/2016 Tarragona, Spain

DOCTORATE IN NANOSCIENCE, MATERIALS AND CHEMICAL ENGINEERING University Rovira and Virgili

Website <https://www.urv.cat/en/>

12/09/2011 – 22/03/2012 Barcelona, Spain

POSTGRADUATE IN INNOVATION MANAGEMENT University of Barcelona

Website <https://web.upf.edu/en/web/estudis/w/masteruniversitari-MOS0D>

06/09/2010 – 01/07/2011 Barcelona, Spain

MASTER IN PHARMACEUTICAL AND BIOTECHNOLOGICAL INDUSTRY University Pompeu Fabra

Website <https://www.upf.edu/en/>

05/09/2005 – 09/02/2010 Tarragona, Spain

BACHELOR IN BIOTECHNOLOGY University Rovira and Virgili

Website <https://www.urv.cat/en/>

● LANGUAGE SKILLS

Mother tongue(s): **CATALAN** | **SPANISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
DUTCH	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Microsoft Office | Google Drive | Video Conferencing (Zoom, Teams, Skype, Webex) - Advanced | One-drive | AutoCad 2D -3D | 3D modeling & 3D printing | Origin lab | Graphic Design (Photoshop, Illustrator, CorelDraw)

Behavioral skills

Team-work oriented | Research and analytical skills | Self-motivation and drive for results | Organizational and planning skills | Adaptability and responsibility | Commitment | Organization, proactivity and autonomous follow-up of issues | Leadership, Decision making, Critical thinking, Relationship building

● ADDITIONAL INFORMATION

PUBLICATIONS

[Microneedle array-based electrochemical sensor functionalized with SWCNTs for the highly sensitive monitoring of MDMA in interstitial fluid.](#)

– 2023

[Electrochemical Rapid Detection of Methamphetamine from Confiscated Samples Using a Graphene-based Printed Platform.](#)

– 2023

[Transdermal on-demand drug delivery based on a hollow microneedles iontophoretic system.](#) – 2023

[Validated portable device for the qualitative and quantitative electrochemical detection of MDMA ready for on-site use.](#)

– 2023

[Wearable 3D-printed microneedle-based potentiometric sensor for pH monitoring in the skin.](#)

[Investigating the electrochemical profile of methamphetamine to enable fast on-site detection in forensic analysis.](#)

– 2023

[Electrochemical Sensing of Amphetamine-Type Stimulants \(Pre\)-Precursors to Fight Against the Illicit Production of Synthetic Drugs.](#)

– 2022

[Electrochemical Detection of Illicit Drugs in Oral Fluid: Potential for Forensic Drug Testing.](#) – 2022

[Wearable Hollow Microneedle Patches for the Transdermal Electrochemical Monitoring of Glucose.](#) –

2022

[Electrochemical methods for on-site multidrug detection at festivals.](#) – 2022

[Paraformaldehyde-coated electrochemical sensor for improved on-site detection of amphetamine in street samples.](#)

– 2022

[Rapid on-site detection of illicit drugs in smuggled samples with a portable electrochemical device.](#) –

2022

[Wearable wristband-based electrochemical sensor for the detection of phenylalanine in biofluids.](#) –

2022

[Towards developing a screening strategy for ecstasy: revealing the electrochemical profile.](#) – 2021

[Wearable self-powered electrochemical devices for continuous health management.](#) – 2021

[Analytical techniques for the determination of Amphetamine-type substances in different matrices: a comprehensive review.](#)

– 2021

[Enhanced electrochemical detection of illicit drugs in oral fluid by the use of surfactant-mediated solution.](#)

– 2021

[Derivatization of Amphetamine to Allow Its Electrochemical Detection in Illicit Drug Seizures.](#) – 2021

[Electrochemical Profiling and LC-MS Characterization of Synthetic Cathinones: From Methodology to Detection in Forensic Samples.](#)

[Capturing the Real-Time Hydrolytic Degradation of a Library of Biomedical Polymers by Combining Traditional Assessment and Electrochemical Sensors.](#)

– 2021

[The Opportunity of 6-Monoacetylmorphine to Selectively Detect Heroin at Preanodized Screen Printed Electrodes.](#)

– 2021

[Identifying Electrochemical Fingerprints of Ketamine with Voltammetry and Liquid Chromatography–Mass Spectrometry for Its Detection in Seized Samples.](#)

– 2020

[Wearable Electrochemical Sensors for the Monitoring and Screening of Drugs.](#) – 2020

[Epidermal Patch with Glucose Biosensor: pH and Temperature Correction Towards More Accurate Sweat Analysis During Sport Practice.](#)

– 2020

[Cytotoxicity Study of Ionophore-Based Membranes: Towards On-Body and In Vivo Ion Detection.](#) –

2019

[A Wearable Paper-based Sweat Sensor for Human Perspiration Monitoring.](#) – 2019

[Wearable Potentiometric Ion Patch for On-Body Electrolyte Monitoring in Sweat: Towards a Validation Strategy to Ensure Physiological Relevance.](#)

– 2019

[Wearable Potentiometric Sensors for Medical Applications.](#) – 2019

[Wearable All-Solid-State Potentiometric Microneedle Patch for Intradermal Potassium Detection.](#) – 2019

[Wearable potentiometric ion sensors.](#) – 2019

[A novel wireless paper-based potentiometric platform for monitoring glucose in blood.](#) – 2017

[Paper-based enzymatic electrode with enhanced potentiometric response for glucose determination in biological fluids.](#)

– 2017

[Enhanced Potentiometric Detection of Hydrogen Peroxide using a Nafion-coated Platinum Electrode.](#)

– 2016

[Wearable Potentiometric Sensors Based on Commercial Carbon Fibres for Monitoring Sodium in Sweat.](#)

– 2016

[Balloon-Embedded Sensors Withstanding Extreme Multiaxial Stretching and Global Bending Mechanical Stress: Towards Environmental and Security Monitoring.](#)

– 2016

[A Textile-Based Stretchable Multi-Ion Potentiometric Sensor.](#) – 2016

[Potentiometric sensors using cotton yarns, carbon nanotubes and polymeric membranes.](#) – 2013

[Paper-Based Ion-Selective Potentiometric Sensors.](#) – 2012

The motivation of my career is driven by the investigation of new electrochemical strategies for the engineering of innovative wearable sensors for the analysis of valuable analytes. Material sciences, biochemistry, analytical chemistry, polymer science, electronics, and product design are disciplines that need to be crosslinked to obtain relevant miniaturised sensors that can be used for monitoring health, food or environmental parameters.

31/08/2023

Signed by Marc Parrilla Pons

