CHRISTIAN LARREA
Researcher & Programming Enthusiast

 Github   in LinkedIn   Orcid

 +34 617 015 772   @ crlarrea@outlook.com   Las Palmas, SP

About Me

❝ I am an early-stage professional currently seeking an opportunity to develop my career. I pride myself on being a diligent and determined individual with strong work ethics. ❞

Education

Javascript Algorithms and Data Structures, 300 h
freeCodeCamp, Online
Mar 2021 – May 2021

Responsive Web Design, 300 h
freeCodeCamp, Online
Feb 2021 – Mar 2021

PhD Surface Chemistry
University of St Andrews, GB
Nov 2013 – Jun 2018
Supervisors: Prof. Chris Baddeley & Prof. Manfred Buck

MSc Chemistry, 2.1
University of Liverpool, GB
Sep 2009 – Jun 2013
Supervisors: Prof. Richard Nichols, Dr Heike Arnolds & Prof. Andrew Hodgson

A–Levels, 9.1/10
IES José Frugoni Pérez, SP
Sep 2006 – Jun 2008

Skills

</> IT

Microsoft Office Package • LaTeX Linux • Matlab/Octave • SQL • VBA HTML5 • CSS3 • Javascript • EJS node.JS • Bootstrap • PHP • Word–Press • Python • Numpy • Pandas • Scipy • Scikit–learn • Matplotlib • Seaborn • Blender • Gwyddion Inkscape • Arduino • Raspberry Pi

🔧 TECHNICAL

TPD • LEED • AES • STM • RAIRS HREELS • IR • GC • UV/Vis • CV Chronoamperimetry • XPS • AFM UHV • Maths & Stats • Data Analysis Machine Learning

🔤 LANGUAGES

Spanish C2 • English C2 • Portuguese A2 • German A1

➕ OTHERS

Oral presentation • Project Management • Problem–solving • Teamwork Customer Service • Driving licence B EU Settlement • First Aid

Work Experience

Programmer | Freelance | Las Palmas, SP
Apr 2020 – Presently

> Developed a web-based interface for database querying combining HTML, CSS, JavaScript, SQL and PHP.
> Developed Python scripts for the automated generation of invoices for a haulage company.
> Created an e-commerce website with secure online payment and shipping by integrating the SumUp platform, Woocommerce and custom HTML CSS code into WordPress.
> Designed a console-based administration software for record-keeping and automated email notification tasks.

Data Analyst | XPS Pension Group | Belfast, GB
Jan 2020 – Apr 2020

> Extracted, processed and analysed sensitive client data.
> Developed, debugged and deployed VBA scripts and Excel formulas for modelling and visualisation of data.
> Researched pension schemes and legislation related to Guaranteed Minimum Pension equalisation.
> Reviewed new data collection protocols and liaised with requests from project management and client teams.

Resort Customer Helper | Jet2holidays | San Bartolomé, SP
Aug 2019 – Oct 2019

> Provided in-resort customer support to British holidaymakers concerning local amenities, accommodation, and transport.
> Achieved monthly turnovers of €4000 through sales of excursions, theme parks and shows tickets.
> Managed complaints, liaised with hotel management and mediated conflicts.
> Dealt with cash and credit card payments, reimbursements and liquidations.

Freelance Scientific Writer | Upwork | Telde, SP
Jan 2019 – Mar 2019

> Delivered high-quality pieces of academic writing intended for publication in scientific journals.
> Assisted researchers in reviewing and editing material science articles prior to submission to peer review.
> Liaised with publishers and clients to achieve project requirements and goals promptly.

👥 References

Ronan Donaghy
XPS Pension Group
1st Floor – Flax House 83–91
Adelaide St Belfast, BT2 8FE, GB
ronan.donaghy@xafinityconsulting.com
+44 (0) 791 612 5995

Dean Carter
Jet2holidays
MTS Globe, Av. de Gran Canaria
35100, Las Palmas, SP
dean.carter1@jet2holidays.com
+34 679 628 381

Dr Grant Simpson
Universität Graz
8010 Graz, Heinrichstraße 28/IV, AT
grant.simpson@uni–graz.at
+43 (0) 316 380 5511

Prof. Chris Baddeley
University of St Andrews
School of Chemistry, Purdie Building
St Andrews, KY16 9ST, GB
cjb14@st–andrews.ac.uk
+44 (0)1334 467236

Post–doctoral Fellow | Queen's University | Kingston, CA
Sep 2018 – Jan 2019

> Appointed by Prof. J.H. Horton to lead the project on chemisorption of N-heterocyclic carbenes on silver films for plasmonic biosensing.
> Devised a contamination-free process for the adsorption of N-heterocyclic carbenes onto silver surfaces.
> Employed X-ray photoelectron spectroscopy, cyclic voltammetry, chronoamperometry and atomic force microscopy in the characterisation of self-assembled monolayers.
> Processed, modelled and fitted spectroscopic and voltammetric data on Matlab/Octave.
> Delivered comprehensive reports about the data collected, their interpretation and recommendations.
> Assisted technicians with their workload and troubleshooting.
> Mentored Master students in their research and dissertation writing tasks.
> Maintained a safe work environment by ensuring that routine laboratory work complied with health and safety regulations.

Graduate Researcher | University of St Andrews | St Andrews, GB
Nov 2013 – Jun 2018

> Engineered a protocol for the fabrication of surface-confined covalent organic frameworks onto gold-palladium alloys.
> Applied statistical tools in the quantitative description of surface nanoarchitectures.
> Demonstrated the in-vacuo adsorption of N-heterocyclic carbenes to gold and copper surfaces and the effect of substituents in their binding mode.
> Proved the reduction of a model copper oxide to metallic copper by the adsorption of N-heterocyclic carbenes.
> Authored scientific articles and patents.
> Presented results in conferences, school meetings and colloquia.
> Maintained, assembled and modified ultra-high vacuum equipment.

Laboratory Demonstrator | University of St Andrews | St Andrews, GB
Feb 2014 – Jun 2017

> Supervised Master students in their laboratory coursework and aided in data interpretation.
> Taught experimental physical chemistry techniques and assessed undergraduate students.
> Facilitated educational resources and provided private lessons.

📖 Publications & Presentations

2019 — On-surface condensation of low-dimensional benzotriazole-copper assemblies. Nanoscale, 11(27), pp.13017-13031. Grillo, F., Batchelor, D., Larrea, C.R., Francis, S.M., Lacovig, P. and Richardson, N.V., 2019.

2018 — Investigation of Robust Surface Molecular Architectures under Ultra-High Vacuum. PhD Thesis, University of St Andrews, Scotland, GB. Larrea, C.R., 2018.

2017 — N-Heterocyclic Carbene Self-assembled Monolayers on Copper and Gold: Dramatic Effect of Wingtip Groups on Binding, Orientation and Assembly. ChemPhysChem, 18(24), pp.3536-3539. Larrea, C.R., Baddeley, C.J., Narouz, M.R., Mosey, N.J., Horton, J.H. and Crudden, C.M., 2017.

2016 — Etching metal using N-heterocyclic carbenes. Patents: CA3026196A1, WO2017205980A1. Mariampillai, B.E., Alrashed, A.R.E., Crudden, C. M., Horton, J.H., Baddeley, C.J., Larrea, C.R., 2016.

Fabrication of a porous sCOF on a reactive surface. European Conference on Surface Science 32. Grenoble, FR. Larrea C.R., 2016.

Fabrication of a porous sCOF on a reactive surface. RSC Surface Reactivity & Catalysis Group. Glasgow, GB. Larrea C.R., 2016

Simple direct formation of self-assembled N-heterocyclic carbene monolayers on gold and their application in biosensing. Nature communications, 7(1), pp.1-7. Crudden, C.M., Horton, J.H., Narouz, M.R., Li, Z., Smith, C.A., Munro, K., Baddeley, C.J., Larrea, C.R., Drevniok, B., Thanabalasingam, B. and McLean, A.B., 2016.

Two-dimensional self-assembly of benzotriazole on an inert substrate. Nanoscale, 8(17), pp.9167-9177. Grillo, F., Torres, J.G., Treanor, M.J., Larrea, C.R., Goetze, J.P., Lacovig, P., Früchtl, H.A., Schaub, R. and Richardson, N.V., 2016.

Fabrication of a High-Quality, Porous, Surface-Confined Covalent Organic Framework on a Reactive Metal Surface. ChemPhysChem, 17(7), pp.971-975. Larrea, C.R. and Baddeley, C.J., 2016.

Metallosupramolecular Assembly of Cr and p-Terphenyldinitrile by Dissociation of Metal Carbonyls on Au (111). The Journal of PhysicalChemistry C, 120(2), pp.1049-1055. Anderson, A.E., Grillo, F., Larrea, C.R., Seljamäe-Green, R.T., Früchtl, H.A. and Baddeley, C.J., 2016.