

DR MARLON CRUZ

STRATEGIC & TECHNOLOGY ADVISOR · EXPERTISE ON MATERIALS, SURFACE ENGINEERED SOLUTIONS & ENERGY TRANSITION · MEDICAL DEVICES · REGULATORY COMPLIANCE
Ballasalla, Isle of Man

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PERSONAL PROFILE

Dr. Cruz is a dedicated **Chartered Engineer (CEng)** and **Chartered Scientist (CSci)** with a PhD in **tribology and surface engineering** and over two decades of experience in **strategic leadership** and **innovation**. As a member of prestigious institutions such as the **Institute of Materials, Minerals & Mining (MIMMM)** and **The Institution of Engineering and Technology UK (MIET)**, Dr. Cruz has demonstrated a commitment to excellence and continuous professional development.

With a robust background in **Metallurgical and Materials Engineering**, Dr. Cruz has successfully bridged the gap between **technical expertise** and **commercial viability**, spearheading projects that have significantly reduced costs and enhanced efficiency in various sectors. This includes leading applied research in **cost-reduction strategies** for hydrogen production and extending the lifespan of materials—a testament to a keen acumen for **financial optimization** and **resource management**.

Dr. Cruz's experience encompasses:

- **Establishing and managing** two cutting-edge tribology laboratories that serve both academic and industrial clients across Venezuela and Europe, showcasing an ability to **navigate international markets** and **cultivate cross-sector partnerships**.
- Directing research and development initiatives that have resulted in **patentable coatings** and **process innovations**, contributing to the reduction of electrolyser costs and the synthesis of graphene, with applications in the automotive and agricultural industries.
- Playing a pivotal role in **government-funded collaborative projects** and **EU initiatives**, focusing on the integration of advanced engineering solutions to improve the performance and longevity of critical components, reflecting a strong grasp of **regulatory frameworks** and **quality management systems**.
- Engaging in **business development** and providing **strategic advisory services** to start-ups and established companies in diverse industries, including biotechnology, mining, semiconductors, and manufacturing, indicative of a versatile skill set and a strategic mindset.
- **Evaluating and consulting** on European-funded projects, ensuring compliance and excellence in execution, further emphasizing an analytical approach and a deep understanding of **financial stewardship**.
- Holding **board-level positions** in SMEs, demonstrating **leadership** and **governance capabilities** that are crucial for high-stakes decision-making in the financial sector.

Dr. Cruz's unique blend of **technical prowess**, **strategic vision**, and **leadership experience** positions him as an exceptional candidate for roles that require a deep understanding of **material sciences** and their financial implications, making a significant impact on the bottom line.

EXPERIENCE

SENIOR ESG ADVISOR, *The ESG Institute*

Isle of Man & UK (October 2023 - present)

Bringing expertise to a multidisciplinary global team, offering services tailored to the ESG-related needs of SMEs and corporations.

The ESG Institute is dedicated to helping businesses adopt and integrate Environment, Social, and Governance (ESG) principles into their strategies, operations, and culture.

SENIOR MATERIALS & TECHNOLOGY ADVISOR , *GIRA strategic finance*

London (December 2022 – present)

Offering expert insights and advisory services related to technology for portfolio deals in the energy sector and real assets. Focus areas include the materials cycle, the hydrogen economy, and renewable energy, where contributions have been pivotal.

Gira SF is a Merchant bank delivering Strategic & Financial Advise and Investments focused on Solar, Renewable Energies, Carbon Capture, Hydrogen and other Real Assets.

Design and Development Advisor | *PRRC, Bodystat Ltd.*

Isle of Man (November 2022 – present)

Offering professional services as:

- Design and Development Advisor aligned with FDA, EU-MDR and ISO 13485 requirements.
- Person Responsible for Regulatory Compliance (PRRC) according to requirements defined on article 15 of Regulation (EU) 2017/745 (EU-MDR).
- Consultancy on Quality Management.
- Compliance Manager.

INDEPENDENT CONSULTANT, *MC CONSULTING SERVICES*

Isle of Man (March 2019 – present)

Experienced consultant providing expertise in surface engineered solutions, materials testing and selection, tribology, business development, circular economy, and sustainability. Key activities include:

- **Technical Assistance:** Provided expert guidance on surface engineering, materials selection, and business development to clients in Latin America and Spain.
- **Funding Acquisition:** Secured cash flow for SMEs through publicly funded projects focused on key enabling technologies.
- **Project Management:** Managed and supported highly technical, industrial-focused R&D activities remotely.
- **Process Development:** Developed coating processes for manufacturing applications and the energy sector.
- **Business Development:** Expanded processes and technologies in the mining, semiconductor, process controllers, lubricants, and testing systems.
- **Quality Auditing:** Conducted quality audits with a focus on ISO 13485 standards.
- **Regulatory Consultancy:** Offered regulatory consultancy services for medical devices, including FDA, MDD, MDR, CE, and UKCA compliance.
- **Technical Advisory:** Advised an investment bank on technical aspects of hydrogen technology, small wind turbines, biochar, biogas, biomethane, sustainable aviation fuels, waste valorisation.
- **Independent Non-Executive Director:** Collaborated with stakeholders to streamline office operations and enhance business processes.
- **Nominated Officer:** Acted as the nominated officer for companies registered in the Isle of Man, ensuring compliance with the Isle of Man's Beneficial Ownership Act 2017.

CHIEF TECHNICAL OFFICER -CTO- (freelance), *PhotonExport*

Barcelona -Spain- (May 2021 – March 2022)

Contributed to PhotonExport's strategic objective of enhancing R&D capabilities in tribology and business development. PhotonExport, a global leader in vacuum thin film supplies and sputtering targets, serves the photonics and microelectronics industries

STRATEGIC ADVISOR (Remote), Smart Tissues
Tokyo-Japan (July 2019 – February 2023)

Advised a bioprinting technology start-up on business strategy, focusing on sustainable growth in Japan and Latin America.

EXPERT EVALUATOR (Remote) -- Eurostars Programme - EUREKA –
Brussels Area, Belgium (November 2018 – present)

Independent Evaluator and Subject Matter Expert

- Leveraged extensive expertise in materials science, engineering, surface engineering, tribology, processes, product development, and circular economy principles.
- Evaluated over 20 research and development project applications for Eurostars, Network programmes, and other national-level initiatives since late 2018, collectively representing over €35 million in proposed budgets.
- Provided comprehensive assessments and recommendations based on technical merit, market potential, and alignment with program objectives.
- Ensured rigorous and impartial evaluation processes, upholding high standards of quality and integrity.

RESEARCH ENGINEER – MARIE CURIE FELLOW, FLUBETECH S.L.
Castellar del Valles, Barcelona-Spain (September 2017 – February 2019)

Researcher, Sludgetreat Project (EU FP7 Marie Curie Action, Project Number 611593)

Marie Skłodowska-Curie Actions (MSCA) fellowships are among Europe's most competitive and prestigious awards, aimed at supporting the best, most promising researchers in their professional development and boosting skills exchange between the commercial and non-commercial sectors.

Other Duties and Responsibilities:

- Managed and provided key assistance for 7 publicly funded co-funded projects with a total budget of approximately €1.2M.
- Developed and improved coatings for dies, moulds, and tools, contributing to process development and internal strategic R&D.
- Mentored and coached graduate and master students, fostering their academic and professional growth.
- Assisted the quality control department with activities related to ISO-13485 and ISO-9001 standards.
- Explored and set business development options, enhancing the project's commercial potential.
- Designed and implemented R&D Key Performance Indicators (KPIs) to measure and improve project outcomes.
- Conducted technical and financial audits to ensure project compliance and financial integrity.

ADVISER, ARIAN Control & Instrumentation

Santiago de Chile, Chile (October 2016 – December 2018)

Advising on implementing guidelines and strategy towards a potential relocation of business (including manufacturing) to Isle of Man and/or Europe. Assessing market feasibility of products already manufactured for introduction into UK and European market. Offering advice about market focused doable products and services which were under development stage.

RESEARCH AND DESIGN DIRECTOR, Highland Scientific Ltd./ Manx Graphene Ltd.
Isle of Man (August 2014 – August 2016)

Role Description: Appointment in a privately-owned company with core business revolves around thin film deposition technology and techniques to develop production processes related to carbon-based technologies (DLC coatings and Graphene).

Duties and Responsibilities: Assembled IP of carbon base technologies focused in DLC and graphene production. Mentored staff in industrial research. Engineered systems to produce DLC coatings. Developed and launched testing for proof of concepts of graphene production. Briefed regularly to Board of Directors about the progress of the technology which was developed. Headed day-to-day operations related to previously defined testing procedures. Validated internal procedures for testing.

ASSOCIATED PROFESSOR, *Universidad Simón Bolívar –Materials Science Department- Caracas – Venezuela (September 2009 – July 2014)*

Role Description: Lecturing and Teaching in topics related to Mechanical Properties with a focus in Tribology. Research in Tribology and Surface Engineering. Consulting and advising companies by technical services or industrial research according to interests of Materials Science Department.

Duties and Responsibilities: Guided undergraduate and graduate students through effective lecturing and teaching in tribology, surface engineering and materials science. Coordinated research in Tribology and Surface Engineering. Supervised undergraduate, graduate and research graduate. Enabled smoothly run of Electronic Microscopy and XRD laboratory. Mentored students in tribology and surface engineering.

SENIOR RESEARCHER, *CTM Centre Tecnològic (named eurecat Manresa since 2019) Manresa (Barcelona) – Spain (October 2005 – July 2009)*

Role Description: Permanent position to develop research topics related to surface engineering and continues investigating the tribology including topics related to applied materials science and focused it at the industrial level.

Duties and Responsibilities: Conducted industrial applied research projects related to physical metallurgy, microstructural and tribomechanical characterization of materials. Designed a PVD coating system. Directed Tribology laboratory.

Additional part-time positions:

Expert Evaluator, AIDIT,

Home-based job (November 2008 - September 2009): Evaluated one industrial project in two stages to be funded from national research programs

Adjunct Professor, Polytechnic University of Catalonia (UPC),

Barcelona-Spain (September 2007- September 2008): Taught lab practices for courses of Materials Engineering

DOCTORATE SCHOLARSHIP, *Central University of Venezuela (UCV) - Metallurgical School - Caracas – Venezuela (September 2001- July 2005)*

Role Description: Receiving a grant from the FONACIT (National Fund for Science and Technology) to develop key research related to tribology and surface engineering

Duties and Responsibilities: Developed the program to fulfill the requirements to get the PhD degree. Supported activities and day-to-day operation of research group where was prepared the Thesis.

Additional part-time position:

Lecturer, Central University of Venezuela (UCV) - Metallurgical School -

Caracas – Venezuela (January 2002- August 2004): Taught 3 undergraduate courses

RESEARCH ENGINEER, *Central University of Venezuela (UCV) -CENMACOR- Caracas – Venezuela (October 2000- February 2002)*

Role Description: Entry level position to support research activities for CENMACOR (New Materials and Corrosion Centre).

Duties and Responsibilities: Conducted relevant research in Surface Engineering and Tribology, prepared tribology testing, devised presentations, and papers. Organised the smoothly running of tribology lab.

EDUCATION AND QUALIFICATIONS

Doctorate (PhD): Science Engineering (2006)

Personalised Doctorate Program of Engineering Faculty, Central University of Venezuela

Thesis: Tribological Study of an AISI H13 steel with duplex treatments (in Spanish)

Msc (5 years program): Metallurgic Engineer (2000 and recognised as Material Engineer by Spain in 2006) *Universidad Central de Venezuela.*

Diploma: High School Studies –Venezuela- (1994 and recognised by Spain 2005)

ADDITIONAL INFO

ORCID id (publications): <https://orcid.org/0000-0003-4985-3234>

Memberships: UK's Chartered Engineer (CEng) Registrant Number 643256

UK's Chartered Scientist (CSci) Registrant Number IOM/112/000578

Member of the Institute of Materials, Minerals & Mining (MIMMM) Membership No.: 478737

Member of The Institution of Engineering and Technology (MIET) Membership No.: 1100589503

VOLUNTEERING

EXECUTIVE TEAM MEMBER – Online Specialist, Institution of Engineering and Technology (IET)

UK (Jan. 2020 – present): Volunteer at IET Tribology Technical Network / Online Specialist

COMMITTEE MEMBER, British Standard Institution (bsi)

UK (August 2017 – May 2024): Non-participating member of: STI/033 Electrodeposited and related coatings.

PARENT GOVERNOR, Ballasalla Primary School

Isle of Man (Sep. 2019 – Dec. 2021): Member of the Governing Body

STEM COMMITTEE MEMBER, Isle of Man Chamber of Commerce

Isle of Man (March 2020 – present)

THINK TANK Forum, Isle of Man Chamber of Commerce

Isle of Man (March 2020 – October 2023)

TRAINED ASSESSOR, The Institute of Materials, Minerals and Mining (IOM3)

INTERNSHIPS, APPRENTICESHIP AND VOLUNTEER EXPERIENCES

Date	Type of Experience	Description
Jan – Feb 2005	Doctorate's internship	Carrying out an internship relating to specific trials framed in the thesis project under the supervision of Dr Jacky Lesage at Institut Universitaire de Technologie de Lille, France
Oct – Dec 2004	Doctorate's internship	Completing an Academic internship under the supervision of Dr José Maria Cabrera at Department of Materials Science and Metallurgical Engineering Polytechnic University of Catalonia, Spain
Sep – Dec 2003	Doctorate's internship	Executing duties as part of an Academic Internship under the supervision of Dr Jorge Feugeas at Institute of Physics Rosario, Argentina
Aug – Oct 1998	Work Experience/Internship	Characterization for quality control tasks of tin coated steel produced by iron and steel manufacturer named Siderúrgica del Orinoco (SIDOR) Venezuela
April 1995- May 2003	Volunteer at Fire Department of Universidad Central de Venezuela	Totally voluntary work which required a year of training (once a week every weekend) to become a certificated Firefighter. Caracas-Venezuela
May-July 1994	Apprenticeship	Work experience related to apprenticeship program in industrial electricity at a newspaper printing press (Caracas-Venezuela)
July– Sept 1993	Apprenticeship	Assistance to a qualified electrician in electricity to work in air conditioning, and industrial refrigeration systems (Caracas-Venezuela)