Curriculum vitae

PERSONAL INFORMATION	**Igor Oya Vallejo**

📍 Steglitzer Damm 96, 12169 Berlin (Germany)

📱 +4917637775779

✉ igoroya@hotmail.com

🌐 www.igoroya.com

Sex Male | Date of birth 16/05/1979 | Nationality Spanish

PERSONAL STATEMENT

Software manager and developer, with passion for crafting innovative software systems. 15 years of experience participating in international scientific projects. Architect and designer of large scale and reliable software systems. Skilled leader who has the proven ability to set up, motivate, educate, and manage teams composed of researchers, engineers, and students. Experienced in geographically distributed and multi-cultural working environments.

WORK EXPERIENCE

01/09/2018–Present

Work Package Coordinator of the Cherenkov Telescope Array (CTA)

CTAO gGmbh, Zeuthen (Germany)

SW Project Manager and Architect:

- Specify ACADA system architecture (SysML/UML).
- Create Project management plan, PBS/WBS, schedule, risk register, and detailed cost estimate.
- Create ACADA System Requirements Specification Document.
- Hiring and team building activities.
- Coordinator in a large distributed software team, with more than 30 people distributed among various countries. Chair meetings, workshops, and teleconferences.
- Java software developer: Telescope Control Manager component.
- Define CTA Software Licensing Documentation.
- Define a policy for CTA Cyber-Security.
- Chair of the CTA Publication Office.

01/07/2014–31/08/2018

Researcher and group manager of the Cherenkov Telescope Array (CTA) Observation Execution (OES) System

Deutsches Elektronen-Synchrotron (DESY), Zeuthen (Germany)

- Scientific Project Coordinator:
  - Create *Observation Execution System* system architectural design.
  - Manage the DESY control software team activities (5 programmers and researchers), hiring personnel, tendering and negotiation of contracts with external companies (300 kE/year).
  - Coordinator in a large distributed software team, with more than 20 people distributed from various countries.
- Scientific data analysis and interpretation, including development of new statistical methods.
- Astronomical instrumentation software developer.
- Tutor of summer students.

01/09/2010–30/06/2014

Research assistant (Wissenschaftliche Mitarbeiter)

Humboldt University, Experimental Particle Physics group., Berlin (Germany)

- Coordinator of a team of researchers and engineers for the *Instrument Operation Software* of CTA

Array Control and Data Acquisition System.

- Scientific data analysis and interpretation:
  - □ Study astronomical data obtained with the High Energy Stereoscopic System (H.E.S.S.) and X-ray satellites from NASA and ESA.
  - □ Develop statistical methods for experimental astroparticle physics.
- Develop software for astronomical installations.
- Telescope night operator: 1-month observation shift at the H.E.S.S. observatory in Namibia.

01/11/2004–31/07/2010	**Pre-doctoral researcher**

Complutense University of Madrid, Madrid (Spain)

- Scientific data analysis and interpretation: Analyse astronomical data from the Major Atmospheric Gamma Imaging Cherenkov Telescopes (MAGIC).
- Coordinator of telescope health and data quality check software and Onsite analysis for MAGIC.
- Electronics hardware development for MAGIC.
- Telescope night operator: Four 1-month operations shifts on the MAGIC site in the astronomical observatory in La Palma, Canary Islands.
- Lecturer: Statistics and Physics Lab. teaching assistant at the UCM University (2008 – 2009).

01/10/2002–30/06/2004	**Collaboration grant – Assistant of the Director**

College "Colegio Mayor Antonio de Nebrija", Complutense University of Madrid, Madrid (Spain)

- Assisted the director for the communication and disputes solving with the students.
- Organize and manage cultural and sports activities (incl. budget).

01/09/2001–30/09/2002	**Collaboration grant – Data network infrastructure**

Department of data network infrastructure, Complutense University of Madrid, Madrid (Spain)

- Deployment and test of data network equipment .

EDUCATION AND TRAINING

01/10/2006–22/06/2010	**PhD thesis in Astrophysics**

Complutense University of Madrid, Madrid (Spain)

- Study of Active Galactic Nuclei with MAGIC Cherenkov telescope and X-ray satellites data.

01/09/2004–01/09/2006	**Master in Nuclear Physics Program**

Complutense University of Madrid, Madrid (Spain)

- Develop analysis techniques for the MAGIC Cherenkov telescope data.

PERSONAL SKILLS

Mother tongue(s)   Spanish

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C1	C1

| German | A2 | A1 | A1 | A1 | |
| Basque | A1 | A1 | A1 | A1 | A1 |

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

- Excellent communications skills gained through my experience as researcher and science project manager: written technical reports, journal publication, and presentations in international conferences, seminars and outreach activities.
- Member of editorial offices of two projects (CTA and H.E.S.S.), reviewing hundreds of communications and publications of project members before submission. I am Currently, co-chair of the CTA project speakers bureau, where I organise the participation and review in many conferences by the CTA Consortium members (more that 1400 members).
- Anonymous referee of peer-review journals.
- Referee for projects of the Spanish (*Agencia Estatal de Investigación*) and Chilean (*Fondecyt*), research funding programs/agencies.

Organisational / managerial skills

- **Leadership:** Leader of a large work package to build the controls software for a large astronomical installation (CTA observation execution system).
- **Management of contractors:** Manage contributions of external contractors and companies, organization of tenders
- **Project management:** Experience creating WMS, PBS, risk register, project management plans. Editor of technical design report documents.
- **Meeting organizer**: Organize meetings, workshops and boot-camps.

Job-related skills

- Software systems engineering practices: ICDs, requirements specification, use cases, processes workflow.
- Software quality assurance.
- SCADA Systems Security.
- Familiarity with ECSS Standard.

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Independent user	Independent user	Proficient user

Digital skills - Self-assessment grid

- Programming: Java, Python, C++, Unix shell scripts, Javascript, HTML, Interface Definition Language (IDL), Perl, Fortran, ROOT, software testing, CORBA, OPC UA, DDS, zeroMQ, Spring Boot, MongoDB, SQL.
- Good Command of UML and SysML, built large architecture models.
- Data Science: Machine learning, Bayesian and frequentist techniques, Monte Carlo techniques.
- Software: Sparx Enterprise Architect, Eclipse IDE, LATEX, OpenOffice and Microsoft Office, Adobe Photoshop and Illustrator.
- Project Management software: Atlassian suit (Confluence, Jira...), Redmine, Jama, MindView, Merlin Project, MS Sharepoint, MS Office 365.
- Software management: jcr, SVN, git, CVS, Jenkins, SonarQube, Vagrant.
- Operating systems: GNU/Linux (Scientific Linux, Redhat, Fedora, Raspbian), Windows, Mac OS.

Driving licence

B

ADDITIONAL INFORMATION

Publications	Author of 161 publications in refereed journals, including four as corresponding author, two as second author and with direct involvement in another four.
Conferences	■ First author of 18 and second author of 13 publications from a total of 60 conferences proceedings. ■ 4 Invited talks and 4 invited seminars.
Seminars and Presentations	Dozens of presentations in seminars, symposia, internal meetings and outreach activities.
Citations	H-index of 65, with a total of 13891 citations (Google Scholar).
Certifications	Accredited Assistant Professor in Spain ("Profesor Ayudante Doctor").
Memberships	Member of the Spanish Astronomy Society (SEA) since 2008, and of the Royal Spanish Society of Physics (RSEF) since 2009.
References	References are available on request.