

CURRICULUM VITAE

Personal information

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Keywords

Full Stack Software Engineer, Bioinformatics, Certified Linux System administration, Web applications, Docker, Linux, Education.

Professional experience

November 2017 – present

Manager in Bioinformatics department, Igenomix, Paterna, Spain.

- ▶ Leading the development for an in-house platform for genomic data visualization and rare disease diagnosis, serving over 50 internal users.
- ▶ Certified system administrator for the Bioinformatics HPC infrastructure.
- ▶ Developing bioinformatics pipelines for data analysis.

January 2016 – November 2017

Bioinformatics developer at SLU Global Bioinformatics Centre (SGBC), Swedish University of Agricultural Sciences, Uppsala, Sweden.

- ▶ Main developer for the *eBioKit 2017 platform* (<http://ebiokit.eu/>) a stand-alone educational platform for bioinformatics research and training in a controlled environment.
- ▶ Main developer in the bioinformatics work package for the B3Africa project (<http://www.b3africa.org>). This work package includes several tasks such as the implementation of user-friendly and web-based tools for automatized execution of bioinformatics pipelines and the compilation of available bioinformatics tools and databases for *omics* data analysis.
- ▶ Main developer for *Galaksio*, a user-friendly and workflow-based wrapper for Galaxy for education purposes.

October 2012 – December 2015

Bioinformatician at the Laboratory of Genomics of Gene Expression, Príncipe Felipe Research Center, Valencia, Spain.

- ▶ Main developer for *PaintOmics 3*, an integrative web-based visualization platform for multi-omics experiments.
- ▶ Main developer for *STATegra EMS*, an integrative system for multi-omics experiments annotation and tracking.

Bioinformatics Programmer at SLU Global Bioinformatics Centre (SGBC), Swedish University of Agricultural Sciences, Uppsala, Sweden.

- ▶ Main developer for the *eBioKit 2013* and *eBioKit 2015 platform*.

Education

- ▶ **2024:** Linux Foundation training: Kubernetes Fundamentals (LFS258) [Enrolled]
Linux Foundation training: Introduction to Kubernetes (FS158x).
- ▶ **2022:** Linux Foundation Certified System Administrator (LFCS). The Linux Foundation.
- ▶ **2013-2017:** PhD at the Universitat Politècnica de València, Valencia, Spain.
 - ▶ Thesis title: *Development of bioinformatics resources for the integrative analysis of Next Generation omics data*
 - ▶ Thesis supervisors: Dr. Ana Conesa Cegarra, Genomics of Gene Expression Lab, Príncipe Felipe Research Center, and Dr. Monserrat Robles Viejo, Universitat Politècnica de València.
- ▶ **2011-2012:** Master in Bioinformatics and Computational Biology at the Universidad Complutense de Madrid. Spain.
 - ▶ Thesis title: *Functional characterization of long non-coding RNA using NGS data*.
 - ▶ Project supervisor: Dr. Ana Conesa, Genomics of Gene Expression Lab, Príncipe Felipe Research Center, Valencia, Spain.
- ▶ **2005-2011:** Computer engineering at the Universidad Complutense de Madrid. Spain.

Technical skills

- ▶ Computing skills
 - ▶ **Advanced scripting languages** (*Python, Bash*).
 - ▶ **Containerization technologies** (*Docker, Apptainer [former Singularity]*).
 - ▶ **UNIX-based systems management** (*CentOS, Ubuntu, Ansible, Bash*).
 - ▶ Integrative data visualization techniques.
 - ▶ Design and management of AWS architectures.
 - ▶ Web Programming (*JavaScript, HTML5, CSS3, Python, Java Servlets, PHP*).
 - ▶ Design and management of databases (*MongoDB, MySQL, PostgreSQL*).
 - ▶ Deploy and management of CMS (Wordpress, Moodle)
 - ▶ Object Oriented Programming (*Python, Java*).
 - ▶ Project management, software testing and documentation.
- ▶ Other skills
 - ▶ Experience in MS Office tools.
 - ▶ Skills in graphic design.
 - ▶ Innovative and creative mindset.
 - ▶ Initiative-driven with strong organizational skills.
 - ▶ Great interpersonal skills, fostering positive relationships within the workplace.

Relevant merits

- ▶ Publications
 - ▶ Hernández-de-Diego R, Tarazona S, Martínez-Mira C, Balzano-Nogueira L, Furió-Tarí P, Pappas GJ Jr, Conesa A. PaintOmics 3: a web resource for the pathway analysis and visualization of multi-omics data. *Nucleic Acids Res.* 2018 Jul 2;46(W1):W503-W509.
 - ▶ Hernández-de-Diego R, de Villiers EP, Klingström T, Gourel H, Conesa A, Bongcam-Rudloff E. The eBioKit, a stand-alone educational platform for bioinformatics. *PLoS Comput Biol.* 2017 Sep 14;13(9):e1005616.
 - ▶ Klingström T, Hernández-de-Diego R, and Bongcam-Rudloff E. Galaksio, a user friendly workflow-

centric front end for Galaxy. EMBnet.journal, [S.I.], v. 23, p. e897, nov. 2017. ISSN 2226-6089.

- ▶ Hernández-de-Diego R, Boix-Chova N, Gómez-Cabrero D, Tegner J, Abugessaisa I, Conesa A. *STATegra EMS: an Experiment Management System for complex next-generation omics experiments*. BMC Systems Biology 2014, 8(Suppl 2):S9
- ▶ Conesa A and Hernández-de-Diego R. *Omics Data Integration in Systems Biology: Methods and Applications*. Comprehensive Analytical Chemistry 2014 (64). doi:10.1016/B978-0-444-62650-9.00016-6

▶ Grants

- ▶ 2016 - IRSES- DEANN Marie Curie EU-Latin American for Genomics Research [Grant]
 - December 2016: Guest researcher at the Department of Bioinformatics at the Instituto Nacional de Tecnología Agropecuaria (INTA), USA.
- ▶ 2015 - IRSES- DEANN Marie Curie EU-Latin American for Genomics Research [Grant]
 - November – December 2015: Guest researcher at the Department Cellular Microbiology, University of Florida, USA.
- ▶ 2014 - IRSES- DEANN Marie Curie EU-Latin American for Genomics Research [Grant]
 - May – August 2014: Guest researcher at the Department of Computational Genomics, University of Brasilia, Brazil.

▶ International conferences

- ▶ *PaintOmics 3.0: Integrated visualization of multi omics data on KEGG pathways*. SMODIA 2015, Valencia, Spain. Oral presentation. September 2015.
- ▶ *The STATegraEMS, an Experiment Management System for multi-omics experiments*. SMODIA 2014, Heraklion, Crete, Greece. Oral presentation. November 2014.
- ▶ *STATegra EMS: an Experiment Management System for complex next-generation omics experiments*. XII Symposium on Bioinformatics, Sevilla. Poster. September 2014
- ▶ *The STATegra NGS Experiment Management System*. HiTSEQ ISCB/ECCB 2013, Berlin, Germany. Poster. July 2013.
- ▶ *Developing a NGS Experiment Management System, The STATegra EMS*. The Next NGS Challenge Conference, Valencia, Spain. Poster. May 2013.

▶ Courses and seminars (teaching)

- ▶ *The Genomics of Gene Expression RNA-Seq Course*. CIPF, Valencia, Spain. March 2015.
- ▶ *The H3ABioNet Advanced Systems Administration workshop: Introduction to the eBioKit system: services, architecture and administration*. Pretoria University, Pretoria, South Africa. February 2015.
- ▶ *The Genomics of Gene Expression RNA-Seq Course*. CIPF, Valencia, Spain. September 2014.
- ▶ *International Course on Massive Data Analysis: Transcriptomics*. CIPF, Valencia, Spain, March 2014.
- ▶ *Introduction to Bioinformatics using the eBioKit platform*. KEMRI Wellcome Trust Institute, Kilifi, Kenya. Teacher assistant. August 2013.
- ▶ *H3ABioNet Introduction to Bioinformatics using the eBioKit platform*. International Center for Insect Physiology and Ecology (ICIPE), Nairobi, Kenya. Teacher assistant. July 2013.
- ▶ *EMBNET eBioKit - Introduction to the new eBioKit functionalities*. ISCB Africa ASBCB Conference on Bioinformatics 2013. Casablanca, Morocco. Teacher assistant. March 2013.

Valencia, March 2025