

# PhD. César A. Guerra García

## Personal Information

cguerra74@gmail.com

## PROFILE

Expert in different areas: Software Engineering, Project Management, Agile Methodologies, Data and Information Quality, Software Architectures, Software Requirements Specification and Modeling of systems (UML, BPMN), Research methodology.

Green Belt and Project Manager.

Member of Mexican Association of Computation - AMEXCOMP, sponsored by Conacyt.

Member of the Mexican Network of Software Engineering (REDMIS).

## SKILLS

An organized person, leadership, proactive, easy of speech, team work, results oriented, with attitude to learn and face new challenges.

## EDUCATION

### *PhD. in Computer Science*

University of Castilla-La Mancha, Spain

December 2011

### *Master in Computer Science*

Center for Scientific Research and Higher Education at Ensenada (CICESE), México

October 2000

### *Bachelor Degree, Computer Systems Engineering*

Technologic Institute of San Luis Potosí, S.L.P., México

July 1996

## PROFESSIONAL EXPERIENCE

### *Coordinator of Information Technology Engineering*

March 2017 - July 2017

### **Tangamanga University.**

Main activities: Planning of courses to be imparted in the semester, analysis of the knowledge and experience of teachers for the assignment of courses, planning of the necessary resources (budget, people, etc...). Link with companies and organizations (public and private) in order to get agreements. Solve any problems that arise with students (around 800).

### *Consultant and Project Manager in the Technology Innovation Department*

Dec 2013 - September 2015

### **Municipal Government of San Luis Potosí, México.**

Main activities: Responsible for a team of 20-25 people participating in some innovation projects within the department. Project Planning and analysis of the necessary resources to carry out each of activities involved on each project (people, time, budget, risks, deliverables, etc...). Analysis of requirements of each project and interviews with stakeholders. Implementation of different development methodologies (waterfall, prototyping), and mainly Agile methodologies like Scrum. Migration of some databases, implementation of a middleware architecture and some developments of web applications and web services (SOA).

*Team Leader and developer of Information Systems* May 2003 - May 2004  
**Softtek**, Aguascalientes, México.

In charge of different software development teams with around of 8 people. Selecting of people to work in the projects. Analysis and presentation of SOW (Statements of Work) to clients. Planning of the necessary resources to carry out the different projects (people, time, money, risks, deliverables,...). Analysis of requirements of some projects. Implementation of different software development methodologies according to distinct characteristic and constraints of the projects.

*Developer of Systems and Team Leader* December 2000 - July 2002  
**IBM Global Services**, Guadalajara, México.

Being in charge mainly in testing projects related to sales point. Planning of this kind of projects (time, resources, hardware and software necessary, etc...). Leader of teams normally formed by 10 people. Designing and executing the set of testing cases of each application, documenting the results, and later on, track the bugs and their fix. By other hand, developer of different functions about the sales point (using C++ language).

## **TEACHING EXPERIENCE**

*Full Time Professor* Autonomous University of San Luis Potosí, U.A.S.L.P., México January 2018 - Today

- Courses taught in Computing Systems Engineering and Intelligent Systems Engineering.
- Courses taught into Master and Doctorate in Computer.

*Associate Professor* Autonomous University of San Luis Potosí, U.A.S.L.P., México January 2017 - December 2017

- Courses taught in Computational Engineering.

*Lecturer* Center of Advanced Technology, CIATEQ, S.L.P., México July 2017 - August 2017

- Course taught in Master in Project Management of Engineering: Technology Management I.

*Lecturer* University Interamerican for the Development, S.L.P., México March 2017 - April 2017

- Course taught into Master in Information Technology.

*Associate Professor* Polytechnic University of San Luis Potosí, S.L.P., México June 2004 - Dec 2016

- Full time professor in Information Technology and Telematic area.

*Lecturer* Center of Advanced Technology, CIATEQ, S.L.P., México July 2016 - August 2016

- Course taught in Master in Project Management of Engineering: Technology Management I.

*Lecturer* University Tangamanga, S.L.P., México March 2013 - April 2013

- Courses taught into Master in Industrial Management: Technologies Information.

*Lecturer* University Interamerican for the Development, S.L.P., México September 2007 - August 2008

- Courses taught into Master in Information Technology: Informatic Technology, Learning Theories, Database Design, Technical Documentation.

*Lecturer*

University of Valle de México, S.L.P., México September 2007 - October 2007  
• Courses taught into Master in Management in Information Technology: Quality of the Technologies Information.

*Lecturer*

University Interamerican for the Development, S.L.P., México January 2007 - May 2007  
• Courses taught into Master in Information Technology: Information Systems.

*Associate Professor* August 2002 - May 2003  
Polytechnic University of San Luis Potosí, S.L.P., México  
• Full time professor in Information Technology and Telematic area.

*Lecturer*

University of Guadalajara, Guadalajara, México February 2001 - July 2001  
• Course taught: Analysis and design of algorithms.

*Lecturer*

University Autonomous of Baja California, Ensenada, México January 2000 - June 2000  
• Course taught: Informatic Center Management.

## COURSES

- Big Data, ICT-Seoul, South Korea.
- Elaboration of questions, by CENEVAL.
- **Project Management Profesional**, Workshop.
- **Implementing Agile Methodologies**.
- Research Projects Formulation, COPOCYT.
- **Six Sigma**.

## RESEARCH STAY

*Invited Researcher*

University of Arkansas at Little Rock. July 2019  
Little Rock, USA.

*Invited Researcher*

Universidad Autónoma de Yucatán. June 2014  
Mérida, México.

*Invited Researcher*

University of Castilla La-Mancha. May - June 2013  
Alarcos Research Group. España.

*Invited Researcher*

University of Castilla La-Mancha. December 2012  
Alarcos Research Group. España.

*Invited Researcher*

Doctoral stay in "Institut de recherche pour le développement".  
Advised by Prof. Laure Berti-Equille. Montpellier, France.

March 2011 - June 2011

**RESEARCH AREAS**

Software Engineering, Data and Information Quality, Requirements Engineering, Web Engineering, Data Mining, Model Driven Web Engineering, Software Oriented Architecture (SOA).

**PUBLICATIONS**

- *"A proposal methodological to assure quality using data profiling techniques"*. International Workshop on ADVANCES in ICT Infrastructures and Services, ADVANCE 2020. ISBN: 978-2-9561128-3-9. Cancún, México.
- *"Criptoanálisis y mejora a sistema de cifrado hipercaótico para imágenes"*. 2da. Reunión de Ciberseguridad para la industria 4.0. Año 2019. Puebla, México.
- *"La satisfacción de los graduados con su formación, una aproximación. El caso de la CARAO"*, Capítulo de Libro "Innovación y gestión de las organizaciones: estrategias y perspectivas", ISBN: 978-607-8624-47-8. Ed. Plaza y Valdés. Año 2019.
- *"Towards a Set of Factors to Identify the Success in Scrum Project Delivery: A Systematic Literature Review"*. 7th. International Conference on Software Engineering Research and Innovation, CONISOFT 2019. IEEE. México.
- *"Exploring Software Design Skills of Students in Different Stages of Their Curriculum"*. 7th. International Conference on Software Engineering Research and Innovation, CONISOFT 2019. IEEE. México.
- *"Aprendizaje invertido, un análisis de experiencias"*. Coloquio Institucional ECOS Experiencias Docentes, ECOS 2019. Póster.
- *"Calidad de datos en objetos de aprendizaje"*. 2do. Congreso Nacional de Circuitos y Sistemas, CONCYS 2019. Póster.
- *"Detección de agujeros en el espectro radioeléctrico para redes inalámbricas cognitivas"*, Capítulo de Libro "Avances en Circuitos y Sistemas, Vol. I". ISBN: 978-607-535-119-3. Año 2019.
- *"Especificación de requerimientos de calidad de datos a través del enfoque i\**". 2do. Congreso Nacional de Circuitos y Sistemas, CONCYS 2019. Póster.
- *"Una primera experiencia al modelo de aprendizaje invertido"*. Primer Coloquio Institucional ECOS Experiencias Docentes, ECOS 2018. Póster.
- *"Reference Model for the Integration of Business Modeling to Requirements Engineering: A Proposal from the Software Industry"*. INGENIARE. Revista Chilena de Ingeniería. Vol. 26, No. 4. Año 2018. ISSN: 0718-3305.
- *"Estructura de una Aplicación Móvil para un Repositorio Digital del Patrimonio Arquitectónico de Yucatán"*, Revista: Abstraction and Application. Vol. 20. Año: 2018. ISSN: 2007-2635.
- *"Mejora de procesos de software considerando artefactos con calidad"*, Capítulo de Libro "Ciencia y Tecnología desde el Valle del Salado", ISBN: 978-607-535-071-4. Año 2018.
- *"What is Programming? Putting all together - A set of skills required"*. 6th. International Conference on Software Engineering Research and Innovation, CONISOFT 2018. IEEE. San Luis Potosí, México.

- "Towards Assessing Attitudes and Values in the Practice of Software Engineering: The Competency-Based Learning Approach". 5th. International Conference on Software Engineering Research and Innovation, CONISOFT 2017. IEEE. Yucatán, México.
- "Hacia un sistema bibliotecario fácil de utilizar y efectivo mediante la socialización del conocimiento", 5th. International Conference on Software Engineering Research and Innovation, CONISOFT 2017. IEEE. Yucatán, México.
- "QUACOP: An approach to Increase the Quality of Artifacts considered in a Project Planning Process", **Chapter of Book** "Software Engineering: Methods, Modeling and Teaching. Vol. 4", ISBN: 978-958-8928-49-4. Año 2017.
- "Towards a Compilation of Problems in the Adoption of Agile-Scrum Methodologies: A Systematic Literature Review", **Chapter of Book** "Software Engineering: Methods, Modeling and Teaching. Vol. 4", ISBN: 978-958-8928-49-4. Año 2017.
- "A proposal to consider aspects of quality in the software development", Journal on Advances in Theoretical and Applied Informatics, JADI. ISSN: 2447-5033.
- "Adding quality in the user requirements specification: a first approach", 11th. International Conference on Digital Information Management, ICDIM 2016. IEEE. Porto, Portugal.
- "Un modelo para la gestión integral de objetos de aprendizaje", **Chapter of Book** "Competencias Digitales para la Innovación Educativa", ISBN: 978-607-525-153-0. Año 2016.
- "Problems in the adoption of agile methodologies: a systematic literature review", 4th. International Conference on Software Engineering Research and Innovation, CONISOFT 2016. IEEE. Puebla, México.
- "Improving the project planning process considering artifacts with quality", 4th. International Conference on Software Engineering Research and Innovation, CONISOFT 2016. IEEE. Puebla, México.
- "Selecting web functionalities versus data quality dimensions: a first approach", 5th. International Symposium on Data-driven Process Discovery and Analysis, SIMPDA 2015. Vienna, Austria. ISSN: 1613-0073.
- "Selecting Data Quality Requirements for each different Web Functionalities", International Conference of Information Quality, ICIQ 2014.
- "Introducing aspects of Data Quality into a Software Development Methodology", 7th. IADIS International Conference on Information Systems, IS 2014. Madrid, España.
- "Desarrollo de un plugin para modelar aplicaciones web con conciencia de calidad de datos", 6o. Congreso Internacional en Ciencias Computacionales, CiComp 2013. Ensenada, México.
- "Capturing Data Quality Requirements for Web Applications by means of DQ-WebRE", **Information Systems Frontiers Journal**. ISSN: 1387-3326. July 2013, Vol. 15.
- "CALYDAT: A Methodology for Evaluating the Data Quality Dimensions based on Data Profiling Techniques", in International Conference of Information Quality, ICIQ 2012.
- "Elicitation of Specific Requirements of Data Quality during the Web Portal Development", First International Workshop on Web Intelligence, WEBI 2012.
- "Gestión de Requisitos de Calidad de Datos en Aplicaciones Web: Un entorno de trabajo para el desarrollo de aplicaciones web", **Book**, Editorial Académica Española (EAE), 2012. ISBN: 978-3-8473-6813-7.
- "DAQ-UWE: A Framework for Designing Data Quality Aware Web Applications", in International Conference of Information Quality, ICIQ 2011. **"Stuart Madnick" Best Paper Award**, MIT.
- "Sentando las bases para definir un modelo de Calidad de Datos para los artefactos usados en el Proceso de Planificación de un Proyecto de Desarrollo de Software", in Second Ibero-American Workshop on Data Quality, IAwDQ 2011. Chaves, Portugal.
- "Capturing Data Quality Requirements for Web Applications by means of DQ-WebRE", 2nd. International Workshop on Business intelligencE and the WEB. BEWEB 2011. Uppsala, Sweden.

- "Entorno de Trabajo para la Gestión de Requisitos de Calidad de Datos en Aplicaciones Web", 1as. Jornadas Doctorales de Castilla-La Mancha. UCLM. 2011. ISBN: 978-84-693-9605-6.
- "Calidad de Datos en Aplicaciones Web, Conceptos y Enfoques", Revista Software Guru. Vol. 30. 2010. ISSN: 1870-0888.
- "A Survey on How to Manage Specific Data Quality Requirements during Information System Development", Evaluation of Novel Approaches to Software Engineering. Communications in Computer and Information Science, Springer. 2011.
- "Modelado de Requisitos de Calidad de Datos en Ingeniería Web", in XV Jornadas de Ingeniería del Software y Bases de Datos, JISBD 2010. 2010. Valencia, España.
- "A Systematic Literature Review of How to Introduce Data Quality Requirements into a Software Product Development", in 5th. International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE. 2010. Athens, Greece.
- "Managing Data Quality Requirements for Web Portals Development: an Example of Application", in First Ibero-American Workshop on Data Quality, IAwDQ 2010. 2010. Santiago de Compostela, España.
- "Introducing Data Quality Requirements into the Web Portal Development Process", in **Research in Computing Science Journal**. Advances in Computer Science and Applications., 2009. Vol. 43: p. 81-95.
- "DQ-VORD: A Methodology for Managing and Integrating Data Quality Requirements into Software Requirement Specification", in IADIS International Conference WWW/INTERNET 2009. 2009. Rome, Italy.
- "Inserción de Requerimientos de Calidad de Datos en el Proceso de Desarrollo de Portales Web", in Simposio de Ingeniería de Software (SIS '09). 2009. D.F., México.
- "Modelado de Requisitos de Calidad de Datos en el Proceso de Desarrollo de Portales Web", in VI Taller sobre Desarrollo de Software Dirigido por Modelos (DSDM'09) 2009. San Sebastián, España.
- "Developing Data Quality Aware Applications", in 1st. International Workshop on Data Quality for Software Engineering (DQ4SE 2009). 2009. Jeju, Korea.
- "Descripción de las principales técnicas de Educación de Requisitos, como parte fundamental dentro de la Ingeniería de Requerimientos", in Congreso Internacional de Centroamérica y Panamá, CONCAPAN XXVII. 2007. Panamá.
- "Obtención de Requerimientos. Técnicas y Estrategias", in Revista Software Guru. Vol. 17. 2007. ISSN: 1870-0888.
- "Descripción y Selección de las principales técnicas de Educación de Requerimientos", in 2o. Congreso Internacional de Ciencias Computacionales, CiComp'07. 2007. ISBN: 978-970-735-089-5.

## R+D PROJECTS

- Main Researcher in "Definition of a framework to the management of data quality requirements into applications development" project, supported by PRODEP, Federal Government. From 2018 to 2019.
- Researcher in project SCT-GESLP. "Sistema de gestión informático basado en reingeniería de procesos para la SCT-GESLP". Proyecto apoyado por la Convocatoria SLP-2016-03, del Fondo Mixto de Fomento a la Investigación Científica y Tecnológica CONACYT-Gobierno del Estado de San Luis Potosí.
- Main Researcher in "Development of a prototype to get human signals as heart rate, blood pressure and temperature" project, supported by PROMEP, Federal Government.
- Researcher in "DQNet" project, supported by the Spanish Ministerio de Educación y Ciencia.
- Research fellow in "IQMNet" project, supported by the Spanish Ministerio de Educación y Ciencia.

- Research fellow in "PEGASO-MAGO" project, supported by the Spanish Ministerio de Educación y Ciencia.
- Research fellow in "ARMONIAS" project, supported by the Consejería de Educación y Ciencia of Junta de Comunidades de Castilla-La Mancha.

### **IMPARTED SEMINARIES AND COURSES**

- "Requirements specification with quality", University Autonomous of Yucatán, México.
- "Software Engineering, yesterday and now", University Autonomous of Yucatán, México.
- "Workshop of Requirements Engineering", Municipal Government of SLP., México.
- "Concepts and Principles about Data Quality", University of Castilla-La Mancha, Spain.
- "Impact of the Information Technologies in organizations", University Tangamanga, México.
- "Software Project Management", University Autonomous of Baja California, México.
- "Collaborative Computing: State of Art", University Autonomous of Baja California, México.

### **MEMBER OF PROGRAM COMMITTEE**

- 7th. International Conference on Software Engineering Research and Innovation, CONISOFT 2019.
- 6th. International Conference on Software Engineering Research and Innovation, CONISOFT 2018.
- 5th. International Conference on Software Engineering Research and Innovation, CONISOFT 2017.
- 4th. International Conference on Software Engineering Research and Innovation, CONISOFT 2016.
- Third International Conference on Software Engineering Research and Innovation, CONISOFT 2015.
- 27th. International Symposium on Computer-Based Medical Systems, CBMS 2014.
- 26th. International Symposium on Computer-Based Medical Systems, CBMS 2013.
- Conference IADIS Ibero Americana WWW/INTERNET, 2012.
- International Workshop on Data Quality Management and Semantic Technologies, 2012.
- Congreso Internacional de Investigación e Innovación en Ingeniería de Software, CONISOFT 2012.
- Reviser del Journal "Ingeniare. Revista chilena de Ingeniería".
- Third Ibero-American Workshop on Data Quality, 2012.
- Second Ibero-American Workshop on Data Quality. IAwDQ, 2011.
- Urban and Pervasive Games: Workshop at UCAMI, 2011.
- 1st. International Workshop on Data Quality for Software Engineering. DQ4SE, 2009.

### **SCHOLARSHIPS**

- Scholarship granted to study Ph. D. in Computer Science, conceded by PROMEP, Government of México.
- Scholarship granted to study Master degree in Computer Science, conceded by CONACYT, Government of México.