



GRUPO ALARCOS

Escuela Superior de Informática
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University of Castilla-La Mancha



Provinces of Albacete, Ciudad Real, Cuenca y Toledo (6 campuses)

70000 km², 1600000 inhabitants, 33000 students, 1600 teachers



University of Castilla-La Mancha

Experimental and Health Sciences

Degrees

Environmental Sciences

Food Science and Technology

Medicine

Chemistry

Diplomas

Chemistry

Nursing

Physiotherapy

Speech Therapy

Occupational Therapy



University of Castilla-La Mancha

Humanities

Degrees

Fine Arts

French Philology

English Philology

Spanish Philology

Geography

History

History of Art



University of Castilla-La Mancha

Technical Teaching

Higher Engineering

Agronomy Engineering

Civil Engineering

Industrial Engineering

Computer Engineering

Chemical Engineering



University of Castilla-La Mancha

Technical Engineering and Architectures

Technical Architect

Agricultural Technical Engineering

Forestry Technical Engineering - Forest Cultivations

Industrial Technical Engineering: Mechanics

Industrial Technical Engineering: Industrial Chemistry

Industrial Technical Engineering: Electricity

Technical Engineering in Management Computing

Technical Engineering in Computer Systems

Mining Technical Engineering

Telecommunication Technical Engineering



University of Castilla-La Mancha

Social and Juridical Sciences

Degrees

Business Management and Administration

Sciences of Physical Activity and Sport

Law

Economics

Psychopedagogy

Diplomas

Business Sciences

Social Education

Public Management and Administration

Teacher of Speech and Language

Teacher of Sepecial Needs Education

Teacher of Physical Education

Infant School Teacher

Primary School Teacher

Teacher of Foreign Languages

Music Teaching

Labour Relations

Social Work



Escuela Superior de Informática

www.inf-cr.uclm.es



in Ciudad Real (50 minutes from Madrid in AVE)

1200 students, 60 professors

3 degrees (ITIS, ITIG, ISI) + 1 Ph.D. Programme



Members

- *Professors Computer Science Dept.:*

Mario Piattini (TU)

Francisco Ruiz (TEU)

Coral Calero (As. TC)

Eduardo Fdez-Medina (As. TC)

Manuel Serrano (As. TC)

Antonio Martínez (As. TP)

Macario Polo (As. TC)

Marcela Genero (As. TC)

Aurora Vizcaíno (As. TC)

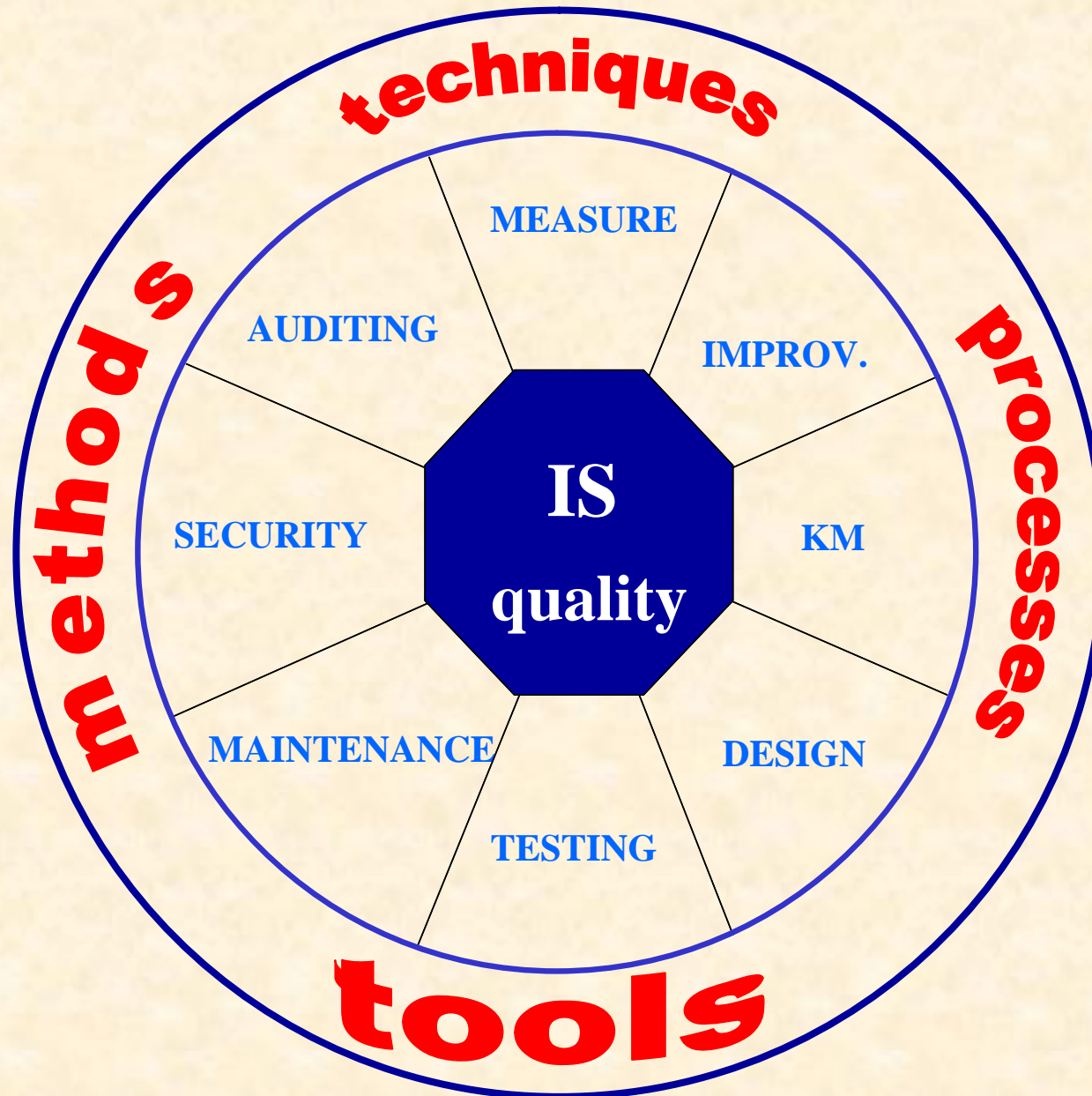
Félix García (As. TC)

Ismael Caballero (As. TP)

- *Research grantee:* David Miranda (Becario FPI)
- *Ph.D. Students:* Javier Garzás, Mar Jiménez, Luis Márquez, Marina Touriño
- *SouthAmerican Ph.D. Students (RITOS 2)*
 - Alejandra Cechich. Universidad Nacional del Comahue (Argentina).
 - Angélica Urrutia. Universidad Católica de Maule (Chile).
- *Master Students*



Research areas





R&D projects

- I TAMANSI: Técnicas avanzadas para el mantenimiento de SI (2002-2005)
- I CALDEA: Calidad de almacenes de datos (2001-2003)
- MEDEO: Mejora en el desarrollo de objetos (2001- 2003)
- MANTIS: Entorno para el mantenimiento integral del software (2000-2001).
- CALIDAT: Metodología para la mejora de la calidad de datos (1999-2001).
- MÁNTICA: Definición de un conjunto de métricas para la mantenibilidad
- de bases de datos objeto-relacional (1999-2001).
- MPM: Mejora del proceso de mantenimiento (1998-2000).
- MANTEMA: Una metodología para el mantenimiento del sw. (1997-1999).



Ph.D.Thesis

- Dr. Macario Polo. “MANTEMA: Una metodología para el mantenimiento del software”
- Dra. Coral Calero. “Definición de un conjunto de métricas para la mantenibilidad de bases de datos relacionales, activas y objeto-relacionales”
- Dr. Antonio Martínez. “Medidas para asegurar la mantenibilidad de entornos de cuarta generación”
- Dr. José María Caverro. “MIDEA: Una metodología para el desarrollo de almacenes de datos” (codirección con Dra. Esperanza Marcos)
- Dr. Antonio Rodero. “Objetivos de control y requisitos para la auditoría y seguridad de los almacenes de datos” (codirección con Dr. Ambrosio Toval)
- Dra. Marcela Genero. “Defining and validating metrics for conceptual models”
- Eduardo Fernández-Medina. “Una metodología para el diseño de bases de datos seguras”
- Francisco Ruiz. “MANTIS: Definición de un entorno para el mantenimiento integral del software”



Ph.D.Thesis

- | Angélica Urrutia. “Extensión difusa para el modelado conceptual”
(codirección con Dr. José Galindo)
- | Alejandra Cechich. “Calidad de componentes software”
- Manuel Ángel Serrano. “Propuesta de un entorno metrológico para almacenes de datos”
- Ismael Caballero. “Técnicas de aseguramiento y medición de la calidad de datos”
- Javier Garzás. “Patrones, refactorización y principios de desarrollo OO”
- Félix Óscar García. “Medidas para asegurar la calidad de procesos software”
- David Miranda. “Métricas para modelos conceptuales dinámicos orientados a objetos”
- Mar Jiménez. “Pruebas para entornos avanzados de software”
- Luis Márquez. “Técnicas de auditoría para CRM”



Conferences

I Jornadas de Auditoria Informática (JAI´1998)

VI Jornadas de Ingeniería del Software y Bases de Datos (JISBD´2001)

II Jornadas de Bibliotecas Digitales (JBIDI´2001)

I Jornada sobre Sistemas de Información Geográfica (JSIG´2001)

I Jornadas sobre Programación y Lenguajes (PROLE´2001)

IV International Conference on Enterprise Information Systems (ICEIS´2002)



Workshops

- | 1st Workshop on Security in Information Systems, Ciudad Real, 2 de abril 2002, ICEIS'2002
- | 6th Workshop on Quantitative Approaches in Object-Oriented Software Engineering, Málaga, 11 de Junio 2002, ECOOP'2002
- | 1st International Workshop on Database Maintenance and Reengineering, Montreal, 1 de Octubre 2002, ICSM'2002
- | 1st International Workshop on Conceptual Modeling Quality, Tampere, 11 de Octubre 2002, ER'2002



Publications

Books:

- *Advanced Databases: Technology and Design*. Artech House, United Kingdom, 2000. ISBN 0-89006-395-8, 550 pg.
- *Information and Database Quality*. Kluwer Academic Publishers, USA, 2002. ISBN 0-7923-7599-8, 228 pg.
- *Information System Maintenance*. Idea Group Pub. USA, 2002.



Publications

Book Chapters:

- “OODBMS vs Relational and Extended Relational DBMSs”. *Handbook of Object Technology*. Zamir, S. (ed.), 1999, CRC Press LLC. Boca Ratón, Florida, EEUU.
- “Metrics for managing quality information modelling”. *Information Modeling in the New Millennium*. Siau, K. y Rossi, M. (eds.), 2001, Idea Group Publishing, EEUU, 324-344.
- “Metrics for controlling database complexity”. *Developing Quality Complex Database Systems: Practices, Techniques and Technologies*. Becker, S. (ed.), 2001, Idea Group Publishing, EEUU, 48-68.



Publications

Journals of the JCR:

- "Promoting business policies in object-oriented method". Díaz, O., Iturrioz, J., Piattini, M. **The Journal of Systems and Software**. 41, 1998, 105-115.
- "About Abstract Classes". Marcos, E., De Miguel, A., Piattini, M. **JOOP (The Journal of Object-Oriented Programming)**. 10 (8), 1998, 53-59.
- "Mantool: a tool for supporting the software maintenance process". Polo, M., Piattini, M., Ruiz, F. **Journal of Software Maintenance and Evolution: Research and Practice**. 13 (2), 2001, 77-95.
- "Measuring triggering-interaction complexity on active databases". Díaz, O., Piattini, M., Calero, C. **Information Systems Journal**. 26 (1), 2001, 15-34.
- "Table oriented metrics for relational databases". Piattini, M., Calero, C., Genero, M. **Software Quality Journal**. 9, 2001, 79-97.



Publications

Journals of the JCR:

- “Empirical validation of referential integrity metrics”. Calero, C., Piattini, M., Genero, M. **Information Software and Technology**. 43 (15), 2001, 949-957.
- “A Metric-Based Approach For Predicting Conceptual Data Models Maintainability”. Genero M., Piattini M., Jiménez L. **Journal of Software Engineering and Knowledge Engineering**. 11 (6), 2002.
- “Using a Qualitative Research Method for Building a Software Maintenance Methodology”. Polo, M., Piattini, M., Ruiz, F. **Software Practice & Experience**, 2002.
- "Generating three-tier applications from relational databases: a formal and practical approach". Polo, M., Piattini, M., Ruiz, F. **Information Software and Technology**, 2002.



LNCS:

- “Measures for Database Programs Maintainability”. Piattini, M., Martínez, A. Lecture Notes in Computer Science 1873, 65-78. **“11th International Conference DEXA 2000”**
- “Measuring the Quality of Entity Relationship Diagrams for Database Programs Maintainability”. Genero, M., Jiménez, L., Piattini, M. Lecture Notes in Computer Science 1920, 513-526. **“19th Int. Conference on Conceptual Modeling (ER 2000)”**
- “Using metrics to predict OO information systems maintainability “. Genero, M., Olivas, J., Piattini, M., Romero, F. Lecture Notes in Computer Science LNCS 2068, 388-401. **“13th Int. Conf. Advanced Information Systems Engineering (CAiSE’01)”**
- “Estimating Object-Relational Database Understandability Using Structural Metrics”. Calero, C., Sahraoui, H., Piattini, M., Lounis, H. Lecture Notes in Computer Science LNCS 2113, 909-922. **“12th International Conference DEXA 2001”**



LNCS:

- “Evaluation of Maintenance Maturity in IT Departments of Public Entities: Two Case Studies”. Polo, M., Piattini, M., Ruiz, F, Jiménez, M. Lecture Notes in Computer Science 2188, 86-97. **“3rd International Conference on Product Focused Software Process Improvement (PROFES 2001)”**
- “Defining and Validating Measures for Conceptual Data Model Quality”. Genero, M., Poels, G. , Piattini, M. Lecture Notes in Computer Science 2348, 724-727. **“14th International Conference. Advanced Information Systems Engineering (CAiSE’02)”**.
- “An Empirical Study with Metrics for Object-Relational Databases”. Calero, C., Sahraoui, H., Piattini, M. Lecture Notes in Computer Science 2349, 298-309. **“7th European Conference on Software Quality (ECSQ 2002)”**
- “A Controlled Experiment for Validating Class Diagram Structural Complexity Metrics”. Genero, M., Jiménez, L. y Piattini, M. Lecture Notes in Computer Science. **“The 8th Int. Conference on Object-Oriented Information Systems (OOIS’2002)”**