Oscar Dieste

Experimental researcher

CONTACT

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EDUCATION

Ph.D. Computing
U. de Castilla-La Mancha
1998-2003

MS.C. Computing
U. de La Coruña
1990-1996

SOFT SKILLS

Analytical thinking, planning
● ● ● ● ● ●

Problem solving
● ● ● ● ● ●

Team working
● ● ● ● ● ●

Organization and prioritization
● ● ● ● ● ○

Communication abilities
● ● ● ● ○ ○

Team leadership
● ● ● ● ○ ○

RESUME OBJECTIVE

I spent 5 years in industry, but time ago. Now, I am a university professor with the Universidad Politécnica de Madrid. I am a member of **Natalia Juristo's research team** in experimental software engineering. Overall, I have **20 years of experience in teaching and research**. I have taught courses on programming, algorithms, software development, management processes, and testing.

Initially focused on Requirements Engineering, my interests switched to experimental and statistical methods since 2005. I have conducted simulations, **labs experiments and field studies in companies such as F-Secure, Ericsson and MAPFRE**.

I have served in numerous program committees, and chaired conferences such as PROFES and ESEM. I regularly review for journals such as TSE, EMSE, IST and RE.

PROFESSIONAL EXPERIENCE

Associate professor
U. Politécnica de Madrid / 2013 – Present

Researcher (Juan de la Cierva, Ramón y Cajal)
U. Politécnica de Madrid / 2006 – 2013

Fulbright Scholar
U. Colorado at Colorado Springs / 2005

Previous positions at: U. Complutense de Madrid (*2003-2004*), U. Alfonso X El Sabio (*1999-2002*), Cooperativa Farmacéutica Gallega (*1993-1997*)

RESEARCH AREAS

Experimentation & statistical analysis

Evidence-based practice & meta-analysis

Requirements Engineering

Software Testing

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RESEARCH
EXPERIENCE

EXPERIMENTATION & ANALYSIS

I work with **Natalia Juristo's** team at Madrid. I have conducted **~30 experiments in lab and field settings**, in diverse areas: elicitation techniques, problem understanding, developers' experience, test-driven development & model-driven engineering. **I have worked with several companies: F-Secure, Bittium, PlayTech, PAF, MAPFRE and Ericsson.**

I provide consulting to several research groups (to avoid pitfalls and achieve more efficient designs). **I teach experimental design** at the M.Sc. level. I also review experimental studies for top-class conferences, e.g., ESEM, EASE and journals, e.g., TSE, JEMSE.

Representative publications (other papers below report experiments too):

- In search of evidence for model-driven development claims; An e selection, DOI: 10.1016/j.infsof.2015.02.012
- Effect of domain knowledge on elicitation effectiveness: An internally replicated controlled experiment, DOI: 10.1109/TSE.2015.2494588

EBP & META-ANALYSIS

I have conducted foundational research on Evidence-Based Software Engineering, e.g., **search strategies and quality assessment**. I am currently working in the **combination of multiples sources of evidence**; this research has multiple uses, e.g., multi-vocal literature reviews.

I am particularly interested in the **maximization of power** when working with meta-analysis techniques. This is particularly relevant when combining small sample-size studies to make informed decisions.

I have **delivered courses in international events**, e.g., IASESE, and **supervised Ph.D. theses**. I also review papers for conferences and journals of repute such as IST and REJ.

Representative publications:

- Systematic review and aggregation of empirical studies on elicitation techniques, DOI: 10.1109/TSE.2010.33
- Developing search strategies for detecting relevant experiments for systematic reviews, DOI: 10.1109/ESEM.2007.19
- Quantitative determination of the relationship between internal validity and bias in experiments, DOI: 10.1109/ESEM.2011.37

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RESEARCH & TECHNICAL EXPERIENCE

REQUIREMENTS ENGINEERING

I worked as junior analyst at the Cooperativa Farmacéutica Gallega before my doctorate. My Ph.D. Thesis addressed early conceptualization in Requirements Engineering. I did my postdoc in USA funded by the Fulbright scholarship under the supervision of **Alan M. Davis**, a leading RE scholar. **I specialized in Requirements Elicitation, and the influence of human factors** in the Requirements process.

I teach Requirements courses at the M.Sc. level, and supervise Ph.D. Theses. I perform reviews for REJ frequently.

Representative publications:

- Effect of requirements analyst experience on elicitation effectiveness, *under review*
- Systematizing requirements elicitation technique selection, DOI: 10.1016/j.infsof.2014.01.009
- A conceptual model completely independent of the implementation paradigm, DOI: 10.1016/S0164-1212(03)00061-X

SOFTWARE TESTING

In the past seven years, I participated in the FiDiPRo ESEIL project, aimed at **applying experiments in industry to support decision making** within and between companies. The topic area was test-driven development. The team conducted 10+ experiments; I leaded 60% of them.

The experience gained went beyond test-driven development. I acquired experience in general software testing, **with an emphasis automatization: xUnit, mocking, Selenium, as well as other related technologies such as ATDD, contracts, program verification, etc.** I am currently teaching these concepts in a M.Sc. level course.

Representative publications:

- An industry experiment on the effects of test-driven development on external quality and productivity, DOI: 10.1007/s10664-016-9490-0
- Towards an operationalization of test-driven development skills: An industrial empirical study, DOI: 10.1016/j.infsof.2015.08.004
- The role of slicing in test-driven development, under review

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MYSELF

I was born in Boiro (A Coruña) in 1972. I moved to Madrid in 1998, where I have lived since except for three breaks: the postdoc at UCCS in 2005, (2) a visit to Fraunhofer in 2008, and (3) another visit to the University of Oulu in 2013.

I have two strengths: resilience and flexibility; I quickly adapt to new environments. I enjoy working at different abstraction levels, e.g., middleman between developers and scientists.

I am fluent in English (~A1, although I never certified). I am married, father of 2 teenagers, and adoptive of one cat. We all love traveling.

TECHNICAL SKILLS

Software Engineering:

- Structured, object-oriented and agile methodologies.

Programming & Systems:

- C, Java, php
- Continuous integration, e.g., Jenkins and testing, e.g., jUnit, Mockito, gTest, gMock, BootTest, Selenium.
- Management systems, e.g., Jira/Bitbucket, GitHub, requirements tools, e.g., RequisitePro, DOORS and QA tools, e.g., Quality Manager

Statistics:

- Linear and mixed modeling, non-parametric tests, categorial data analysis, multilevel models.
- Dimension reduction, e.g., exploratory factor analysis.
- Diagnostics, e.j., AIC.
- ARIMA time series.
- Meta-analysis.
- Neural networks (*now learning Python & TensorFlow*)

Statistical tools:

- SPSS, R, Statgraphics

COMMUNITY RECOGNITION

I an associated editor of the Int'l Journal of SE & KE. I have been PC chair of the conferences: ESELAW, PROFES, REFSQ-RMT & EMSE. I have delivered invited lectures in conferences and doctoral programs.