



# CibSE 2022

XXV Ibero-American Conference on Software Engineering  
Córdoba, Argentine Republic - June 13 to June 17, 2022

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# Preface

On behalf of the CibSE 2022 Organizing Committee, we are proud to present the proceedings of the 25th Iberoamerican Conference on Software Engineering (CibSE 2022). The conference was held virtually from Córdoba, Argentina. The hosting institution was the Universidad Tecnológica Nacional. Despite the social distancing, the conference joined the Software Engineering community together in a high-quality event.

CibSE is the leading research forum on Software Engineering in Ibero-America. Its primary objective is to promote high-quality scientific research in Ibero-American countries and, thus, support the researchers in this community in publishing and discussing their work. In addition, the conference fosters collaboration and cross-fertilization among academics, students, and practitioners from industry. CibSE has distinct characteristics as it welcomes contributions in three languages: Portuguese, Spanish or English.

In this edition of the conference, the three traditional tracks (Software Engineering, Requirements Engineering, and Empirical Software Engineering) were merged into a single main conference. Sixty-two papers were submitted. Each submission was reviewed by at least three members of the Program Committee, formed by leading experts. After a careful peer-review process, 24 papers were finally selected (38,7% acceptance rate). Five distinguished papers were invited to submit an extended version to the Science of Computer Programming journal, and the best paper received an award certificate. In addition to the 24 original papers, six papers were accepted in the Journal First category, offering an opportunity for the authors to discuss their work with the community as well as to enrich the CibSE technical program.

CibSE 2022 hosted the Doctoral Symposium, which aims at bringing together doctoral students working on foundations, techniques, tools, and applications of Software Engineering and giving them the opportunity to present and discuss their research in a constructive and international atmosphere where a board of experts discuss with the students to suggest new perspectives and improvements to the PhD theses. Ten ongoing doctorate research projects were presented. Moreover, prof. Marcos Kalinowski (Pontifical Catholic University of Rio de Janeiro, Brazil) presented the keynote “Survey Research Methods in Software Engineering”.

CibSE 2022 also hosted the 5th edition of the Ibero-American School on Software Engineering (ElbAIS). ElbAIS aims at promoting a forum for discussions regarding Software Engineering, its related technologies and theoretical foundations, allowing the participation of practitioners, undergraduate and graduate students, and researchers.

This year, EIBAIS presented five tutorials, discussing general and specific topics of Software Engineering: Specification and Design of Vibrotactile Haptic Feedback (Andrés Rodríguez, Universidad Nacional de La Plata), Developing IoT Devices: Challenges for the Software Engineer (Federico Balaguer, Stream S.A.), A Look into Programmers' Heads: Measuring Program Comprehension with Neuro-Imaging and Eye Tracking (Janet Siegmund, Chemnitz University of Technology), The Use of Natural Language in Requirements Engineering (Leandro Antonelli, Universidad Nacional of La Plata), and Software Engineering in the DevOps Era (Nicolas Paez, Universidad de Buenos Aires).

CIBSE 2022 included the Industry Talks, which aims at providing the industry and practitioners means to discuss and work together in exploring how Software Engineer processes, methods, techniques, and tools can provide the industry with better solutions. Four experts from the industry shared their experience with the CIBSE audience.

The conference had two renowned keynote speakers. Coral Calero (University of Castilla La Mancha, Spain) discussed sustainability in software development and our responsibility for it. Tayana Conte (Federal University of Amazonas, Brazil) approached the importance of user experience and what software engineers can do to provide good user experience in the software they develop.

Finally, CIBSE 2022 counted with the CIBSE 25 years Panel to celebrate the 25<sup>th</sup> anniversary of the conference. Several researchers that have influenced CIBSE and have been influenced by it discussed the conference past, present and future. CIBSE has been of paramount importance for the research in Software Engineering in Ibero-America and there is a promising and fruitful road ahead.

CIBSE 2022 was possible only because many people collaborated. Hence, we would like to thank all who contributed to this event. The quality of the technical program is a result of the dedication of the members of the Program Committee together with the additional reviewers. We would also like to thank all members of the organizing committee, authors, keynotes, panelists, instructors, session chairs and all the participants for their collaboration in making CIBSE 2022 a success. We express our gratitude to the CIBSE Steering Committee for their great support, particularly to Marcela Genero and Renata Guizzardi. Finally, we are thankful for the opportunity of serving as chairs for this conference.

Monalessa Barcellos and Jose Luis de la Vara  
CIBSE 2022 PC Chairs

# Main Conference

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# Doctoral Symposium

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Luis Olsina (UNLPam, Argentina)

Gleison Santos (Federal University of the State of Rio de Janeiro, Brazil)

Vitor Souza (Federal University of Espírito Santo, Brazil)

Diego Vallespir (Universidad de la República, Uruguay)

# Table of Contents

## Main Conference

### **A Literature Study to Characterize Continuous Experimentation in Software Engineering**

*Vladimir Erthal (UFRJ), Bruno Souza (UFRJ), Paulo Sérgio Santos (UNIRIO) and Guilherme Travassos (UFRJ)*

### **A Metrics-based Approach for Assessing Architecture-Implementation Mappings**

*J. Andres Diaz-Pace (UNICEN), Rodrigo Cian Berrios (UNICEN), Antonela Tommasel CONICET-UNCPBA and Hernan C. Vazquez (UNICEN)*

### **A Survey on the Differences of Using User Story and Tasks in the ASD Effort Estimation in Brazil**

*Diego De Morais (USP), Fabio L. Siqueira (USP) and Jorge R. Almeida Jr. (USP)*

### **Advances in a DSL to Specify Smart Contracts for Application Integration Processes**

*Eldair F. Dornelles (UNIJUI), Fernando Parahyba (UNIJUI), Rafael Z. Frantz (UNIJUI), Fabricia Roos-Frantz (UNIJUI), Antonia M. Reina Quintero (University of Seville), Carlos Molina-Jiménez (University of Cambridge), José Bocanegra (Universidad de los Andes) and Sandro Sawicki (UNIJUI)*

### **An experiment on how graduating students represent software designs**

*Silvana Moreno (Universidad de la República), Diego Vallespir (Universidad de la República) and Martin Solari (Universidad ORT Uruguay)*

### **An Overview of Software Architecture Education**

*Brauner Roberto do Nascimento Oliveira (USP), Lina Garcés (UNIFEI), Kamila Takayama Lyra (USP), Daniel Soares Santos (USP), Seiji Isotani (USP) and Elisa Yumi Nakagawa (USP)*

### **Automatic identification of web API change types in consumer applications**

*Graciela Vidal (Universidad Nacional de la Patagonia Austral), Sandra Casas (Universidad Nacional de la Patagonia Austral) and Franco Herrera (Universidad Nacional de la Patagonia Austral)*

### **Autonomy and turnover in Distributed Software Development projects: a systematic literature review**

*Amanda Maria Chaves (UFPE), Luís Amorim (UFRPE), Marcelo Marinho (UFRPE), Ivaldir Farias Junior (UPE) and Hermano Perrelli de Moura (UFPE)*

### **Centrarse en las personas para facilitar abordajes de Diseño Participativo**

*Cynthia Lorena Corso (CIDS/UTN/FRC/UNLP) and Cecilia Challiol (LIFIA/UNLP/CONICET)*



### **Detección automática de problemas de accesibilidad a partir de eventos de interacción de usuario**

*Maximiliano Toledo (Facultad de Informatica-UNLP), Alejandra Garrido (Facultad de Informatica-UNLP) and Julián Grigera (Facultad de Informatica-UNLP)*

### **Experimento para evaluar el uso de patrones de negocio para facilitar la comprensión del modelo conceptual de un sistema de gobierno electrónico**

*Oscar Medina (Facultad Regional Córdoba), Marcela Genero (Universidad de Castilla-La Mancha), Marcelo Marciszack (Facultad Regional Córdoba), Alicia Bratti (Facultad Regional Córdoba) and Ana Strub (Facultad Regional Córdoba)*

### **Extending the Sustainability-Quality Model for supporting the design of Persuasive Software Systems**

*Marcela Quispe-Cruz (Universidad Nacional de San Agustín de Arequipa) and Nelly Condori-Fernández (University of A Coruña)*

### **Investigating the Perception of Success in Software Projects Among Developers from a Brazilian Software Company**

*Cláudio Nascimento (CEFET/RJ) and Rafael de Mello (UFRJ)*

### **MethApp4Mob: A Methodological Approach for Mobile Applications Development**

*Iris Galeano (Universidad Católica Nuestra Señora de la Asunción), Mauricio Merín (Universidad Católica Nuestra Señora de la Asunción), Magali Gonzalez (Universidad Católica Nuestra Señora de la Asunción) and Luca Cernuzzi (Universidad Católica Nuestra Señora de la Asunción)*

### **On the Need to Use Smart Contracts in Enterprise Application Integration**

*Fernando Parahyba (UNIJUI), Eldair F. Dornelles (UNIJUI), Fabricia Roos-Frant (UNIJUI), Rafael Z. Frantz (UNIJUI), Carlos Molina-Jiménez (University of Cambridge), Antonia M. Reina Quintero (University of Seville), José Bocanegra (Universidad de los Andes) and Sandro Sawicki (UNIJUI)*

### **Outsourcing with distributed teams in large-scale environments**

*Rafael Camara (UFPE), Marcelo Marinho (UFRPE), Suzana Sampaio (UFRPE), Ivaldir Honório (UPE) and Hermano Moura (UFPE)*

### **Perceptions of knowledge management in Brazilian software development companies**

*Juliana Oliveira dos Santos (UTFPR), Guilherme Martins (UTFPR), Érica Ferreira de Souza (UTFPR), Katia Romero Felizardo (UTFPR) and Giovani Volnei Meinerz (UTFPR)*

### **Pivoting in software startups. Motivations, process, and evaluation**

*Karina Lanata (Universidad ORT Uruguay), Pablo Benítez (Universidad ORT Uruguay) and Gerardo Matturro (Universidad ORT Uruguay)*

### **Refactoring Assertion Roulette and Duplicate Assert test smells: a controlled experiment**

*Railana Santana (UFBA), Luana Martins (UFBA), Tássio Virgínio (IFTO), Larissa Soares (UFBA), Heitor Costa (UFLA) and Ivan Machado (UFBA)*

**Syntactic and Semantic Similarities and Discrepancies between Terms of Glossaries for Software Testing**

*Guido Tebes (UNLPam), Philip Lew (XBOSoft) and Luis Olsina (UNLPam)*

**Tool support to aligning requirements and testing through behaviour-driven requirements patterns**

*Pollyana Ribeiro (UFG), Ernesto Veiga (UFG), Mariana Martins (UFG), Auri Vincenzi (UFSCAR), Taciana Kudo (UFG) and Renato Bulcão-Neto (UFG)*

**Towards an ontology-based recommender system for agile practices adoption**

*María Luciana Roldán (INGAR/CONICET/UTN), Verónica Bollati (UTN F. Reg. Resistencia) and Silvio Gonnet (INGAR/CONICET/UTN)*

**Tratamento de Requisitos de Confiabilidade de Sistemas-de-Sistemas: Uma Revisão Sistemática da Literatura**

*Sidny de Almeida Molina (UFMS), Debora Maria Barroso Paiva (UFMS) and Maria Istela Cagnin (UFMS)*

**Understanding Refactoring Tasks over Time: A Study Using Refactoring Graphs**

*Aline Brito (UFMG), Andre Hora (UFMG) and Marco Tulio Valente (UFMG)*

# Table of Contents

## Doctoral Symposium

### **Blockchain Governance using Reference Architectures**

*Luis Esteban Florez (Universidad de los Andes)*

### **Definición de patrones a partir de Buenas Prácticas para el desarrollo de sistemas de Gobierno Electrónico**

*Oscar Medina (Universidad Tecnológica Nacional)*

### **Diseño e implementación de un entorno de desarrollo integrado para robótica educativa soportado por una máquina virtual para plataformas de computación física**

*Ricardo Moran (Universidad Abierta Interamericana)*

### **Evaluation and Improvement of Narrative Visualizations**

*Andrea Lezcano Airdi (National University of the Northeast)*

### **Framework socialmente consciente para criação de RPGs para contribuir com o processo de ensino e aprendizagem de Engenharia de Software**

*Flávia Haddad (Universidade Federal do Paraná e Universidade Tecnológica Federal do Paraná)*

### **How to Identify Programming Skills from Source Code?**

*Johnatan Oliveira (Federal University of Minas Gerais)*

### **Metodología Basada en Modelos en Tiempo de Ejecución para la Construcción y Operación de Sistemas Autoconscientes de Internet de las Cosas**

*Lenin Erazo-Garzón (Universidad del Azuay)*

### **Modelo para Amparar o Desenvolvimento de Protótipos de Sistemas IoT**

*Eduarda Almeida (Universidade Federal do Paraná e Universidade Tecnológica Federal do Paraná)*

### **On the Continuous Delivery in IoT Systems**

*Igor Pereira (Federal University of Ouro Preto)*

### **Open-Source Software Projects Curating Model for Empirical Software Engineering Studies**

*Juan Carruthers (National University of the Northeast)*