

# 25<sup>th</sup> IEEE International Conference on Program Comprehension

May 22 and 23, 2017 Buenos Aires - Argentina

<http://icpc2017.unibas.it>

## Technical Program

Monday, May 22

09:00 - 10:30

### ICPC 2017 Opening

Room: Auditorio 1 | Session Chairs: David Lo and Alexander Serebrenik

Keynote: The ABCs of Software Engineering: Affect, Biometrics, and Cognition

Andrew Begel, Microsoft Research

10:30 - 11:00 Coffee break

11:00 - 12:30

### Technical Research: Developer Observation

Room: Auditorio 1 | Session Chair: David Shepherd

Do Software Developers Understand Open Source Licenses?

*Daniel Almeida, Gail Murphy, Greg Wilson and Mike Hoye*

Software Engineers' Information Seeking Behavior in Change Impact Analysis – An Interview Study

*Markus Borg, Emil Alégroth and Per Runeson*

How Developers Document Pull Requests with External References

*Fiorella Zampetti, Luca Ponzanelli, Andrea Mocci, Gabriele Bavota, Massimiliano Di Penta and Michele Lanza*

Variability through the Eyes of the Programmer

*Jean Melo, Fabricio Batista Narcizo, Dan Witzner Hansen, Claus Brabrand and Andrzej Wasowski*

12:30 - 14:00 Lunch break

14:00 - 15:30

### Technical Research: Naming and Complexity

Room: Auditorio 1 | Session Chair: Andrew Begel

Meaningful Identifier Names: The Case of Single-Letter Variables

*Gal Beniamini, Sarah Gingichashvili, Alon Klein Orbach and Dror Feitelson*

Effects of Variable Names on Comprehension: An Empirical Study

*Eran Avidan and Dror Feitelson*

Syntax, Predicates, Idioms -- What Really Affects Code Complexity?

*Shulamyt Ajami, Yonatan Woodbridge and Dror Feitelson*

Exploiting Type Hints in Method Argument Names to Improve Lightweight Type Inference

*Nevena Milojković, Mohammad Ghafari and Oscar Nierstrasz*

15:30 - 16:00 Coffee break

16:00 - 17:30

### Technical Research: Smells and Clones

Room: Auditorio 1 | Session Chair: Mike Godfrey

Binary Code Clone Detection across Architectures and Compiling Configurations

*Yikun Hu, Yuanyuan Zhang, Juanru Li and Dawu Gu*

Identifying Code Clones having High Possibilities of Containing Bugs

*Manishankar Mondal, Chanchal K. Roy and Kevin Schneider*

Smells are sensitive to developers! On the efficiency of (un)guided customized detection

*Mario Hozano, Alessandro Garcia, Nuno Antunes, Balduino Fonseca and Evandro Costa*

On the Uniqueness of Code Redundancies

*Bin Lin, Luca Ponzanelli, Andrea Mocci, Gabriele Bavota and Michele Lanza*

17:30 - 22:30 Welcome Reception

09:00 - 10:30

Most Influential Paper

Room: Auditorio 1 | Session Chairs: David Lo and Alexander Serebrenik

10:30 - 11:00 Coffee break

11:00 - 12:30

Technical Research: Android and Security

Room: Auditorio 1 | Session Chair: Jacques Klein

RepDroid: An Automated Tool for Android Application Repackaging Detection  
*Shengtao Yue, Weizan Feng, Jun Ma, Yanyan Jiang, Xianping Tao, Chang Xu and Jian Lu*

Comprehension of Ads-supported and Paid Android Applications: Are They Different?

*Rubén Saborido Infantes, Foutse Khomh, Giuliano Antoniol and Yann-Gaël Guéhéneuc*

How Professional Hackers Understand Protected Code while Performing Attack Tasks

*Mariano Ceccato, Paolo Tonella, Aldo Basile, Bart Coppens, Bjorn De Sutter, Paolo Falcarin, and Marco Torchiano*

NetDroid: Summarizing Network Behavior of Android Apps for Network Code Maintenance

*Shaikh Mostafa, Rodney Rodriguez and Xiaoyin Wang*

Industry and Tool Demo<sup>†</sup>

Room: 126 | Session Chairs: Felienne Hermans and David Shepherd

Removing Code Clones from Industrial Systems Using Compiler Directives  
*Tomomi Hatano and Akihiko Matsuo*

Language-Independent Information Flow Tracking Engine for Program Comprehension Tools

*Mohammad Reza Azadmanesh, Michael Van De Vanter and Matthias Hauswirth*

The Code Time Machine<sup>†</sup>

*Emad Aghajani, Andrea Mocci, Gabriele Bavota, Michele Lanza*

Docio: Documenting API Input/Output Examples<sup>†</sup>

*Siyuan Jiang, Ameer Armaly, Collin McMillan, Qiyu Zhi, Ronald Metoyer*

MetricAttitude++: Enhancing Polymetric Views with Information Retrieval<sup>†</sup>

*Rita Francese, Michele Risi, Genoveffa Tortora*

FindSmells: Flexible Composition of Bad Smell Detection Strategies<sup>†</sup>

*Bruno Sousa, Priscila Souza, Eduardo Fernandes, Kecia Ferreira, Mariza Bigonha*

12:30 - 14:00 Lunch break

12:30 - 13:30 Informal Session for tool demos

Room: 126 | Session Chair: Csaba Nagy

14:00 - 15:30

Technical Research: Communities and Changes

Room: Auditorio 1 | Session Chair: Dror Feitelson

An Exploratory Study on the Relationship between Changes and Refactoring  
*Fabio Palomba, Andy Zaidman, Rocco Oliveto and Andrea De Lucia*

Developer-Related Factors in Change Prediction: An Empirical Assessment  
*Gemma Catolino, Fabio Palomba, Andrea De Lucia, Filomena Ferrucci and Andy Zaidman*

Analyzing User Comments on YouTube Coding Tutorial Videos

*Elizabeth Poché, Nishant Jha, Grant Williams, Jazmine Staten, Miles Visper and Anas Mahmoud*

A Comparison of Three Algorithms for Computing Truck Factors

*Mivian Ferreira, Kecia Ferreira and Marco Tulio Valente*

Early Research Achievement

Room: 126 | Session Chairs: Sonia Haiduc and Martin Pinzger

Comprehending Studies on Program Comprehension

*Ivonne Schroter, Jacob Kruger, Janet Siegmund and Thomas Leich*

It's Duck (Typing) Season!

*Nevena Milojkovic, Mohammad Ghafari and Oscar Nierstrasz*

Replicating Parser Behavior using Neural Machine Translation

*Carol V. Alexandru, Sebastiano Panichella and Harald C. Gall*

Towards Automatic Generation of Short Summaries of Commits

*Siyuan Jiang and Collin McMillan*

Android Repository Mining for Detecting Publicly Accessible Functions Missing Permission Checks

*Hoang H. Nguyen, Lingxiao Jiang and Tho Quan*

Studying the Prevalence of Exception Handling Anti-Patterns

*Guilherme Bicalho de Padua and Weiyi Shang*

On the Properties of Design-relevant Classes for Design Anomaly Assessment

*Liliane Nascimento Vale and Marcelo Maia*

15:30 - 16:00 Coffee break

16:00 - 17:30

Technical Research: Bugs

Room: Auditorio 1 | Session Chair: Lingxiao Jiang

Bug Localization with Combination of Deep Learning and Information Retrieval  
*An Lam, Anh Nguyen, Hoan Nguyen and Tien Nguyen*

Bug Report Enrichment with Application of Automated Fixer Recommendation  
*Tao Zhang, Jiachi Chen, He Jiang, Xiapu Luo and Xin Xia*

Automatically Detecting Integrity Violations In Database-Centric Applications  
*Boyang Li, Denys Poshyvanyk and Mark Grechanik*

How Does Execution Information Help with Information-Retrieval Based Bug Localization?

*Tung Dao, Lingming Zhang and Na Meng*

Technical Research: Variability and Comprehensibility

Room: 126 | Session Chair: Mika Mäntylä

Constructing Feature Model by Identifying Variability-aware Module  
*Yutian Tang and Hareton Leung*

An Empirical Study on Code Comprehension: Data Context Interaction compared to classical Object Oriented

*Héctor Adrián Valdecantos, Katy Tarrit, Mehdi Mirakhorli and James O. Coplien*

The Effect of Delocalized Plans on Spreadsheet Comprehension - A Controlled Experiment

*Bas Jansen and Felienne Hermans*

The Discipline of Preprocessor-Based Annotations Does #ifdef TAG n't #endif Matter

*Romero Malaquias, Márcio Ribeiro, Rodrigo Bonifácio, Eduardo Monteiro, Flávio Medeiros, Alessandro Garcia and Rohit Gheyi*

17:30 - 18:30

Open Steering Committee Meeting

Room: Auditorio 1

Social Event - Banquet at Querandí