



INFORMATICS RESEARCH EVALUATION

A large, abstract network diagram composed of numerous small circles (nodes) connected by thin lines (edges). The nodes are colored in shades of orange, yellow, and light blue, and are scattered across the lower half of the cover. The lines connecting them form a complex web of triangles and other polygons.

Floriana Esposito
Carlo Ghezzi
Manuel Hermenegildo
Helene Kirchner
Luke Ong

Informatics Research Evaluation

An Informatics Europe Report

Prepared by the *Research Evaluation Working Group* of Informatics Europe:

- **Floriana Esposito**, Università degli studi di Bari Aldo Moro, Italy
- **Carlo Ghezzi**, Politecnico di Milano, Italy
- **Manuel Hermenegildo**, IMDEA Software Institute and Universidad Politécnica de Madrid, Spain
- **Helene Kirchner**, Inria, France
- **Luke Ong**, University of Oxford, United Kingdom

Informatics Research Evaluation

March 2018

Published by:

Informatics Europe
Binzmühlestrasse 14/54
8050 Zurich, Switzerland
www.informatics-europe.org
administration@informatics-europe.org

© Informatics Europe, 2018

Other Informatics Europe Reports

- *Informatics for All: The strategy (2018, Michael E. Caspersen, Judith Gal-Ezer, Andrew McGettrick, Enrico Nardelli. Joint report with ACM Europe).*
- *When Computers Decide: Recommendations on Machine-Learned Automated Decision Making (2018, James Larus, Chris Hankin, Siri Granum Carson, Markus Christen, Silvia Crafa, Oliver Grau, Claude Kirchner, Bran Knowles, Andrew McGettrick, Damian Andrew Tamburri, Hannes Werthner Joint Report with ACM Europe).*
- *Informatics Education in Europe: Are We All In The Same Boat? (2017, The Committee on European Computing Education. Joint report with ACM Europe).*
- *Informatics Education in Europe: Institutions, Degrees, Students, Positions, Salaries. Key Data 2011-2016 (2017, Cristina Pereira, Svetlana Tikhonenko).*
- *Informatics in the Future: Proceedings of the 11th European Computer Science Summit (ECSS 2015), Vienna, October 2015 (2017, eds. Hannes Werthner and Frank van Harmelen, Springer Open).*
- *Informatics Education in Europe: Institutions, Degrees, Students, Positions, Salaries. Key Data 2010-2015 (2016, Cristina Pereira).*
- *Informatics Education in Europe: Institutions, Degrees, Students, Positions, Salaries. Key Data 2009-2014 (2015, Cristina Pereira).*
- *Informatics Education in Europe: Institutions, Degrees, Students, Positions, Salaries. Key Data 2008-2013 (2014, Cristina Pereira, Bertrand Meyer, Enrico Nardelli, Hannes Werthner).*

All these reports and others can be downloaded at:

www.informatics-europe.org

Executive Summary

Evaluation can be highly effective in improving research quality and productivity. To achieve the intended effects, research evaluation should follow established principles, benchmarked against appropriate criteria, and sensitive to disciplinary differences.

This report confirms the findings of the 2008 report on Research Evaluation for Computer Science, while incorporating recent developments.

1. Informatics is an original discipline combining mathematics, science, and engineering. Researcher evaluation must adapt to its specificity.
2. A distinctive feature of publication in Informatics is the importance of highly selective conferences. Journals have complementary advantages but do not necessarily carry more prestige. Publication models that couple conferences and journals, where the papers of a conference are published directly in a journal, are a growing trend that may bridge the current gap between these two forms of publishing.
3. Open archives and overlay journals are recent innovations in the Informatics publication culture that offer improved tracking in evaluation.
4. To assess impact, artifacts such as software can be as important as publications. The evaluation of such artifacts, which is now performed by many conferences (often in the form of software competitions), should be encouraged and accepted as a standard component of research assessment. Another important indicator of impact are advances that lead to commercial exploitation or adoption by industry or standard bodies.
5. Open science and its research evaluation practices are highly relevant to Informatics. Informatics has played a key enabling role in the open science revolution and should remain at its forefront.
6. Numerical measurements (such as citation and publication counts) must never be used as the sole evaluation instrument. They must be filtered through human interpretation, specifically to avoid errors, and complemented by peer review and assessment of outputs other than publications. In particular, numerical measurements must not be used to compare researchers across scientific disciplines, including across subfields of Informatics.
7. The order in which a publication in Informatics lists authors is generally not significant and differs across sub-fields. In the absence of specific indications, it should not serve as a factor in the evaluation of researchers.
8. In assessing publications and citations, the use of public archives should be favored. When using ranking and benchmarking services provided by for-profit companies, the respect of open access criteria is mandatory. Journal-based or journal-biased ranking services are inadequate for most of informatics and must not be used.
9. Any evaluation, especially quantitative, must be based on clear, published criteria. Furthermore, assessment criteria must themselves undergo assessment and revision.



INFORMATICS
EUROPE

www.informatics-europe.org
© Informatics Europe, 2018

