

Informatics for All

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Chair of Working Group on Informatics Education



Informatics for All (precursors)

- 2012-2013
 - Joint IE and ACM-E Working Group on Informatics Education

Informatics education: Europe cannot afford to miss the boat

Report of the joint
Informatics Europe & ACM Europe Working Group
on Informatics Education
April 2013

Working group members

Informatics Europe:

Walter Gander (chair), ETH Zurich, Switzerland
Antoine Petit, Inria & ENS Cachan, France
G rard Berry, Coll ge de France
Barbara Demo, University of Turin, Italy
Jan Vahrenhold, University of Munster, Germany

ACM Europe:

Andrew McGettrick, University of Strathclyde, Scotland
Roger Boyle, University of Aberystwyth, Wales
Mich le Drechsler, INRP, Lyon, France
Avi Mendelson, Microsoft, Israel
Chris Stephenson, Computer Science Teachers Association, USA

ACM Europe and Informatics Europe liaison:

Carlo Ghezzi, Politecnico di Milano, Italy
Bertrand Meyer, ETH Zurich, Switzerland, ITMO, Russia, and Eiffel Software, USA

Executive Overview

1. All of Europe's citizens need to be **educated in both digital literacy and informatics**.
2. **Digital literacy** covers fluency with computer tools and the Internet.
3. **Informatics** covers the science behind information technology. Informatics is a **distinct science**, characterized by its own concepts, methods, body of knowledge and open issues. It has emerged, in a role similar to that of mathematics, as a cross-discipline field underlying today's scientific, engineering and economic progress.
4. Informatics is a major enabler of **technology innovation**, the principal resource for Europe's drive to become an **information society**, and the key to **the future of Europe's economy**.
5. European countries are making **good progress** in including digital literacy in the curriculum. The teaching of this topic should emphasize the **proper use** of information technology resources and cover matters of ethics such as privacy and plagiarism.
6. Informatics education, unlike digital literacy education, is **sorely lacking** in most European countries. The situation has paradoxically worsened since the 70s and 80s.
7. Not offering appropriate informatics education means that **Europe is harming its new generation of citizens**, educationally and economically.
8. Unless Europe takes resolute steps to change that situation, it will turn into a **mere consumer of information technology and miss its goal of being a major player**.

Based on an analysis of the current situation and of experiences in many countries, this report makes four key recommendations:

- **Recommendation 1.** All students should benefit from education in **digital literacy**, starting from an early age and mastering the basic concepts by age 12. Digital literacy education should emphasize not only skills but also the principles and practices of using them effectively and ethically.
- **Recommendation 2.** All students should benefit from education in **informatics** as an independent scientific subject, studied both for its intrinsic intellectual and educational value and for its applications to other disciplines.
- **Recommendation 3.** A large-scale teacher training program should urgently be started. To bootstrap the process in the short term, creative solutions should be developed involving school teachers paired with experts from academia and industry.
- **Recommendation 4.** The definition of **informatics curricula** should rely on the considerable body of existing work on the topic and the specific recommendations of the present report (section 4).

Informatics for All (precursor, cont'd)

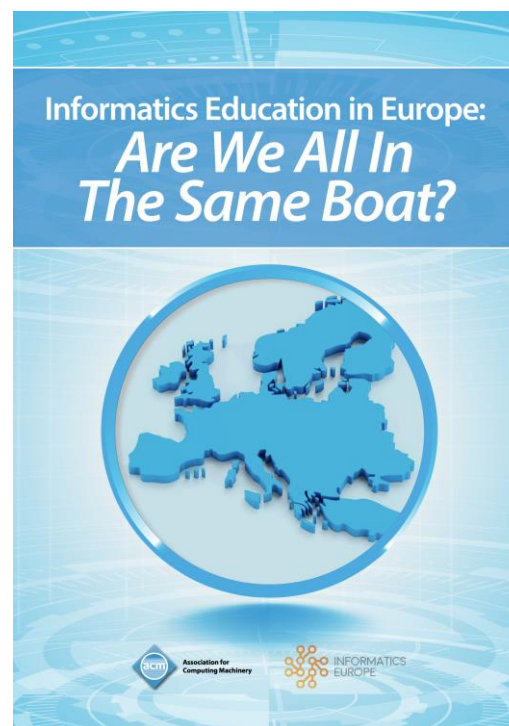
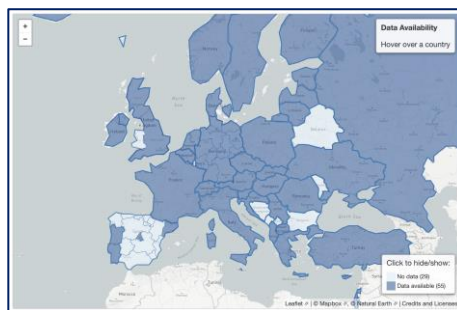
- 2014-2017
 - Committee on European Computing Education (CECE)
 - *Informatics Education in Europe: Are We All In The Same Boat?*

Committee

Jan Vahrenhold
Enrico Nardelli
Cristina Pereira
G rard Berry

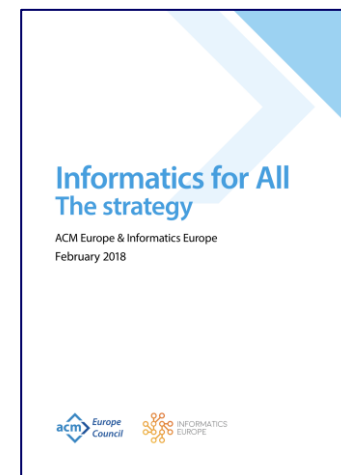
Michael E. Caspersen
Judith Gal-Ezer
Michael K lling
Andrew McGettrick

Research assistant: Mirko Westermeier



Informatics for All (2018)

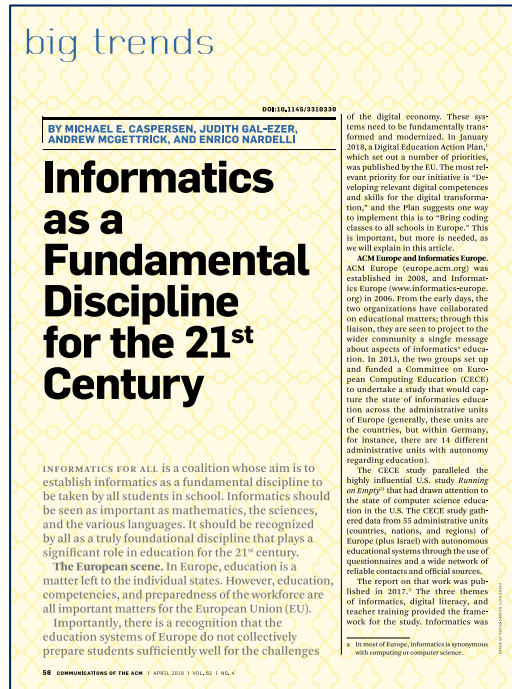
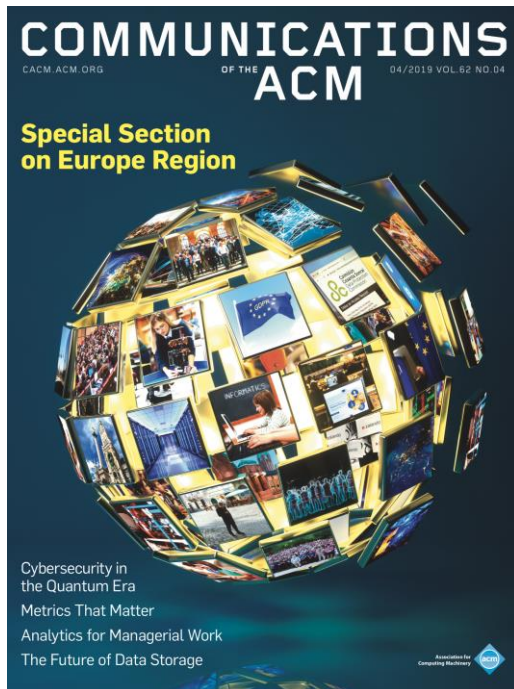
- Informatics for All: The Strategy
- Discussed with the EU Commission in Brussels (see [IE news](#))
- Establishment of the [Informatics for All](#) Coalition
 - Current Steering Committee
 - Dame Wendy Hall (chair)
 - Judith Gal-Ezer
 - Andrew McGettrick
 - Gerald Futschek
 - Austeja Trinkunaite
 - Enrico Nardelli
 - Michael E. Caspersen
 - Bobby Schnabel (advisor)



Informatics for All (2019)

CACM's Special Section on Europe Region, April 2019

A "big trends" article



Informatics for All (2019, cont'd)

- Workshop in Brussels (20th Feb 2019)
 - National Informatics Associations, 50+ participants: [Report](#), [Action plan](#)
- Website: informaticsforall.org
- [Rome Declaration](#)
 - Signing process
 - University, Faculty or Department / Company
- [EU COST Action](#): Network Proposal
 - *Research on Informatics Education in School* — 27 countries across Europe
- Dialogue with PISA/OECD
 - Pushing for Informatics to be part of the Science framework
- Invited by the EU Commission, DG EAC (24th Sep 2019)
 - Discuss CS/Informatics for All

