



Towards an Open Science Enterprise: A Community Organization Perspective

Michael Forster, Managing Director, IEEE Publications

18th September 2017

The National Academies of Sciences, Engineering, Medicine

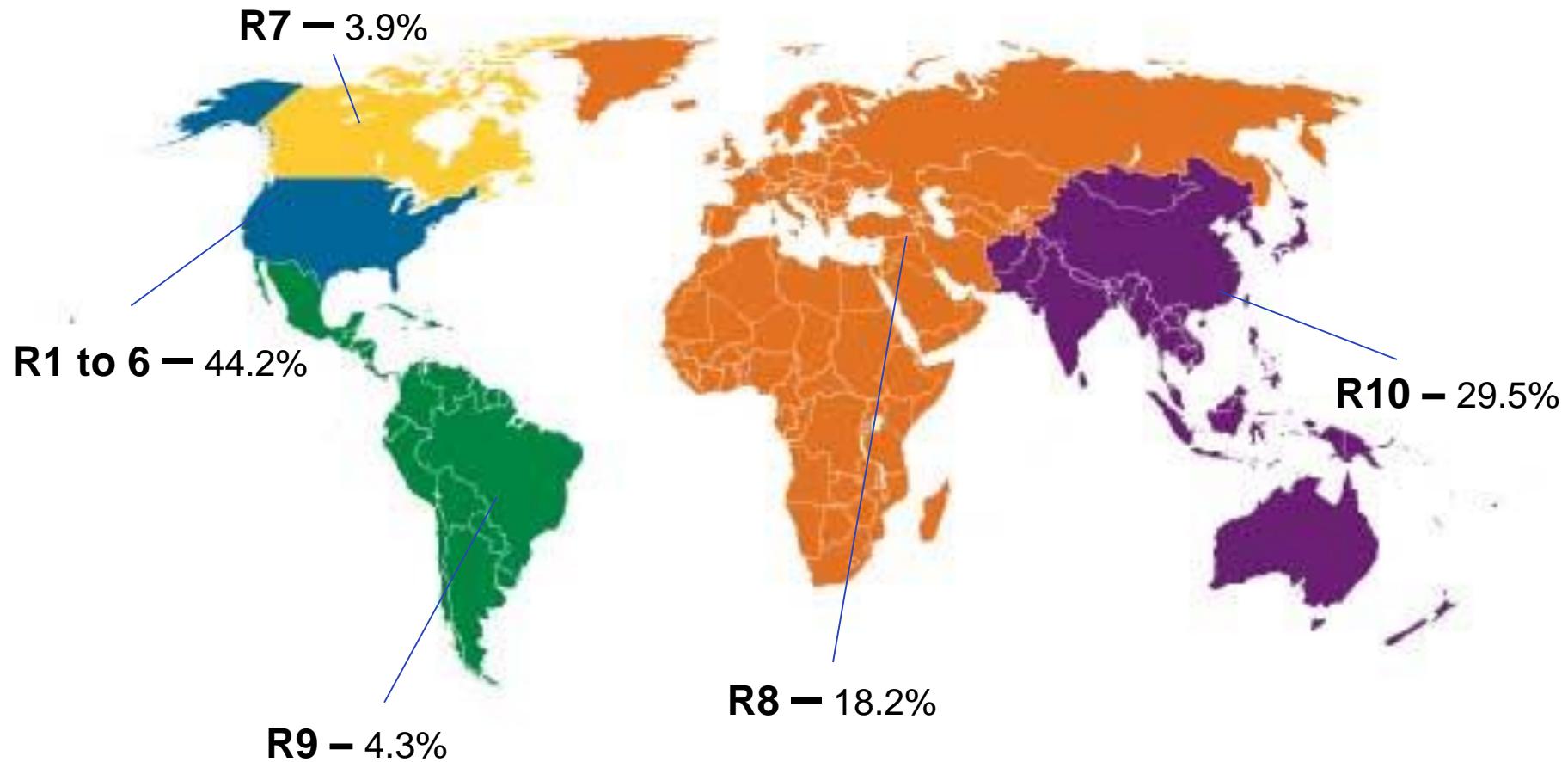


About the IEEE - I

- World's largest technical membership association with more than 420,000 members in over 160 countries
- Not for profit organization "Advancing Technology For Humanity"
- Core areas of activity:
 - Membership organization
 - Conferences organizer
 - Standards developer
 - Publisher of journals, conference proceedings, standards, eBooks, and eLearning
- Community-centered and mission-driven
- Member and volunteer led and managed



IEEE is a Global Community



IEEE covers all areas of technology

OPTICS RENEWABLE ENERGY
SEMICONDUCTORS SMART GRID
IMAGING INFORMATION TECHNOLOGY IOT
COMMUNICATIONS AEROSPACE CIRCUITS
BIOMEDICAL ENGINEERING ELECTRONICS
NEXT GEN WIRELESS NANOTECHNOLOGY
CLOUD COMPUTING CYBER SECURITY
VIRTUAL REALITY AUTONOMOUS VEHICLES



About the IEEE - II

- Community-centered and mission-driven
- Member and volunteer led and managed, e.g.
 - President and CEO
 - VPs for Publications, Education, Technical Activities, etc.
- Publishing policy and practice governed by members of the community
- Detailed and rigorous standards and codes of practice:
 - maintained by staff
 - overseen by volunteer leadership
 - implemented by the community
- Codified best practices: IEEE Ops Manual
- Principles serving our global community:
https://www.ieee.org/documents/IEEE_Publishing_Principles.pdf



Karen Bartleson
IEEE President 2017



Samir El-Ghazaly
VP Publications 2017



IEEE as a Publisher

How our organization is different

- Community-centric, first and foremost
- Focused on quality, credibility, and trust as peer-to-peer community requirements
- Our authors, reviews, and users are NOT all members: we serve the entire global research community
- Providing leadership on issues of policy, ethics, and other best practices:
 - Reviewer and Author education
 - Plagiarism screening
 - Citation/bibliometrics usage
- Supporting new business models, functionalities, and author/user needs



IEEE quality makes an difference - I

IEEE publishes:

22 of the top 25 journals in Electrical and Electronic Engineering

14 of the top 15 journals in Telecommunications

4 of the top 5 journals in Artificial Intelligence

3 of the top 5 journals in Computer Science, Hardware & Architecture

3 of the top 5 journals in Automation & Control Systems

2 of the top 5 journals in Computer Science, Cybernetics

2 of the top 5 journals in Imaging Science & Photographic Technology

Clarivate Analytics Journal Citation Reports

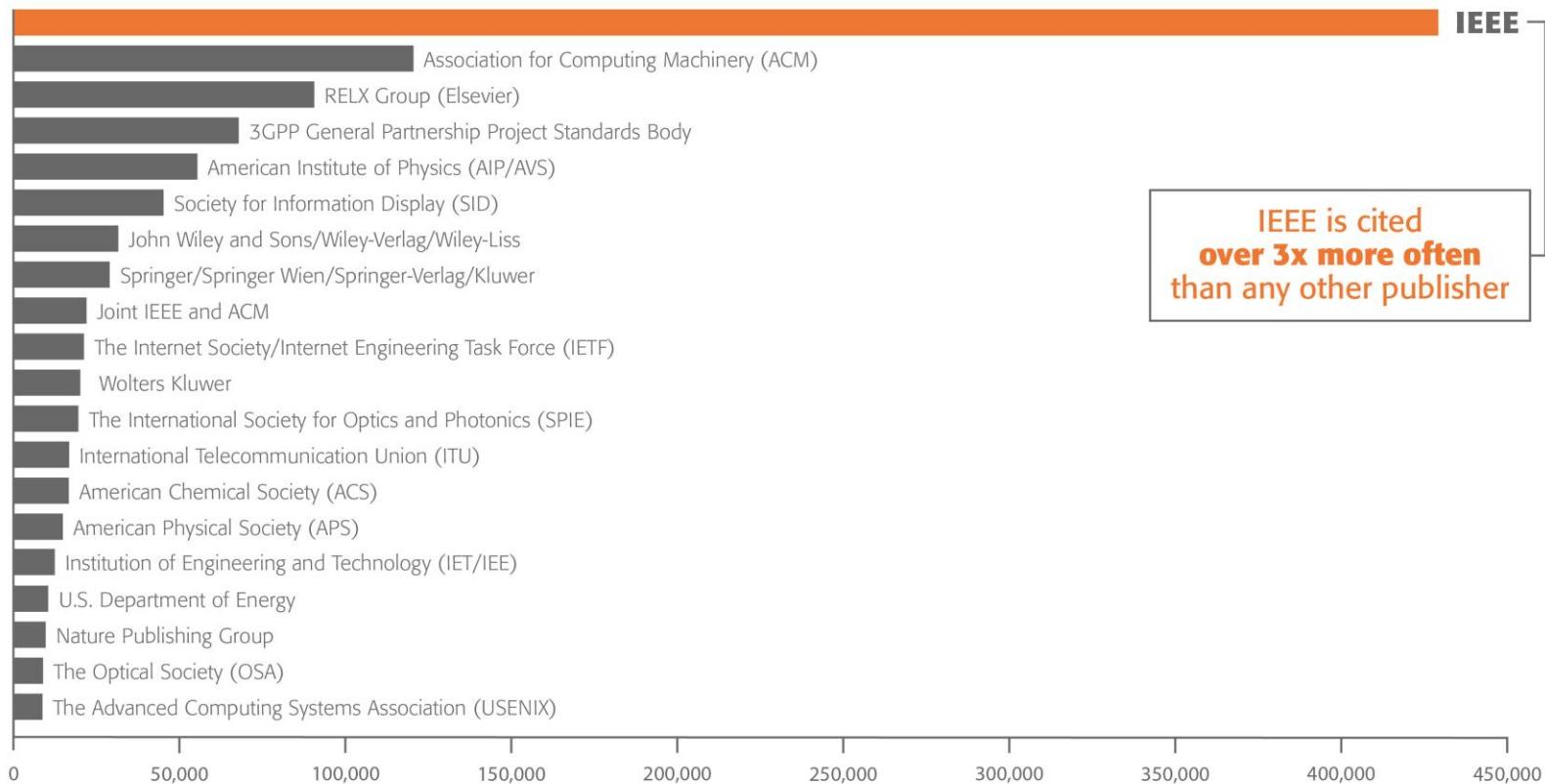
2016 study released June 2017

More info: www.ieee.org/citations



IEEE quality makes an difference - II

Top 20 Publishers Referenced Most Frequently by Top 40 Patenting Organizations

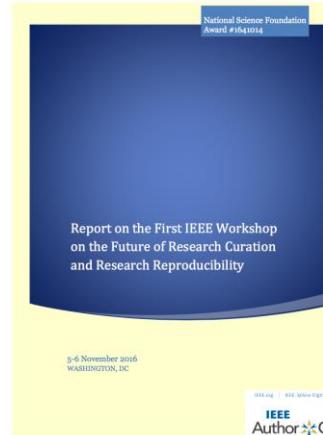


Source: 1790 Analytics LLC 2017. Based on number of references to papers/standards/conferences from 1997-2016.

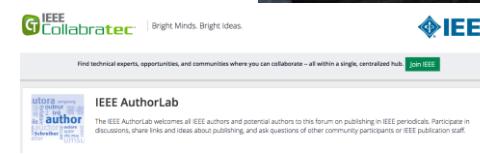


IEEE Activities Supporting our Community

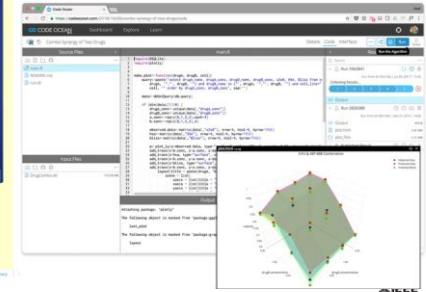
- NSF-sponsored Reproducible Research workshop with major publishers*
- Author Education program (live and online)
- IEEE Author Center
- Collaboratec™ Author Lab and Author Tools
- Code Ocean workflow integration
- Mandatory ORCID for corresponding authors



ORCID



CODE OCEAN



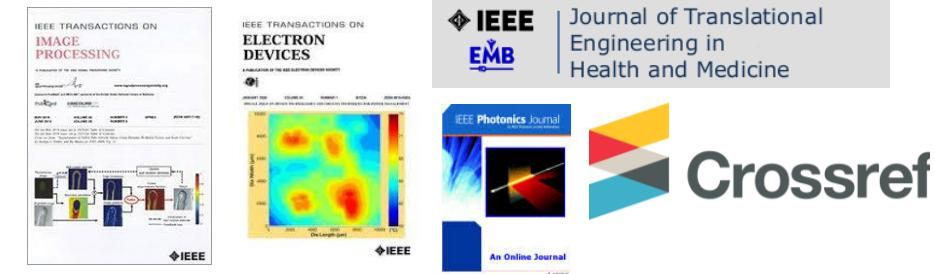
IEEE

*http://www.ieee.org/publications_standards/publications/ieee_workshops/research_reproducibility.html

IEEE and Open Access / Public Access

Multiple Publishing Solutions for Authors and Funders

- Hybrid: gold OA in established publications
- Topical: gold OA in dedicated open access-only publications
- Multi-disciplinary: *IEEE Access* for gold open access
- Funder embargo compliance processes and key role in CHORUS
- Flexible Author posting policy
- Article Sharing Principles endorser



CHORUS Advancing Public Access to Research



Enabling Reproducible Research

Open Data, Open Code & Algorithms

- Link data sets and other artifacts embedded with article format. E.g:
 - Zenodo
 - Figshare
 - IEEE DataPort
- Discover and run code and/or algorithms in real time; easily share and collaborate with colleagues
- **NB:** challenge of adding these artifacts to the peer review process

