

Seminar in Honor of Kees Schouhamer Immink

The IEEE, and its medal of honor

Dirk Van Hertem
Benelux section chair

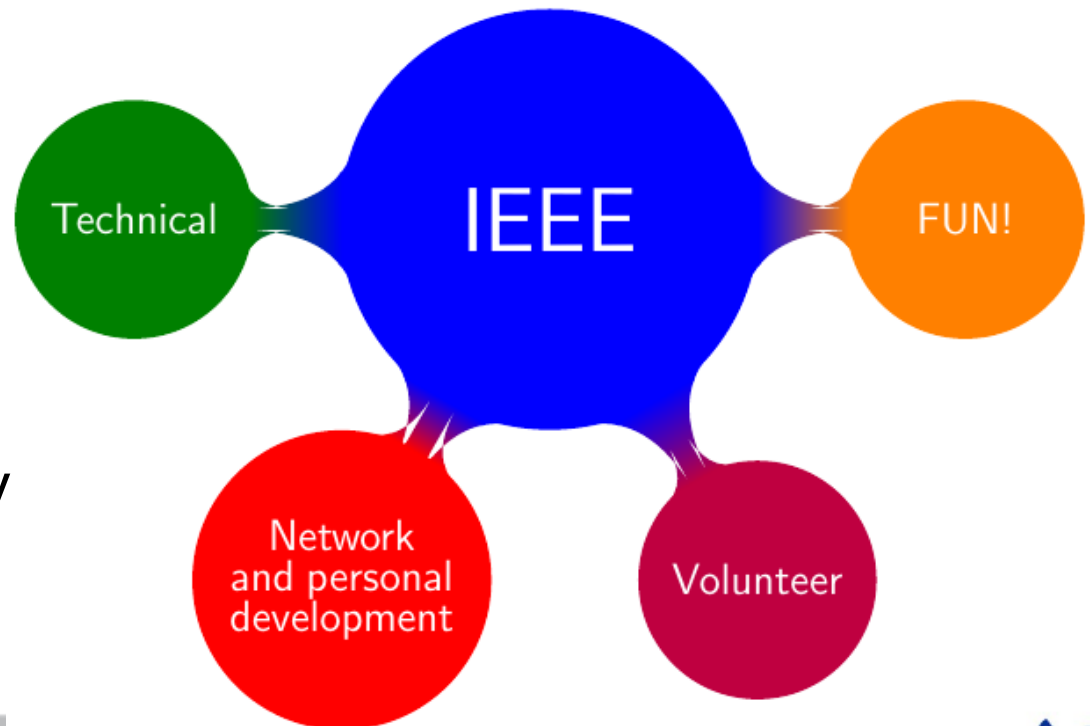
Rotterdam, June 16, 2017



What is IEEE?

Originally: Institute for electrical and electronics engineers

Mission: Advance technological innovation and excellence for the benefit of humanity



Local and global
Academia and industry
For young & old

1884

1912

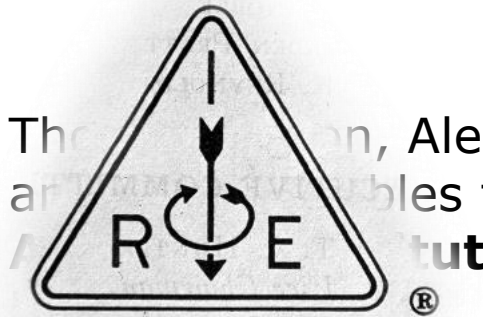
1963

Present



AIEE

American Institute
of Electrical Engineers



IRE

Institute of Radio
Engineers

Pioneers of wireless technologies and electronics founded the **Institute of Radio Engineers**. AIEE and IRE merged to become the Institute of Electrical and Electronics Engineers, or **IEEE**.

Our Global Reach

421,000+
Members



39
Technical Societies



160
Countries



Our Technical Breadth

1,600
Annual Conferences



3,900,000+
Technical Documents



170+
Top-cited Periodicals



- ▶ Consumers around the world enjoy the benefits of IEEE's standards.

Here are a few you may recognize...

IEEE
802.11



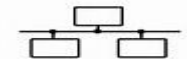
IEEE
1800



IEEE
1394



IEEE
802.3



IEEE
802.15.4



IEEE
835



- ▶ Bright minds share the latest research at IEEE sponsored and co-sponsored conferences around the world.

1,600+ Annual Conferences



Research

Collaboration

Publications

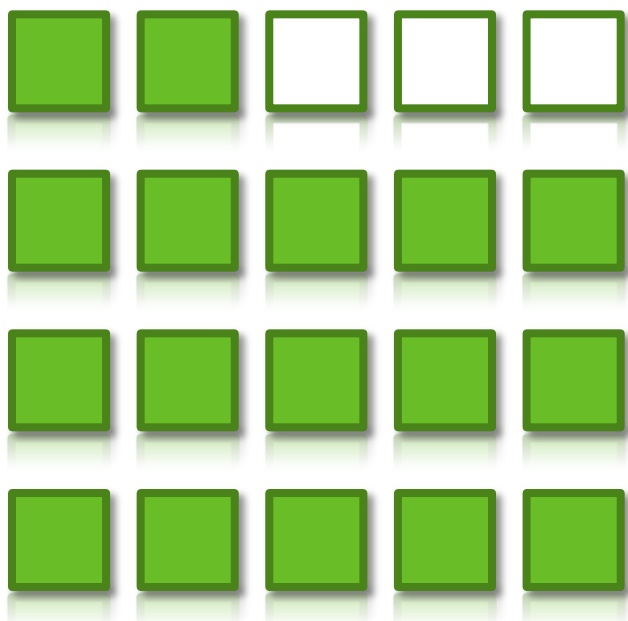
- ▶ IEEE advances author ideas by publishing research for delivery to key technical audiences.

IEEE is the
premier source of
journals in our fields
of interest.



**170+ top-cited
periodicals**

- ▶ 2014 JCR® study reveals IEEE journals continue to maintain rankings at the top of their fields.

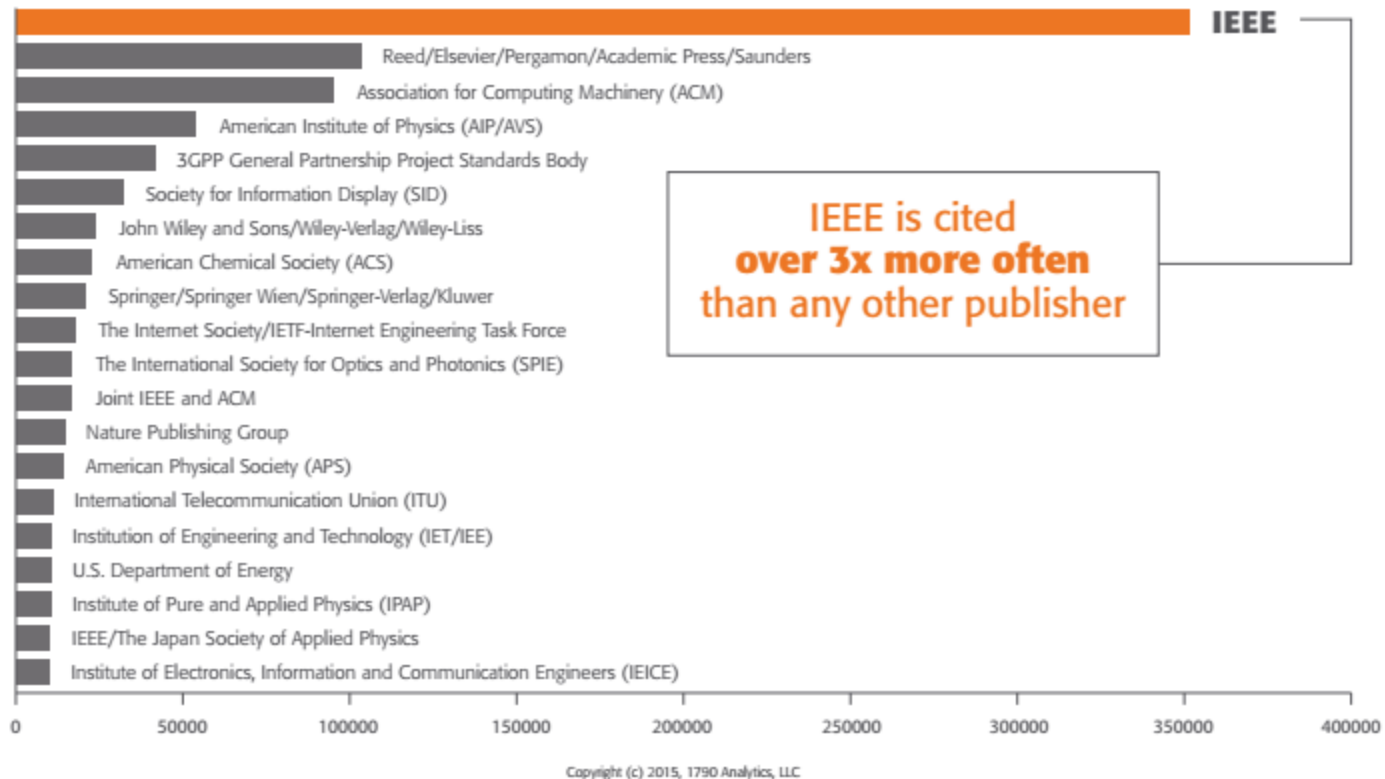


17 of the top 20

journals in electrical engineering
are published by IEEE.

Source: 2013 Thomson Reuters Journal Citation Reports® (JCR)

- ▶ IEEE leads as the most-cited publisher in new patents from the top patenting organizations.



Benelux section www.ieee.be

Oldest Section in Europe (founded 13 May 1959, exactly 75 years after the foundation of the AIEE, the other parent organization of IEEE)



One of the larger sections in IEEE Region 8

Around 3200 members



7 Student branches (Eindhoven, Twente, Delft, Ghent, Leuven, Liège, Louvain-la-Neuve)

3 affinity groups (Women in engineering, young professionals, Life members)



B. B. Barrow

*Advancing Technology
for Humanity*

17 technical chapters

17 technical chapters

- Aerospace and Electronic Systems / Geoscience and Remote Sensing (AES/GRS)
- Antennas and Propagation / Microwave Theory and Techniques (AP/MTT)
- Circuits and Systems (CAS)
- Communications & Vehicular technology (COM/VT)
- Computational intelligence (CI)
- Computer (C)
- Electromagnetic Compatibility (EMC)
- Council on electronic design automation (CEDA) chapter on embedded systems
- Engineering in Medicine and Biology (EMB)
- Industry Applications/Power electronics / Power Engineering (IA/PEL/PE)
- Information Theory (IT)
- Instrumentation and measurement (IM):
 - Photonics (LEO)
 - Robotics and automation (RA)
 - Signal Processing (SP)
 - Solid-state Circuits (SSC)
 - Technology Management (TM)

IEEE Awards



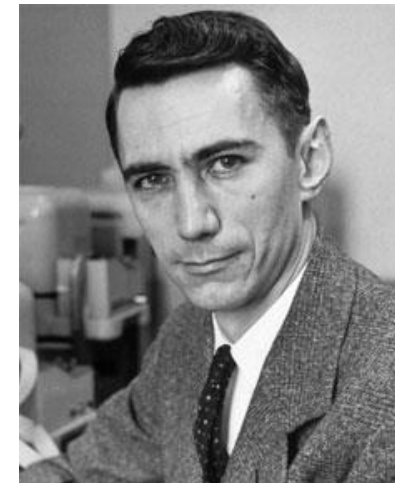
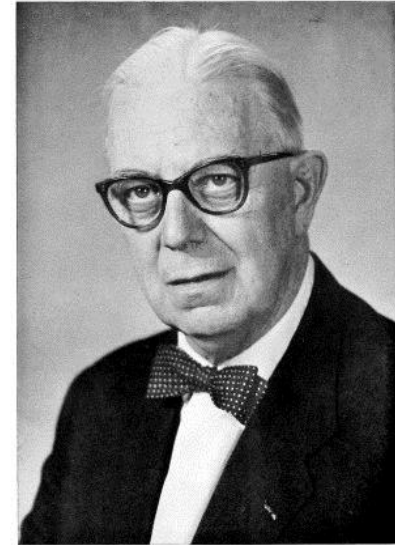
IEEE medal of honor

IEEE Awards: the medal of honor

- IEEE recognizes excellence through a range of prestigious awards
- IEEE medal of honor is the highest IEEE award
- Established 1917, sponsored by the IEEE foundation
- *"Presented when a candidate is identified as having made a particular contribution that forms a clearly **exceptional addition to the science and technology** of concern to IEEE"*
- **Basis for judging:** In the evaluation process, the following criteria are considered: substantial significance of achievement, originality, impact on society, impact on the profession, publications, and patents relating to the achievement. The quality of the nomination is also considered.

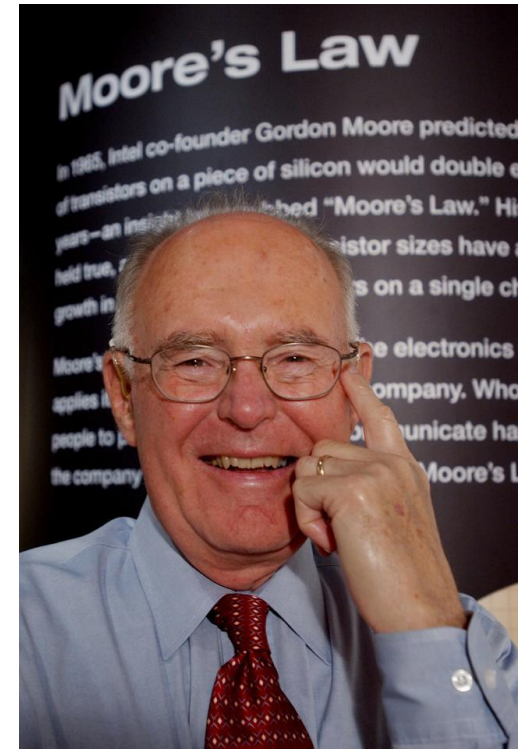
Past recipients

- 1920 -- GUGLIELMO MARCONI -- "In recognition of his pioneer work in radio telegraphy."
- 1935 -- BALTH. VAN DER POL -- "For his fundamental studies and contributions in the field of circuit theory and electromagnetic wave propagation phenomena."
- 1960 -- HARRY NYQUIST -- "For fundamental contributions to a quantitative understanding of thermal noise, data transmission and negative feedback."
- 1966 -- CLAUDE E. SHANNON -- "For his development of a mathematical theory of communication which unified and significantly advanced the state of the art."



Past recipients

- 1974 -- RUDOLF EMIL KALMAN -- "For pioneering modern methods in system theory, including concepts of controllability, observability, filtering, and algebraic structures."
- 1980 -- WILLIAM SHOCKLEY -- "For the invention of the junction transistor, the analog and the junction field-effect transistor, and the theory underlying their operation."
- 2008 -- GORDON E. MOORE -- "For pioneering technical roles in integrated-circuit processing, and leadership in the development of MOS memory, the microprocessor computer and the semiconductor industry."





IEEE 2017 medal of
honor recipient

**KEES
SCHOUHAMER
IMMINK**

FOR PIONEERING CONTRIBUTIONS TO
VIDEO, AUDIO, AND DATA RECORDING
TECHNOLOGY, INCLUDING COMPACT
DISC, DVD, AND BLU-RAY.

**CONGRATULATIONS FROM THE IEEE
BENELUX SECTION!**



IEEE

www.ieee.be, benelux@ieee.org, Dirk Van Hertem