A warm welcome from IEEE Nuclear and Plasma Sciences Society (NPSS)

Stefan Ritt

Cape Town, July 2018

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction

Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools

IEEE 802.11

From Wikipedia, the free encyclopedia

IEEE 802.11 is a set of media access control (MAC) and physical layer (PHY) specifications for implementing wireless local area network (WLAN) computer communication in the 900 MHz and 2.4, 3.6, 5, and 60 GHz frequency bands. They are the world's most widely used wireless computer networking standards, used in most home and office networks to allow laptops, printers, and smartphones to talk to each other and access the Internet without connecting wires. They are created and maintained by the Institute of Electrical and Electronics Engineers (IEEE) LAN/MAN Standards Committee (IEEE 802). The base version of the standard was released in 1997, and has had subsequent amendments. The standard and amendments provide the basis for wireless network products using the Wi-Fi brand. While each amendment is officially revoked when it is incorporated in the latest version of the standard, the corporate world tends to market to the revisions because they concisely denote capabilities of their products. As a result, in the marketplace, each revision tends to become its own standard.

This Linksys WRT54GS WiFi router from 2005 operates on the 2.4 GHz "G" standard, capable of transmitting 54 megabits per second.

What is IEEE

Advancing Technology to the Benefit of Humanity

- Non-profit organization
- IEEE is the world's largest technical professional organization (> 400'000 members, >120'000 student members) dedicated to advancing technology for the benefit of humanity.
- Founded in US, now a global organization (more members outside the US than inside)
- Responsible for 1'300+ standards (such as WiFi)
- Host of 4M journal papers (https://ieeexplore.ieee.org/)
- Sponsor of 1800+ conferences per year in 98 coutries
- 2000+ chapters, 3000+ student branches
- Sponsor of humanitarian projects (IEEE Smart Village)
- Sponsor of schools, Distinguished Lecturers Program, ...

IEEE NPSS NUCLEAR & PLASMA SCIENCES SOCIETY

IEEE

IEEE Organizational Governance

MEMBERS

Board of Directors (BoD)

Assembly

MGA	TAB	PSPB	EAB	SA	IEEE-USA	ED
Member and Geographic Activities Board	Technical Activities Board	Publication Services and Products Board	Educational Activities Board	Standards Association	IEEE USA	Executive Director

10 Regions

10 Divisions

Staff & Society Executive Directors/ Administrators

Sections & Geographic Councils

Societies & Technical Councils

We are here!

Chapters

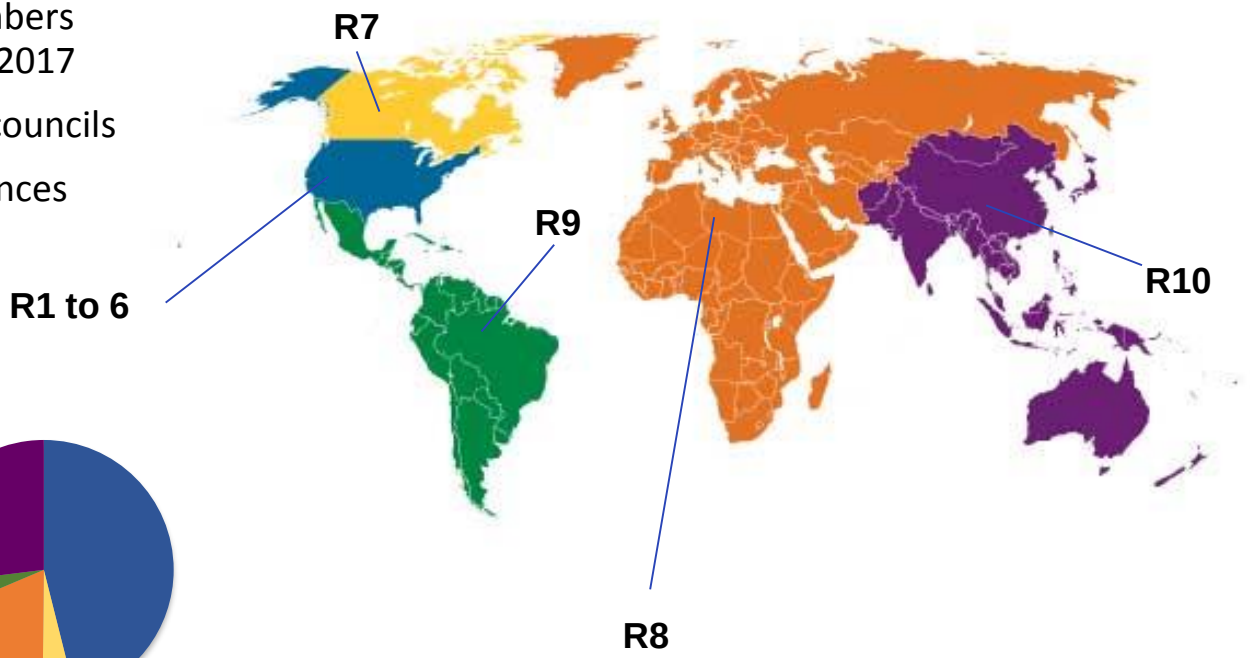
Chapters & Student branches are here!

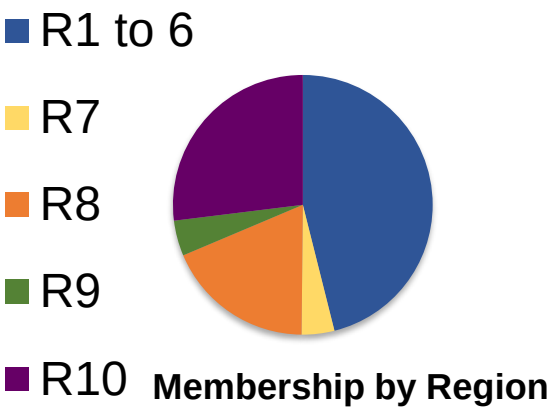
IEEE NPSS NUCLEAR & PLASMA SCIENCES SOCIETY

IEEE

IEEE Membership By Region

- 436,000 members as of 31 Dec. 2017
- 46 societies/councils
- 1600 conferences





Membership by Region

IEEE Nuclear and Plasma Society

Who are we?

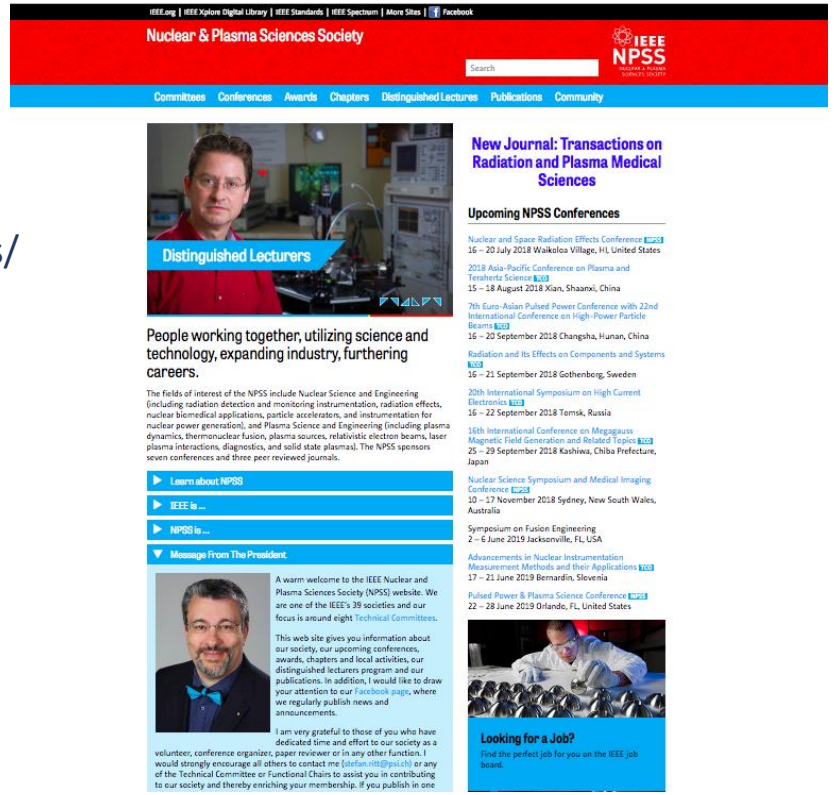
One of 39 IEEE societies

Website: http://ieee-npss.org

Facebook: https://www.facebook.com/ieeenpss/

2500-3000 members in 19 countries

8 Technical communities



NPSS Technical Committees (TC)

The breadth of NPSS

- Computer Applications in Nuclear and Plasma Sciences (CANPS)
- Fusion Technology Committee (FTC)
- Nuclear Medical Imaging Sciences Committee (NMISC)
- Particle Accelerator Science and Technology (PAST)
- Plasma Science and Applications Committee (PSAC)
- Pulsed Power Science and Technology (PPST)
- Radiation Effects Committee (REC)
- Radiation Instrumentation Technical Committee (RITC)

NPSS Journals

IEEE Transactions on Nuclear Science
IEEE Transactions on Plasma Science
IEEE Transactions on Medical Imaging
IEEE Transactions on Radiation and Plasma Medical Sciences

IEEE NPSS NUCLEAR & PLASMA SCIENCES SOCIETY

IEEE

NPSS benefits for members

- IEEE NPSS Distinguished Lecture Program supports chapters and student branches
- IEEE/NPSS Members receive (partial list):
  - Significant discounts on registration rates for NPSS Conferences
  - Electronic access to NPSS Journals and Conference Records via Xplore
  - Reduced rates on print subscriptions to NPSS publications
  - Subscriptions to the monthly magazine *SPECTRUM* and *The Institute*, a monthly news supplement
  - Low rates on IEEE's many publications, discounted insurance rates …
  - NPSS Newsletter published four times per year

IEEE NPSS NUCLEAR & PLASMA SCIENCES SOCIETY

IEEE

Why become IEEE member?

- Students: US$ 35 / year, full membership: US$ 163 / year
- Full members from South Africa can obtain a 50% fee reduction (US$ 82 / year)
- Networking is extremely helpful especially in the early stage of your career
  - Job opening database
  - Women in Engieering events
  - Collabratec (Facebook for engineers)
  - DataPort (Cloud storag for scientific data)
  - Become a voluteer (help reviewing papers, help running conferences, ...)
- Stay technical up-to-date (journals, conferences, online courses, …)
- Need 12 members to form a chapter or 6 student members to form a student branch

IEEE NPSS NUCLEAR & PLASMA SCIENCES SOCIETY

IEEE

Distinguished Lectures

The NPSS Distinguished Lecturers Program (DLP) sponsors the presentation of lectures at NPSS Chapter meetings as well as at IEEE Section and Student Chapter meetings.

In addition, NPSS Distinguished Lecturers are available for presentations to other IEEE entities as well as to non-IEEE organizations, such as universities and colleges.

NPSS Distinguished Lecturers are volunteers who are nominated by the NPSS Technical Committees based on distinguished stature and achievement within their technical communities.

To arrange a lecture, please contact the lecturer directly using the links provided below. For additional information, please contact the Distinguished Lecturers Coordinator Dan Fleetwood.

Resources

PDF Distinguished Lecturer Bi-fold – A brochure describing the NPSS Distinguished Lecturers program.

DOC NPSS DLP – A statement of program guidelines and procedures.

NPSS DL Introduction Slides for Distinguished Lecturers to use.

Lecturers

Dr. Jean Paul Allain
University of Illinois

Challenges to a foundational understanding of the plasma-material interface in plasma-burning nuclear fusion reactors

Directed irradiation synthesis: manipulating matter in nanoscale self-organized systems

Dr. Janet L. Barth
NASA, retired

Space and Atmospheric Radiation Environments

The Space Environment from Low Earth Orbits to Deep Space

Dr. Stephen Bayne
Texas Tech University

Dr. Paul Lecoq
Senior Physicist at CERN, Geneva, Switzerland and Technical Director of European Center for Research in Medical Imaging in Marseilles

Development Of New Scintillating Crystals For High Energy Physics, Medical Imaging And Other Applications

Spin-Off From Particle Detectors In The Field Of Medicine And Biology

Metamaterials For Novel X Or Gamma Ray Detector Designs

Molecular Imaging Challenges With PET and SPECT Techniques

How to Improve Timing Resolution in Scintillators

Goals and Achievements of the EndoTOFPET-US FP7 Project

Dr. Patrick Le Du
Senior Scientific Advisor Institut National de Physique Nucleaire et de Physique des Particules, France

Application of Fundamental Physics Innovative Techniques and Tools to Other Fields

Innovative Concepts in Electronics and Data Acquisition for Biomedical Applications

Challenges of Particle Imaging for Hadron Therapy

Dr. John W. Luginsland
Principle Physical Scientist, Physics and Electronics Directorate Air Force Office of Scientific Research

Directed Energy – Advanced Technology for Defense at the Speed of Light

Prof. Dr. Abdallah Lyoussi
Experimental Physicist, French Atomic Energy and Alternative Energies Commission

Instrumentation and Measurement in Nuclear Environments