



# UIT ACADEMIA

Ecuador, Junio 2016

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# About ITU

- ✓ The **United Nations Specialized Agency** for Information and Communication Technologies (ICTs)
- ✓ Founded in Paris in 1865 as the **International Telegraph Union**
- ✓ 2015 will mark **150 years of experience** and innovation





# ITU's Regional Offices



# ITU's Structure

## Radiocommunication

ITU-R

Coordinates global wireless communication

## Standardization

ITU-T

Produces interoperable technical ICT standards



## Development

ITU-D

Provides assistance to the un-connected

The **General Secretariat** provides intersectoral coordination for the whole organization



# ITU-R: Radiocommunication Sector

Manages the radio-frequency spectrum and satellite orbits



## UNITED STATES FREQUENCY ALLOCATIONS THE RADIO SPECTRUM

**RADIO SERVICES COLOR LEGEND**

|                                                                  |                                                              |                                                                         |
|------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------|
| <span style="color:blue">■</span> AERIAL TELEVISION              | <span style="color:orange">■</span> AIRCRAFT TELEVISION      | <span style="color:yellow">■</span> AMATEUR SERVICE                     |
| <span style="color:lightblue">■</span> AERIAL TELEVISION         | <span style="color:teal">■</span> LAND MOBILE                | <span style="color:orange">■</span> MULTIMEDIA                          |
| <span style="color:darkorange">■</span> AERIAL TELEVISION        | <span style="color:cyan">■</span> LAND MOBILE                | <span style="color:lightorange">■</span> MULTIMEDIA                     |
| <span style="color:green">■</span> MARINE                        | <span style="color:yellow">■</span> MARINE MOBILE            | <span style="color:yellowgreen">■</span> RADIOLOCATION SATELLITE        |
| <span style="color:lightgreen">■</span> METEOROLOGICAL SATELLITE | <span style="color:yellow">■</span> METEOROLOGICAL SATELLITE | <span style="color:orange">■</span> RADIOLOCATION                       |
| <span style="color:teal">■</span> METEOROLOGICAL                 | <span style="color:yellowgreen">■</span> METEOROLOGICAL      | <span style="color:orange">■</span> RADIOLOCATION                       |
| <span style="color:green">■</span> METEOROLOGICAL                | <span style="color:yellowgreen">■</span> METEOROLOGICAL      | <span style="color:orange">■</span> RADIOLOCATION                       |
| <span style="color:lightgreen">■</span> METEOROLOGICAL           | <span style="color:yellowgreen">■</span> METEOROLOGICAL      | <span style="color:orange">■</span> RADIOLOCATION                       |
| <span style="color:yellow">■</span> FIXED                        | <span style="color:lightgrey">■</span> MOBILE                | <span style="color:orange">■</span> FRAGMENTATION BY THE DATA           |
| <span style="color:lightgrey">■</span> FIXED SATELLITE           | <span style="color:lightgrey">■</span> MOBILE SATELLITE      | <span style="color:orange">■</span> FRAGMENTATION BY THE DATA SATELLITE |

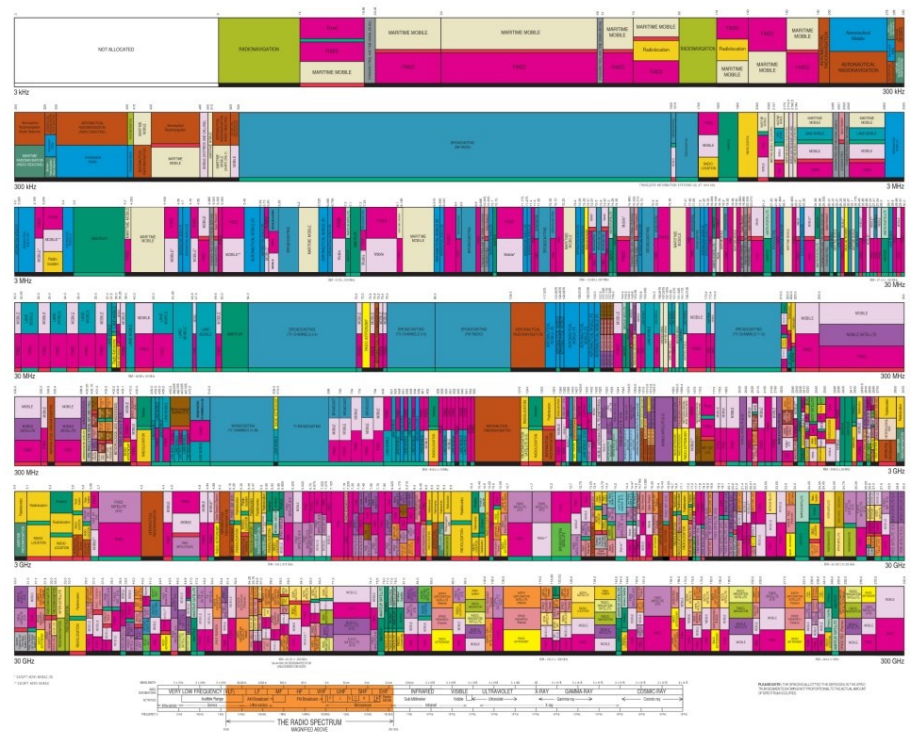
**ACTIVITY CODE**

|                                                            |                                                                 |
|------------------------------------------------------------|-----------------------------------------------------------------|
| <span style="color:red">■</span> GOVERNMENT DECISION       | <span style="color:black">■</span> GOVERNMENT GOVERNMENT SHARES |
| <span style="color:green">■</span> NON-GOVERNMENT DECISION |                                                                 |

**ALLOCATION USAGE DESIGNATION**

| CLASS      | EXAMPLE    | DESCRIPTION           |
|------------|------------|-----------------------|
| Primary    | Primary    | Primary Allocation    |
| Secondary  | Secondary  | Secondary Allocation  |
| Equivalent | Equivalent | Equivalent Allocation |

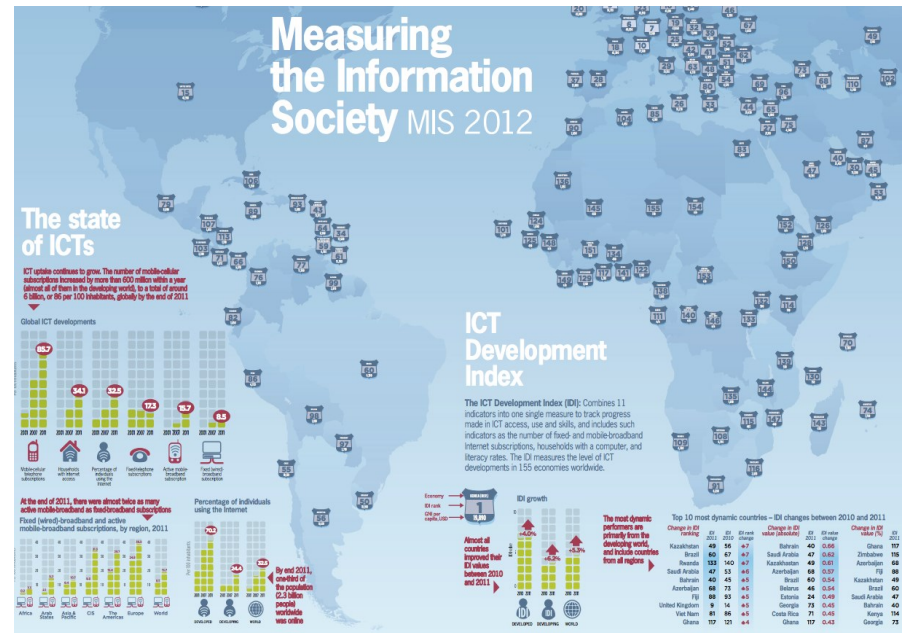
U.S. DEPARTMENT OF COMMERCE  
National Telecommunications and Information Administration  
Office of Spectrum Management  
October 2013





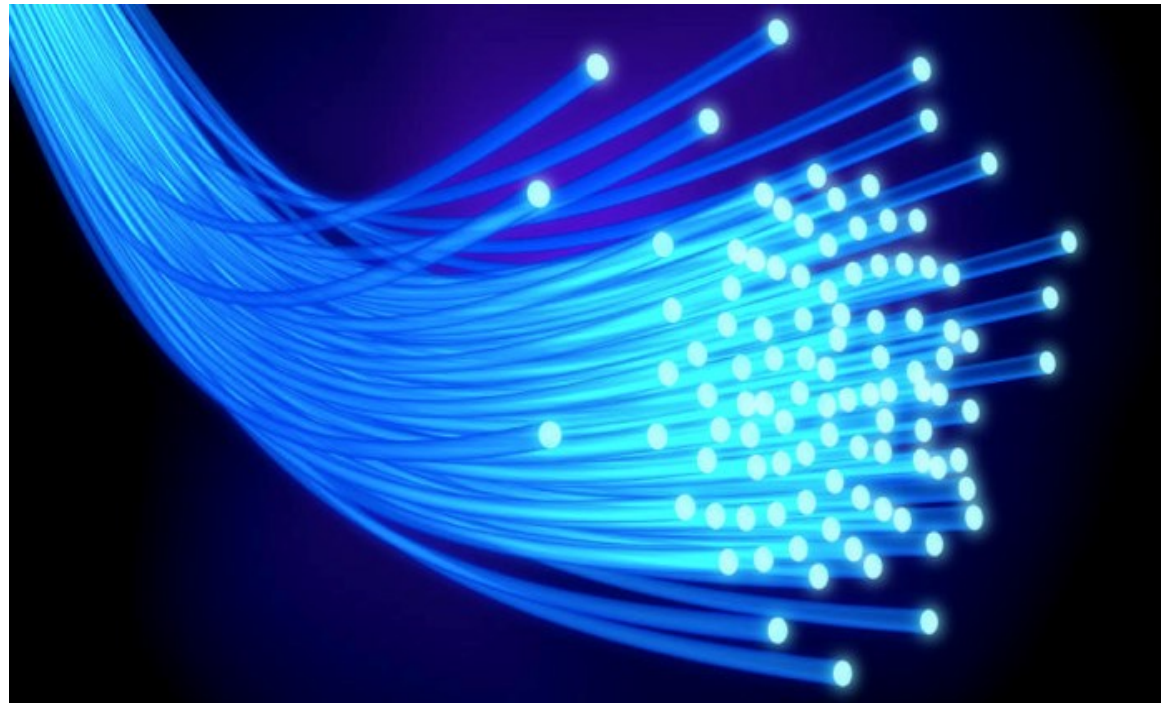
# ITU-D: Development Sector

Assists the development of ICTs in the developing world



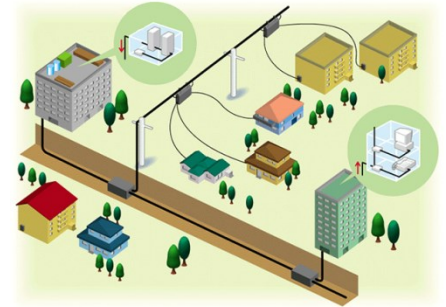
# ITU-T: Standardization Sector

Produces standards covering all fields of telecommunications on a worldwide basis, and defines tariff and accounting principles for international telecommunication services



# ITU-T Key Topics

- ✓ **Internet Broadband Access**  
(xDSL, G.fast, Fiber to the x, Powerline communication)
- ✓ **Transport and Optical Fiber**
- ✓ **Multimedia** (video coding: ITU-T H.264 and H.265)
- ✓ **IPTV, Smart Cable Television**
- ✓ **Numbering and Identification Resources**
- ✓ **Conformance and Interoperability Testing**
- ✓ **Bridging the Standardization Gap**





# ITU-T Key Topics

- ✓ **Software-defined Networking (SDN)**
- ✓ **Cloud Computing**
- ✓ **Big Data**
- ✓ **M2M and Internet of Things (IoT)**
- ✓ **Cybersecurity, Identity Management, Child Online Protection**
- ✓ **Performance, Quality of Service (QoS) and Quality of Experience (QoE)**



# ITU-T Key Topics

- ✓ Intelligent Transport Systems
- ✓ Smart Grid
- ✓ ICT and Climate Change, Smart Sustainable Cities, Smart Water Management
- ✓ E-Health
- ✓ ICT Accessibility and Human factors
- ✓ Emergency Communications, Disaster Relief Systems, Network Resilience and Recovery



# ITU-T Study Groups

Current Study Groups are:

SG2 - Operational aspects

SG3 - Economic and policy issues

SG5 - Environment and climate change

SG9 - Broadband cable and TV

SG11 - Protocols and test specifications

SG12 - Performance, QoS and QoE

SG13 - Future networks

SG15 - Transport, Access and Home

SG16 - Multimedia

SG17 - Security



# ITU's Membership

193 **Member States** and Regulatory Bodies

750 **Companies**, Business Associations, NGOs

65 **Universities** & Research Establishments





# ITU's Private Sector Members





# ITU's Academia Members

66 universities and research centers in 41 countries



# ITU-T Academia Membership

- ✓ **46 ITU-T Academia members**
- ✓ **World Leading Universities:** Georgia Tech, University of Tokyo, Korea Advanced Institute of Science and Technology (KAIST), Tsinghua University
- ✓ Many **institutions from developing countries** in Africa, Latin America and Asia



# What's in for Academia members?

## Academia members' rights:

- ✓ Get access to all ITU-T meetings
- ✓ Contribute to the development ITU-T standards
- ✓ Participate in ITU-T's work remotely

## Additional membership benefits:

- ✓ Grow your technical knowledge
- ✓ Become standardization experts
- ✓ Build up your experience and intern at ITU
- ✓ Publish and disseminate your research
- ✓ Expand your profile and network





# Get full access to ITU-T meetings

✓ Take part in all **ITU-T Study Groups**:

SG2 - Operational aspects

SG12 - Performance, QoS and QoE

SG3 - Economic and policy issues

SG13 - Future networks

SG5 - Environment and climate change

SG15 - Transport, Access and Home

SG9 - Broadband cable and TV

SG16 - Multimedia

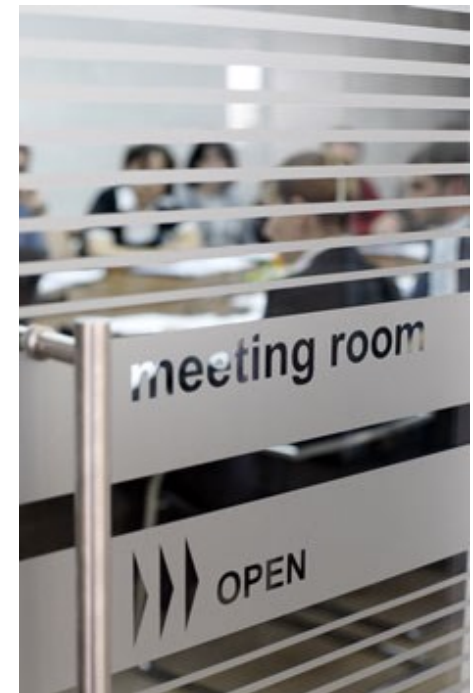
SG11 - Protocols and test specifications

SG17 - Security

✓ Attend policy and **governance conferences**:

Telecommunication Standardization Advisory Group,  
World Telecommunication Standardization Assembly

✓ Enjoy **unlimited participation** for Students and Faculty:  
no limited number of delegates /TIES accounts



# Contribute your ideas and skills to the standardization process

- ✓ Submit **proposal for new standards** to Study Groups
- ✓ Take part in the **consensus building process** leading to approval of standards
- ✓ Have your innovation recognized as an **ITU-T Recommendation**
- ✓ Become **editors or rapporteurs** of a Study Group



# Follow the work and participate remotely

- ✓ **Electronic access to documents:** ITU TIES accounts and email address
  
- ✓ **E-meetings:**
  - Webcast provided for opening and closing plenaries of most meetings
  - Remote participation can be arranged for specific sessions
  
- ✓ **Informal FTP areas:** electronic platforms available to support Study Groups' correspondence work (repository and an exchange facility for documents)
  
- ✓ **Mailing lists:** subscription service for members to follow the work within each Study Group



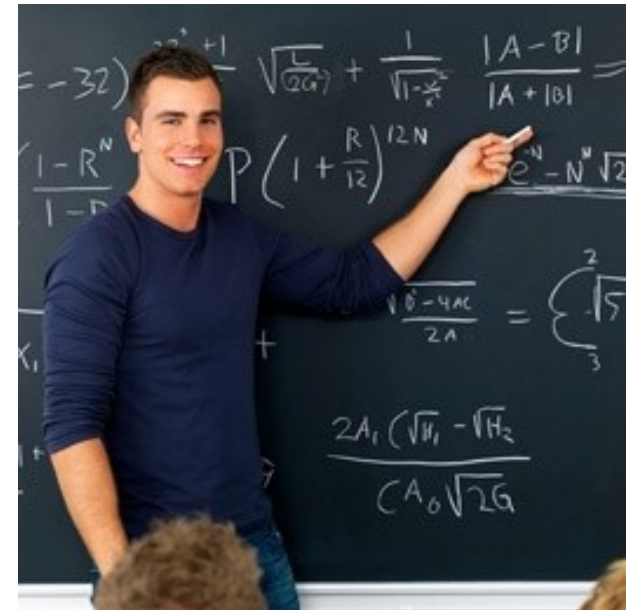
# Grow your technical knowledge

- ✓ Attend **tutorials** on standardization and a wide range of ICT topics
- ✓ Host **ITU workshops** on your field of expertise
- ✓ Request **lectures by ITU Experts** at ITU, or on your campus
- ✓ Get access to a wide range of **exclusive resources** (handbooks, databases, etc.)



# Become standardization experts: TSB Director's Group on Education about Standardization

- ✓ Promotes ICT Standardization in **academic curricula**
- ✓ Provides information to **students** on standards related aspects
- ✓ **Inclusive platform** with ITU-T standardization experts, other standards development organizations and representatives of academia
- ✓ Subscribe to the mailing list:  
[standardsedu@lists.itu.int](mailto:standardsedu@lists.itu.int)



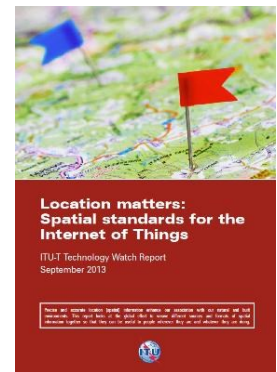
# Gain hands-on experience: intern at ITU

- ✓ **Wide range of skills** covered: from engineering and web design to public relations
- ✓ **Open duration:** from 1 to 6 months
- ✓ **Flexible work arrangements:** part-time, remotely
- ✓ **Term papers** or **bachelor theses** supervised by ITU experts



# Publish and disseminate your research

- ✓ Author an ITU-T **Recommendation**
- ✓ Publish an article in ITU-T **Tech Watch**
- ✓ Contribute to ITU-T toolkits and **reports**
- ✓ Give **tutorial** at ITU-T Study Group meetings
- ✓ Participate in ITU **Kaleidoscope** ...





FOCUS

# ITU Kaleidoscope Academic Conference

- ✓ Brainstorming on **future trends** in ICTs standardization
- ✓ Total prize of **USD 10,000** for top 3 papers
- ✓ Best papers published in **IEEE Communications Magazine**
- ✓ **K-14:** Living in a converged world - impossible without standards? Saint Petersburg, 3-5 June 2014
- ✓ Submit your paper at [kaleidoscope@itu.int](mailto:kaleidoscope@itu.int)





# Expand your profile and network

- ✓ Exchange with other Academia members and develop **new partnerships**
- ✓ Meet private sector members and executives and find **sponsors** for your research
- ✓ Find out about internship and **job opportunities** for your students with governments and leading ICT companies
- ✓ Build up your **CV** as contributor to ITU-T Recommendations, rapporteur/editor of ITU-T Study Group, speaker at ITU event, etc.





# Examples of Academia members activities:

✓ Contributions to Study Groups:

- **Beijing University of Posts Telecommunications, China:** more than 10 contributions to SG13 in 2 years
- **Universidad Del Pais Vasco, Spain:** regular contributions to SG 11

✓ Editor/Rapporteur roles:

- **Nanjing University, China:** One SG3 Rapporteur, on Traffic flow multi-factors
- **Centro de Pesquisa e Desenvolvimento em Telecomunicacoes, Brazil:** One SG5 Rapporteur and One SG13 Rapporteur

✓ Tutorials at Study Groups meetings:

- **Scuola Superiore Sant'Anna, Italy:** Connections provisioning in flexible optical networks, and Solutions for Energy-Efficient Passive Optical Networks at SG15 meeting
- **American University of Beirut, Lebanon:** Cyber Security Research at AUB at SG 17 meeting

✓ ITU events hosts:

- **Aalborg University, Denmark:** Joint ITU-GISFI-DS-CTIF Standards Education Workshop
  - **National Polytechnic Institute, Mexico:** Tutorial on Optical Fibres, Cables and Systems
-

# JOIN US !



- ✓ Academia in developed countries: 4000 CHF per year
- ✓ Academia in developing countries: 2000 CHF per year

Membership and Fees are per Sector (ITU-T/ITU-R/ITU-D)

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# Get started !

- ✓ Identify **Study Groups** of interest: <http://www.itu.int/en/ITU-T/studygroups/>
- ✓ Find out about **upcoming events**: <http://www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-T>
- ✓ Register for a **TIES account and email**: <http://www.itu.int/TIES/>
- ✓ Get settled to **participate remotely**: <http://www.itu.int/en/ITU-T/ewm/>
- ✓ Get involved in **TSB Standards Education Group**: <http://www.itu.int/en/ITU-T/academia/Pages/stdsedu/>
- ✓ Apply for an **internship**: <http://www.itu.int/en/careers/Pages/Internship.aspx>
- ✓ Contribute an article to **ITU-T Tech Watch**: <http://www.itu.int/en/ITU-T/techwatch/>
- ✓ Submit a paper to **Kaleidoscope 2014**: <http://www.itu.int/en/ITU-T/academia/kaleidoscope/2014/>
- ✓ Get in touch with other **ITU-T members**: <http://www.itu.int/GlobalDirectory/search.html>



# Thank you

