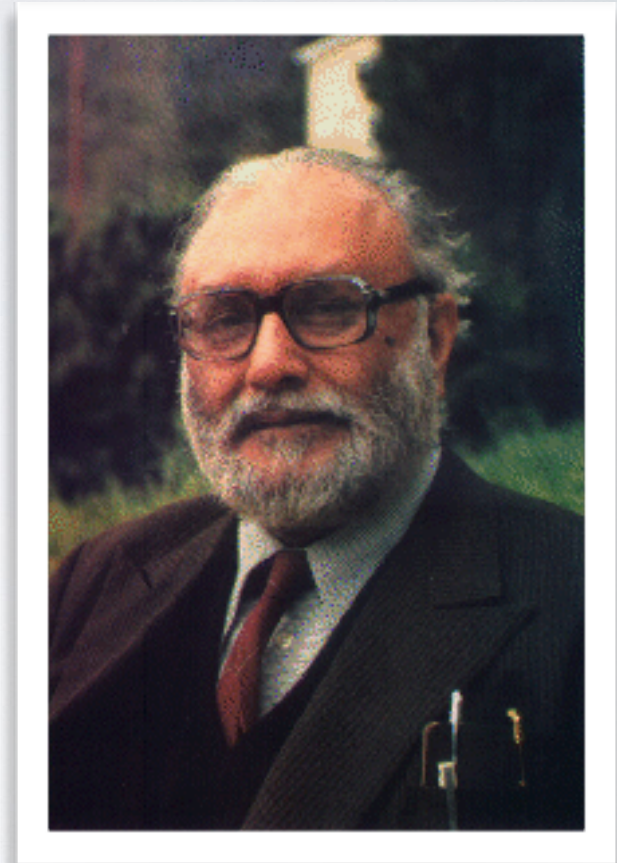


WELCOME TO THE  
WORKSHOP ON OPEN SOURCE  
SOLUTIONS  
FOR THE INTERNET OF THINGS

# WHAT IS THE ICTP

- the Abdus Salam International Centre for Theoretical Physics was founded in 1964, by the late Nobel Laureate Abdus Salam
- receives the majority of its funding from the Italian government and is administered by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Atomic Energy Agency (IAEA)



# ICTP'S MANDATE

- The ICTP has the mandate
  - to foster the growth of advanced research in physics and mathematics, especially among researchers from developing countries
  - to create an international forum for the exchange of scientific information through courses, workshops and seminars

***“Scientific Thought is the common heritage of mankind”***

# ICTP FACILITIES

- In its campus ICTP
  - accommodates on average of 400 scientists each day
  - houses one the largest libraries in the field of physics and mathematics in Europe, with more than 64,000 books, 400 printed journals and more than 3,500 e-journals

# ICTP'S STATISTICS

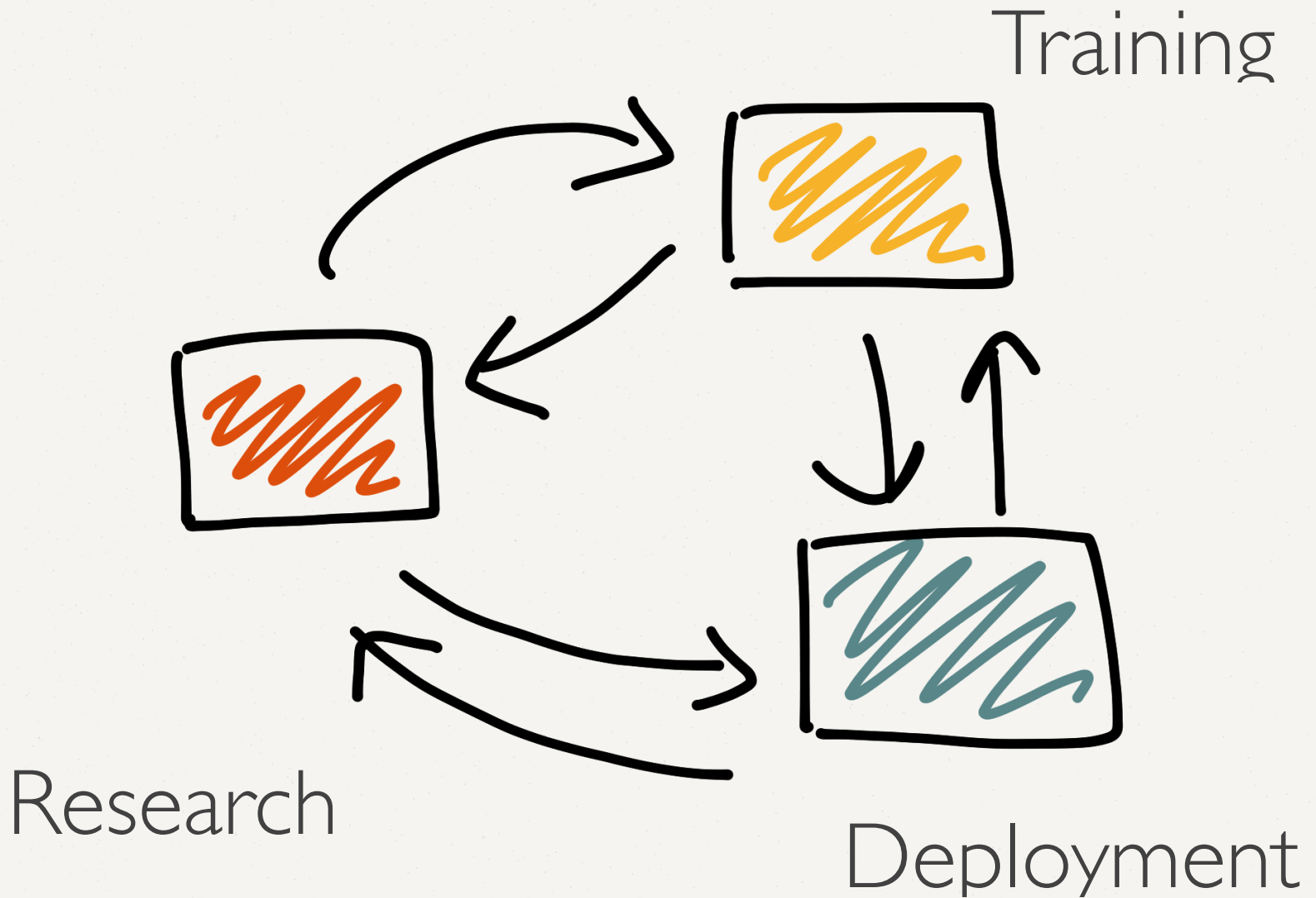
- The ICTP hosts more than 6,000 scientists each year
  - +50 training activities per year
- More than 120,000 visits since 1964
  - 60% from developing countries
  - 40% from developed countries
  - 180 nations represented

# T/ICT4D LAB

- Provide reliable and sustainable wireless **solutions** to help foster science and research in Developing Countries.
- Organize **training activities** on state-of-the-art wireless technologies.
- Setup **collaborations** with academic partners and with international organizations.



# T/ICT4D LAB



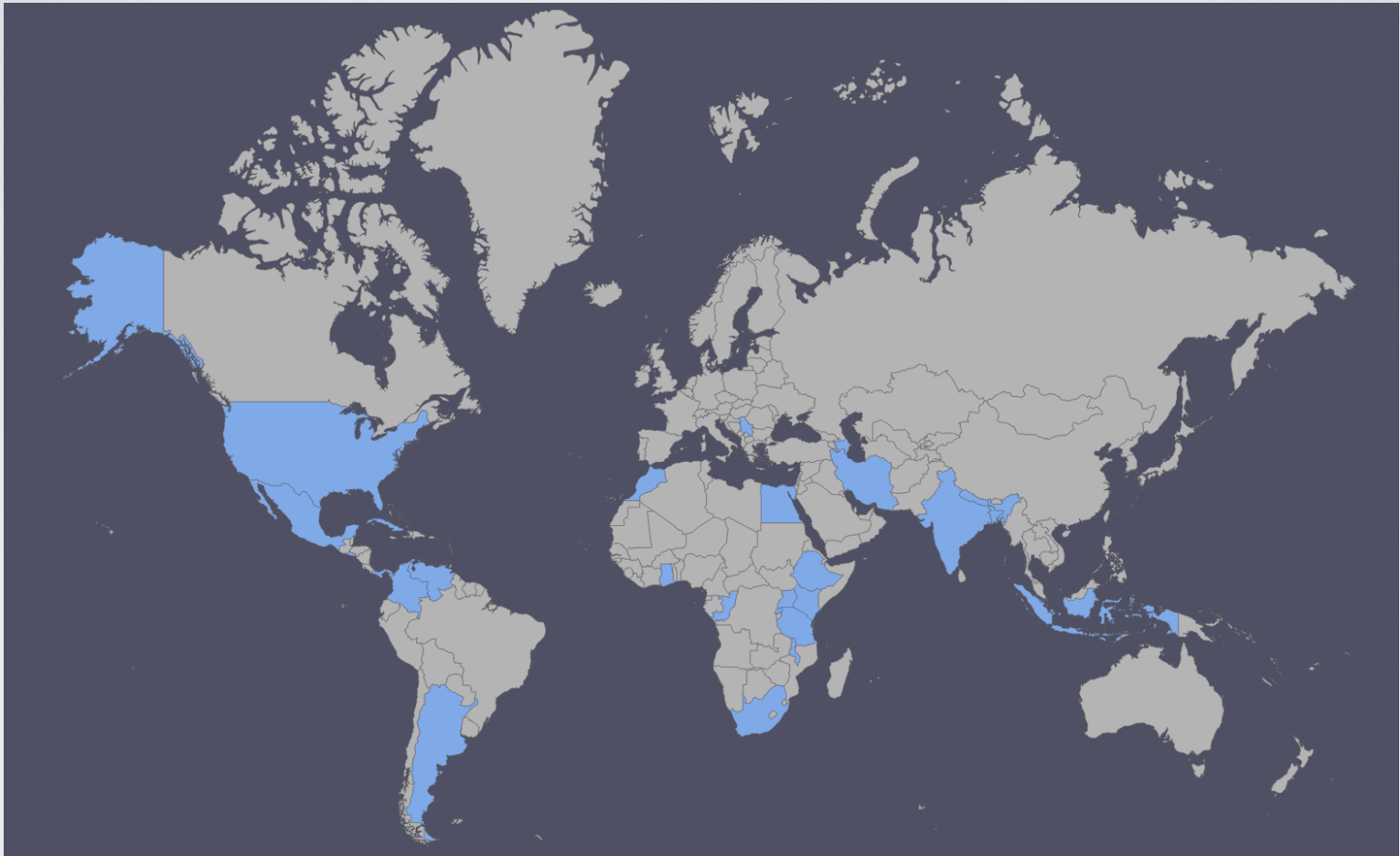
# APPLICANTS

Requests for Participation: 265



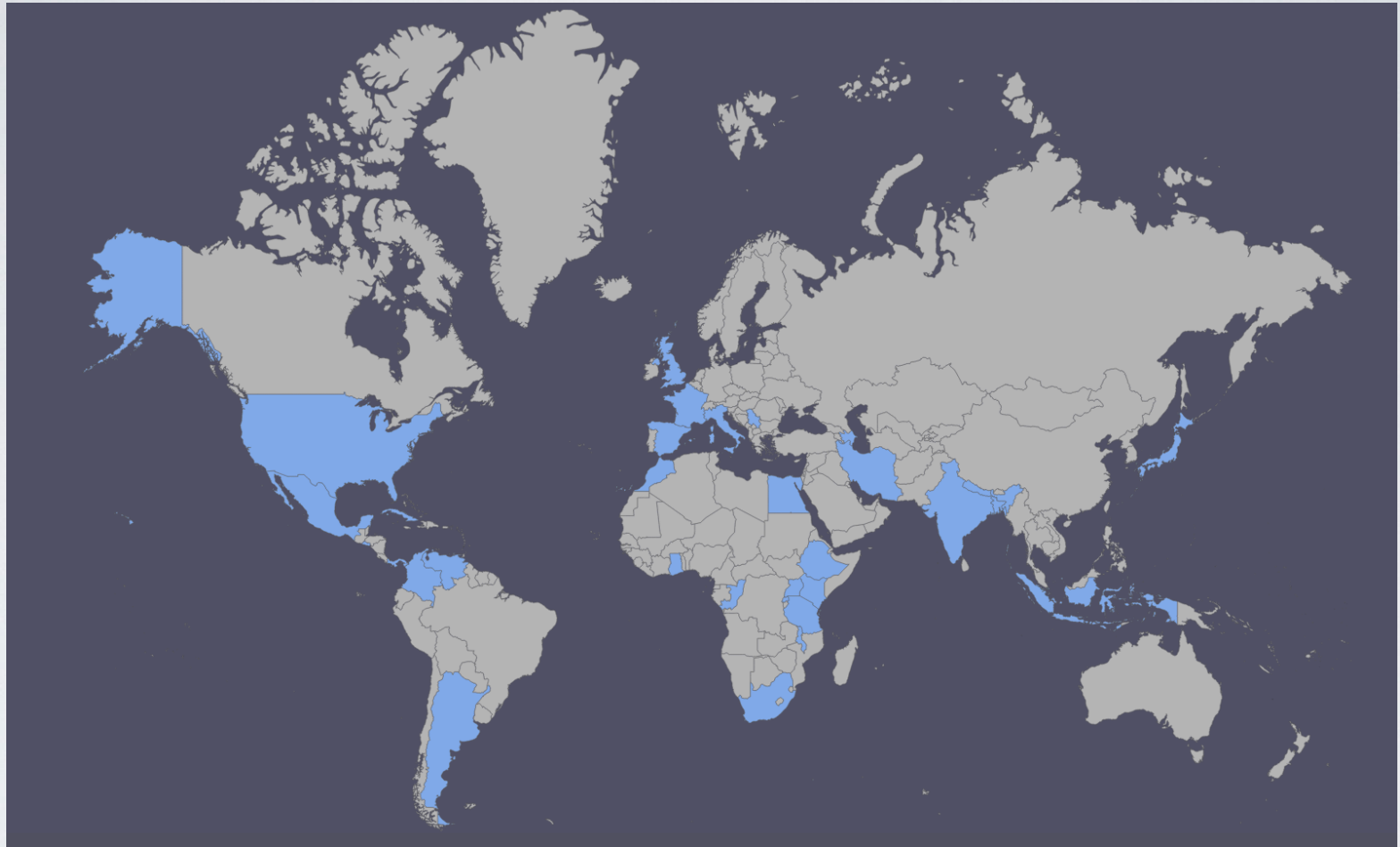


# WHERE DO WE COME FROM?



36 participants from 26 different countries (from Argentina to Venezuela)

# WHERE DO WE COME FROM?



Including the lecturers, we come from 31 different countries!

# WHERE DO WE COME FROM?

Bangladesh

Cuba

Serbia

Morocco

Egypt

Kenya

Iran

Rwanda

Ghana

Colombia

India

Argentina

Venezuela

El Salvador

Ethiopia

DRC

Nepal

South Africa

Tanzania

Malawi

Panama

Uganda

USA

Indonesia

Mexico

Azerbaijan

Spain

France

Italy

Japan

UK

# FIRST WEEK

Monday

Tuesday

Wednesday

Thursday

Friday



Python, IPv6, microPython, Radio  
Propagation, Link Planning, Sensors

# SECOND WEEK

Monday

Tuesday

Wednesday

Thursday



MQTT and REST, Blockchain,  
IoAnimals, Security Privacy and  
Ethics, Time series analysis

Friday



Round Table discussions, Projects,  
Standards

# CASE STUDIES

Monday

Tuesday

Wednesday

Thursday

**Friday**



SigComm participants

- 15 min presentation

- stimulate the discussion

Monday

Tuesday

Wednesday

**Thursday**

**Friday**



Participants

Projects

# VENUE



# THANKS

- Directors
  - Antoine Bagula (UWC, South Africa)
  - Stephen Hailes (UCL, UK)
  - Clement Onime (ICTP)
  - Marco Zennaro (ICTP)





# PHILOSOPHY

Tell me and I forget,  
teach me and I may remember,  
**involve me and I learn.**

— Benjamin Franklin

# RULES

- 1) ~~Try to~~ be on time!
- 2) Attend at least 90% of the lectures + labs to receive the Diploma
- 3) **Bring your laptop**
- 4) Feel free to ask questions!

# LAB

- Wireless Network
  - SSID: FabLab
  - Password: MakerFaire
  
- Workshop's Website
  - [http://wireless.ictp.it/school\\_2017/](http://wireless.ictp.it/school_2017/)

# WEBSITE



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Contact

Tuesday June 27th

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## Morning session

9:00-10:00 [Introduction to IPv6, part 2](#)

 Alvaro Vives, RIPE

10:00-10:30 Coffee Break

10:30-12:30 [IPv6 Lab](#)

 Alvaro Vives, RIPE

12:30-14:00 Lunch

## Afternoon Session

14:00-16:00 [microPython Lab](#)

 Franck Albinet

16:00-16:30 Coffee Break

16:30-18:00 [microPython Lab](#)

# TELEGRAM

<https://telegram.org/>

- Workshop's private group
  - last minute information
  - social interaction
  - polls



- Join at:

<https://t.me/joinchat/AAAAAAA6N29Jy6t3umFos8A>

# NEWS

- Get together tomorrow at Adriatico Guesthouse, 7:30 pm
- Shuttles in the morning from Adriatico Guesthouse to Galileo Guesthouse
- Shuttles in the evening from Galileo Guesthouse to Adriatico Guesthouse
- Petra's office is number 213 at the second floor of the Fermi Building

# LECTURERS



Marco  
Zennaro

Italy

Marco is a Research Officer at the Abdus Salam International Centre for Theoretical Physics. His research interest is in the use of WSN for Development. He holds a PhD from KTH-The Royal Institute of Technology, Sweden.

# LECTURERS



Alvaro  
Vives

Spain

Alvaro is currently based in the Netherlands where he works for the RIPE NCC. He started working with IPv6 back in 2002. As a trainer since 2006 has given more than 65 workshops in more than 20 countries. He holds a Master in Telecommunications from Universidad de Vigo and an MBA from Universidad de Almería.



# LECTURERS



Franck  
Albinet

France

Franck is a Geographical Information System and Data analyst who has been providing for the last decade support to emergency responses in various areas including Humanitarian and Nuclear Emergency.

# LECTURERS



Ermanno  
Pietrosemoli  
Venezuela

A graduate from Stanford, Ermanno has been a professor in Telecommunications at University de Los Andes in Venezuela. He is now a researcher at ICTP. He holds the world record for the longest WiFi Link: 383 km.

# LECTURERS



Marco  
Rainone

Italy

Marco has been a collaborator of the ICTP Wireless Lab since 2014. He is a freelance technical consultant since 2003, in the areas of embedded and mobile systems, integration of embedded systems in industrial automations and test systems, remote monitoring of systems.

# LECTURERS



Antoine  
Bagula

South  
Africa

Antoine obtained his doctoral degree in 2006 from the KTH-Royal Institute of Technology in Sweden. He held lecturing positions at the University of Stellenbosch and the University of Cape Town before joining the Computer Science department at the University of the Western Cape in January 2014. He has authored/co-authored more than 100 papers.

# LECTURERS



Sandor  
Markon

Japan

Sandor is a Professor at Kobe Institute of Computing, Japan. His interest in ICT4D is mostly sensors and signal processing. He also works in AI, optimization, and new human-machine interfaces. He holds a PhD from Kyoto University.

# LECTURERS



Martin  
Saint

USA

Martin is a Scholar in Residence at Carnegie Mellon University in Rwanda. He currently teaches and researches in the areas of telecommunications, network engineering, cyber-physical systems, financial technology, and digital financial services. Martin has an MS and PhD candidacy in Telecommunications at the University of Colorado.

# WHAT ABOUT YOU?

NAME

COUNTRY

ORGANIZATION

INTEREST IN IOT