







## Professional and Educational Activities subCommittee

Region 8 mini series meetings spring 2021







#### Summary

### Chair Introduction, by Conrad Attard (3 min) Part I (35 min)

- New project: IEEE Continuing Education for Engineering Professionals in Africa Vincent Kaabunga & Bruce Krogh
- EAB Programs and Awards Sohiab Qamer
- IEEE Study Circle Program Pilot A. Margarida Trigo
- IEEE R8 Robot Wars Championship Conrad Attard
- STEM portal Lorena Garcia
   Part II (10 min)
- Pre-university working committee, A. Margarida Trigo
- University working committee, Nizar Rokbani
- Continues education working committee, Amith Khandakar



## PEA REGIONS PROFESSIONAL AND EDUCATIONAL ACTIVITIES PRE-ORDERST, UNIVERSITY, CONTRODUCED.

#### **R8 Professional and Educational Activities**





Nizar Rokbani

University Activities Works Committee

Member (Past-Chair)



Committee Chair



Conrad Attard PhD

#### Corresponding Member



Ana Margarida Trigo

University Activities Works Committee Mission

#### Member



Amith Khandakar

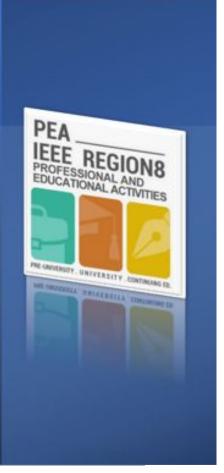
Continuing Education Works Committee

#### **Corresponding Member**



Weizhi Meng

Promotion and Media

















#### Introduction

- We have established 11 objectives that cover different aspects of Professional and Education Activities.
- New committee formed
- 5 new programs focusing on practical impact of PEASC
- Construction of Arena for IEEE Region 8 Robot Wars Championship in Malta.
- Updating existing programs to reach out to more Sections
- Launched the Speakers Program Call for Speaker nontechnical talks
- Pilot the local languages program technical webinars in French and Arabic
- Collaborating with YP as member of the international evaluation committee IEEE
   Region 8 Entrepreneurship Initiative





#### **2020 Education Activities Globally**

- Record year for continuing education revenue \$1.34M
- IEEE Academies on Artificial Intelligence and Internet of Things and Smart
   Grid
- IEEE learning Network now has over 1000 course accessible form 29 partners from across IEEE
- COVID response to support our Members: 55 virtual events with over 41,000 registrations







#### Part I

- New project: IEEE Continuing Education for Engineering Professionals in Africa Vincent Kaabunga & Bruce Krogh
- EAB Programs and Awards Sohiab Qamer
- IEEE Study Circle Program Pilot, A. Margarida Trigo
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- STEM portal Lorena Garcia



5 Topics 5 Minutes 5 Slides

IEEE CONTINUING
EDUCATION FOR
ENGINEERING
PROFESSIONALS IN
AFRICA

IEEE Region 8 Online Meeting Series.

**IEEE R8 PEASC** 

http://pea.ieeer8.org/

SPEAKER

**BRUCE KROGH** 





5 Topics 5 Minutes 5 Slides

IEEE CONTINUING EDUCATION FOR ENGINEERING PROFESSIONALS IN AFRICA

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**IEEE R8 PEASC** 

http://pea.ieeer8.org/

SPEAKER

**VINCENT KAABUNGA** 









## IEEE Continuing Education for Engineering Professionals in Africa

IEEE Region 8 PEASC March 19, 2021

**Initiative Leaders** 

Vincent Kaabunga Bruce Krogh Chair, IEEE Africa CouncilIEEE Life Fellow



## IEEE Continuing Education for Engineering Professionals in Africa Feasibility and Planning Study

*IEEE NIC Project – 2021-2023 (renewable annually)* 

**Vision:** Develop IEEE continuing education resources **relevant to the needs of practicing engineers and their employers in Africa.** 

#### Goals

- Make delivery accessible, affordable and effective
- Satisfy professional engineering CEU requirements
- Engage Africa-based content developers & mentors
- Develop local IEEE Section support and ownership
- Create partnerships for sustainability

#### **Target Countries**

- Year 1: Kenya, Zambia
- Year 2: Uganda, Rwanda, Ghana
- Year 3: Nigeria





#### **Approach: Leverage existing IEEE resources**



- ► E-learning platform with hundreds existing technical and professional courses
- Supports custom access and course programs for industry partners
- Extensible with new courses to be developed for this project



#### ieee-collabratec.ieee.org

- Collaboration platform supporting information exchange for focused interest groups
- Workspaces for topic-specific student discussion and collaboration
- Communities for course-specific mentor support



### Year 1 (2021): Pilot projects in Kenya and Zambia



2019 Nairobi and Lusaka Stakeholder Meetings

**Objective:** Offer a few existing ILN courses to get feedback from stakeholders to guide future development and prepare for certification with the National Engineering Boards

#### Phase 1

- Create access to current ILN course programs in power systems and telecommunications
- Hire on the ground consultant to work on the project within Africa (likely based in Kenya)
- Engage key employers to offer courses the courses for free to their employees
- Collect and assess feedback from engineers and employers

#### **Phase 2** (based on feedback from Phase 1)

- Engage and prepare mentors for selected courses for a more focused pilot program
- Engage employers with specific interest in the mentor-supported courses
- Collect feedback and develop plans for Year 2



#### **Region 8 Engagement**



#### How can you help?

- Support engagement with the local sections and chapters
- Leverage your networks for industry partners
- Recruit IEEE volunteers to serve as mentors
- Publicize the project to raise awareness of IEEE's activities in Africa





#### EAB PROGRAMS AND AWARDS

IEEE Region 8 Online Meeting Series.

#### IEEE R8 PEASC

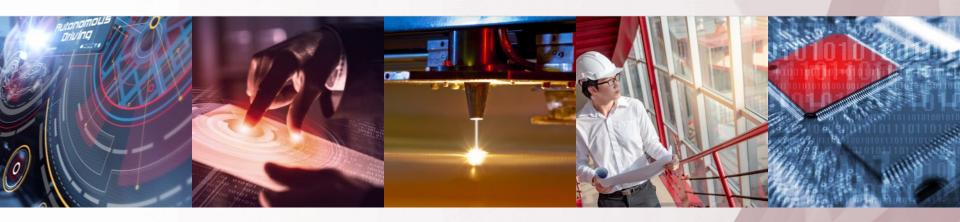
http://pea.ieeer8.org/

**SPEAKER** 









## **IEEE** Region 8 Meeting - PEASC **EAB Programs and Awards**

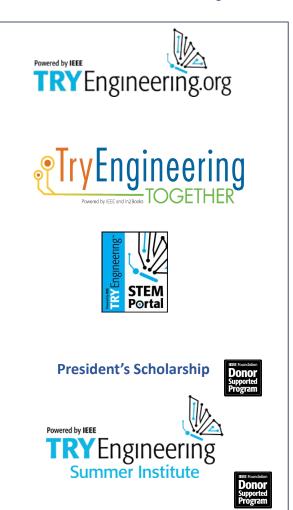
18 Mar 2021 Sohaib Qamar Sheikh Member, IEEE Educational Activities Board





#### IEEE Educational Activities Programs

#### **Pre-university**



#### University



#### **Continuing Education**







And EAB Awards!



#### **University Collaboration Opportunity**





Service Learning Opportunity: Gives students engineering experience, while developing devices and systems to aid communities around the world

#### **Student Value:**

- Develop project management, technical, teamwork, and leadership skills
- Receive mentoring from engineering professionals
- Make a sustainable impact on a community level

#### By Submitting a Project to EPICS IEEE Volunteers:

- Lead students in hands-on projects
- Improve STEM education in local schools





#### **University Collaboration Opportunity**

#### IEEE-Eta Kappa Nu (IEEE-HKN)

The international honor society in the IEEE fields of interest, recognizing technical excellence, community service, exemplary character, a positive attitude, and leadership.

- IEEE-HKN members add value to the community through community service projects.
- IEEE-HKN members are sought out by employers and chapters have a close relationship with local companies.







Over 45,000 Hours of Community Service in 2020!



Interested? Contact IEEE-HKN at info@hkn.org

#### **Adding Value to IEEE Members**

Credentials: Certificates and Digital Badging

EA is charged by the IEEE to administer and manage all CEUs.

Certificates are offered for successful completion of learning events (courses, webinars, workshops, tutorials, etc.) sponsored by any IEEE Unit.

Types of certificates include:

- Continuing Education Unit (CEU)
- Professional Development Hour (PDH)
- Certificate of Completion (CoP)



can offer IEEE
Certificates &
Badges by visiting
ieee.org/education















Interested? Contact Tahiya Choudhury in Educational Activities at t.choudhury@ieee.org

#### **EA Awards and Recognitions**

#### **EAB Awards**

- Meritorious Achievement in Accreditation Activities
- Meritorious Achievement in Continuing Education
- Meritorious Achievement in Outreach and Informal Education
- Meritorious Achievement Award in Pre-University Education
- Major Education Innovation
- Meritorious Service to IEEE EAB
- Educational Activities Board (EAB) / Standards Association (SA) Board of Governors
   Standards Education Award
- Employer Professional Development
- Section Professional Development
- Society/Council Professional

#### **EAB Scholarship and Fellowship**

- ► IEEE Life Members Graduate Study Fellowship in Electrical Engineering
- ► The Charles LeGeyt Fortescue **Scholarship**

#### HKN Awards (administered by HKN ARC)

- Outstanding Chapter Award
- Alton B. Zerby and Carl T. Koerner Outstanding Student Award
- Outstanding Young Professional Award
- C. Holmes MacDonald Outstanding Teaching Award
- ► Eminent Member Recognition
- Distinguished Service Award
- Asad M. Madni Outstanding Technical Achievement and Excellence Award



#### **2021 Awards Cycle**

Nominations, judging, celebration

- Nominations Accepted 15 Feb 3 May 2021
- Evaluation Period May Jun 2021
- Award Winner Selection During June Board
- Awardee Announcement Jul-Aug 2021
- Awards Ceremony During November Board Series or Virtual Award Experience



#### Join the Conversation







Facebook
@IEEEeducation
@IEEE.continuing.education

Twitter
@IEEEeducation
@IEEELearn

**LinkedIn**@ieee-educational-activities

For questions or comments, email Educational Activities at <a href="mailto:education">edu-activities@ieee.org</a>
<a href="mailto:http://ieee.org/education">http://ieee.org/education</a>



#### 5 Topics 5 Minutes 5 Slides

#### IEEE STUDY CIRCLE PROGRAM PILOT

IEEE Region 8 Online Meeting Series.

IEEE R8 PEASC

http://pea.ieeer8.org/

**SPEAKER** 



A. MARGARIDA TRIGO







#### **IEEE Online Study Circles**

#### **New Initiative**



Catarina Reis
Chair Portugal Blockchain WG



A. Margarida Trigo
WiE Corresponding member
PEAsC







#### **IEEE Online Study Circles**

#### Introduction

- This initiative intends to facilitate continuous learning using a self-managed,
   self-paced approach where the moto is learning by sharing
  - Curiosity: this initiative is based on study circles embraced by Sweden more than 1 century ago to solve poverty and illiteracy problems
- Ground Structure:
  - 7-12 members per circle with a common interest to learn, discuss and grow together
  - Facilitator role instead of Teacher role
  - Facilitator is one group member who engages members into the discussion, being responsible for the session to be inside the defined scope and goals
  - Agile learning with cooperation and collaboration





#### **IEEE Online Study Circles - Proof of Concept**

#### Hyperledger Fabric Developer - Certification Training (CHFD)

- To evaluate the potential of this initiative it will be started a Proof of Concept (PoC) in April
  - IEEE Study Circle: "Hyperledger Fabric Developer Certification Training (CHFD)"











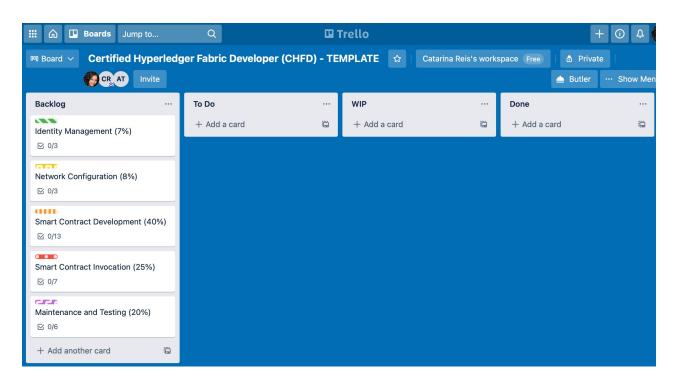


#### **IEEE Online Study Circles - Proof of Concept**



#### Hyperledger Fabric Developer - Certification Training (CHFD)

- The PoC will help to mold the resources to be used in future IEEE study circles:
  - Facilitator Handbook;
  - Circle Study Handbook;
  - The PoC will use the ScrumBan Based Learning approach







#### **IEEE Online Study Circles - Proof of Concept**

#### How to be part of Learning Circles PoC

- IEEE Online Study Circles Proof of Concept Hyperledger Fabric
   Developer Certification Training (CHFD) to start in April
- Pre-requisites of PoC:
  - Developers with knowledge in Node.js (required by certification platform)

Interested in being part of this Study Circle PoC?

Please Contact:

R8 PEAsC or <u>blockchain@ieee-pt.org</u>



5 Topics 5 Minutes 5 Slides

## IEEE R8 ROBOT WARS CHAMPIONSHIP

IEEE Region 8 Online Meeting Series.

**IEEE R8 PEASC** 

http://pea.ieeer8.org/

SPEAKER



**CONRAD ATTARD** 





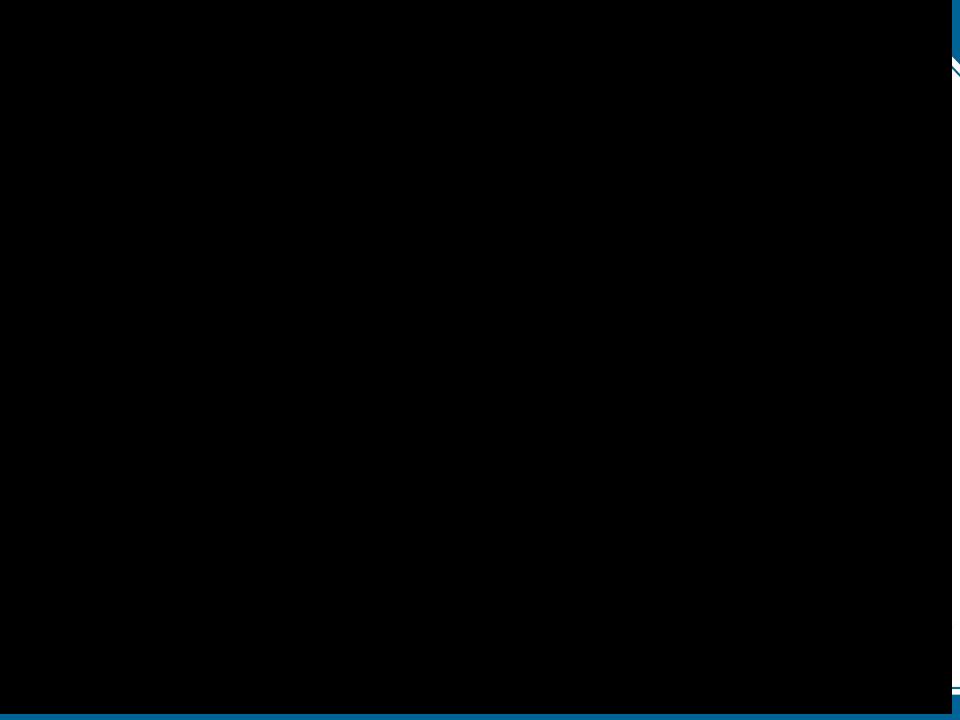




CHAMPIONSHIP 2022 MALTA

# IEEE R8 ROBOT WARS







#### **IEEE r8 Robot Wars Championship 2022 Malta**

#### Objective:

- Promote STEM among IEEE members and pre university.
- Establish an opportunity for industry partners to engage with IEEE by supporting various teams when building the robot.
- Promote the IEEE brand among different student organisations at various universities.
- Create the first R8 flagship Education event.
- Grow IEEE membership with students offering more motivation for members to join their local IEEE Student branch.
- Engage with both student and industry.
- Encourage problem solving, creativity, teamwork and collaboration.



# **IEEE r8 Robot Wars Championship 2022 Malta**

### Methodology

Reach out to different student branches in our Region

Update the rules and regulations of Robot wars

Issue a call and organize online information sessions

Construction of Arena

Review applications

Organise Webinars – Workshops on how to build Robots for robot wars, entrepreneurship skills needed to fund the robot and STEM communication.

STEM outreach to schools.

Championship in Malta





# IEEE STEM PORTAL

IEEE Region 8 Online Meeting Series.

### **IEEE R8 PEASC**

http://pea.ieeer8.org/

**SPEAKER** 









# PreUniversity STEM Outreach Programs

Lorena Garcia

IEEE EA PreUniversity Education Coordinating Committee Chair



# **IEEE Pre-University Education**

Youth see themselves as someone who can improve the world through STEM careers!

#### **SHARE**

Create and provide opportunities and resources for Volunteers, Educators, and Students

### GIVE BACK

Volunteers
engage in STEM
outreach,
assisting
educators in
bringing STEM
into their
classrooms and
helping students

### **INSPIR**

Encourage students
to
aspire to Engineering
and Technology
careers





Student Worksh



Competit ions



Worksh



Resour



STEM Portal



# **TryEngineering Brand**



Two-week summer college experiences for 8<sup>th</sup> to 12<sup>th</sup> grade students to introduce them to engineering and technology





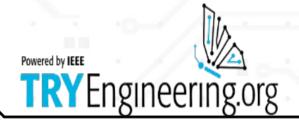
A pre-university engineering education portal for educators, students and IEEE volunteers



A teacher-guided online learning platform that matches 3<sup>rd</sup> to 5<sup>th</sup> graders with mentors from industry



STEM Portal



- Launched in 2006 as a pre-university engineering education web portal
  - Resources for educators to assist them in bringing engineering and technology into their classrooms
  - Provides students with resources to prepare them for STEM Careers





 Resources include: Lesson Plans, STEM Fields, Meet an Engineer, Games, Find a University, Virtual Learning







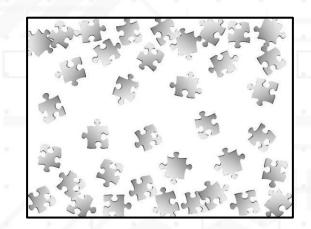


# The Challenge for IEEE's STEM Pre-University Education Programs: A Fragmented Landscape

There are many volunteer-led pre-university STEM activities happening globally, but...

We do not know collectively what is being done across the institution. There is no:

- Place for volunteers to SHARE and showcase their effective programs with each other
- Set of STEM education RESOURCES from IEEE that volunteers can draw from when developing local STEM programs
- IMPACT DATA of our collective IEEE STEM efforts









# **IEEE Volunteer STEM Portal: Share. Give**

# **Back. Inspire**

#### **Features**

- Searchable library of current STEM and pre-university programs (developed by IEEE's global communities and Partners)
- Resources to support current or new STEM programs
- Metrics and Impact mechanism
- Awards and Recognition program
- Development grants (coming soon)







## Volunteer Engagement

- Ability to share your programs
- Find a program to host/organize
- Learn best practices
- Make STEM connections
- Build a Local STEM community
- Impact as many students as possible



# **STEM Outreach Programs**



Camp



Competition/ STEM fairs



Girls in STEM



Mentoring



Student Workshop



Teacher Workshop



Industry/Com pany Tour



Career Day



Parent Program







# The Envisioned Future

# IEEE's Global Communities: Engaged in Pre-University STEM Activities

Mobilizing the global reach of IEEE to impact as many students as possible with hundreds of STEM activities offered each year!









# Join Our STEM Team

#### **Volunteer STEM Portal**

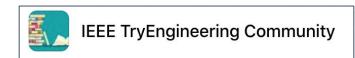
- <u>Share</u> your great programs
- Pa pi STEM

Join our IEEE Pre-University

<u>Collabratec Community</u> and

<u>TryEngineering Facebook Group</u>





#### **FOR MORE INFORMATION CONTACT:**

Lorena Garcia <u>lorenagarcia@ieee.org</u>, Burt Dicht <u>b.dicht@ieee.org</u>, Dawna Schultz <u>d.j.schultz@ieee.org</u>









# STEM Portal

# Share. Give Back. Inspire.

Join us for a deep dive into STEM outreach.

23 March 2021 at 10am ET

24 March 2021 at 7am ET

25 March 2021 at 12pm ET

# **LEARN MORE**

Brought to you by IEEE TryEngineering





### **R8 Professional and Educational Activities**

#### Part II

- Pre-university working committee, Ana
- University working committee and Nizar
- Continues education working committee, Amith





# **Pre-University Education WG**

Presented by:

Ana Trigo PEAsC corresponding member

WiE member

IEEE Graduate Student Member, Portugal Section





# PRE-UNIVERSITY ACTIVITIES WORKS COMMITTEE

IEEE Region 8 Online Meeting Series.

**IEEE R8 PEASC** 

http://pea.ieeer8.org/

**SPEAKER** 



A. MARGARIDA TRIGO







# **Pre-University Education WG**

#### **Main Pre-University Initiatives**

- Try Engineering Month Region 8
  - Encourage all R8 OUs to implement a program of STEM Portal
  - To be held in 2021 Q4
- Alpha Contest
  - Organising events to promote engineering to the society
  - Sections earn points with every educational event
- Collaboration with other OUs and R8 committees
  - Sections, SAC, SBs, YP, WiE











# **University Education Works Committee**

Presented by:Nizar Rokbani

**IEEE Senior Member** 





# UNIVERSITY ACTIVITIES WORKS COMMITTEE

IEEE Region 8 Online Meeting Series.

IEEE R8 PEASC

http://pea.ieeer8.org/



**NIZAR ROKBANI** 

SPEAKER





# **University working committee - Nizar**

Merge the language initiative with the University activities and made available the following University level Talks in French and Arabic:

- Al and Big Data, Review & challenges, by Prof Adel Alimi, IEEE SM, Tunisia Section, Sfax University Tunisia. (Arabic-English)
- From Artificial Neural Networks to Deep Learning, by Prof TareK Hamdani, IEEE SM, Tunsia Section, Monastir University Tunisia. (French)
- Engineering with IEEE Ethics, (Arabic-English) by Dr Hussein Mahdi IEEE SM Iraq Section, Diala University Iraq

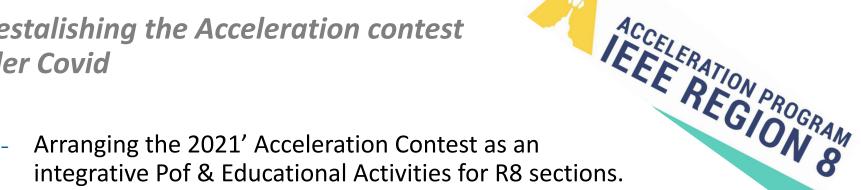
Promoting a Specific TRyengineering/Stem contenant for University Students:

- Selecting and sharing on our portal a panel of Tryengineering activities which may be done virtually.
- Adapting existing contenant from the STEM portal to distance learning :
  - Blinking with arduino based on Tinkercad, Dc Drvie ....



# University working committee

#### Re-estalishing the Acceleration contest under Covid



- Contacting previous edition winners, 2019, and Gather feed-back and expense reports.
- Arranging the new call of the contest to be inclusive for virtual en distance activities as a Covid response
- Identifying Prof & Educational activities sections officers to help in promoting the 2021' Edition of the contest:
- At University level
- At Pre-university level in collaboration with Ana Tigo





# **Continuing Education Works Committee**

Presented by:
Amith Khandakar
IEEE Senior Member, Qatar Section





# CONTINUING EDUCATION WORKS COMMITTEE

IEEE Region 8 Online Meeting Series.

IEEE R8 PEASC

http://pea.ieeer8.org/

**SPEAKER** 



**AMITH KHANDAKAR** 







# **Essential Skills for Development**

- Entrepeneur.com put out an article about the top 9 reasons millennials get fired, and the top five are: the need for independence, lack of confidence, anxiety, miscommunication, and that millennials lack vision.
- These are what we in the education world call "soft skills."







# **PEA Speakers Program**

- Should have already received the call for nomination for the speakers program.
- Deadline: 26th March 2021
- This time we are asking speakers to nominate themselves and <u>also</u>

  <u>recommend the language</u> they can the workshops on

English
Arabic
French
Spanish
Portuguese
Other:



IEEE Region 8 Professional and Educational Speakers Program Committee (PEA SPC) is looking for thought-leaders, innovators, distinguished and experienced professionals who are willing to share their valuable knowledge in PEASC's fields of interest to IEEE Region 8 members and help them by providing guidance on developing useful skills for their professional life.

The program contains two tiers of Speaker profiles: Distinguished Speakers and Experienced Speakers.

#### Distinguished Speakers -

These speakers are international thought leaders from academia, industry, and government and will be available primarily to present face-to-face sessions if requested by IEEE Region 8 OUs. Region 8 PEASC funds the travel of these individuals to OU events and the OU is expected to cover local costs.

#### Experienced Speakers -

These speakers are experienced professionals from academia, industry, and government and will be available primarily for online sessions. They can also be invited for face to face sessions. PEASC doesn't cover any costs of these speakers.

We invite you to nominate such individuals, or yourself, in order to participate in

#### our team of speakers.

Please read our PEA Speakers Program Manual .before 26th March 2021(Friday)

The selected PEA Speakers' term will last until the end of 2021. The form is available on the link below:

Form to Fill

Regards Conrad Attard PhD PEASC subcommittee chair





# **IEEE Region 8 Entrepreneurship Initiative**



The whole committee is envisioned as:

- R8 Professional and Educational Activities
- R8 Action for Industry
- R8 Student Activities
- Abdullateef Aliyu R8 Humanitarian Activities, R8 Entrepreneurship Initiative
- Mohamed El Dallal IEEE Entrepreneurship, R8 Entrepreneurship Initiative
- Rawan El Jamal R8 Young Professionals, R8 Entrepreneurship Initiative
- Seif El Hajjem R8 Young Professionals, R8 Entrepreneurship Initiative
- Laura Gonzalez Llamazares R8 Entrepreneurship Initiative
- Mohammad Zidan R8 Entrepreneurship Initiative
- Vinko Lesic, R8 Young Professionals, R8 Entrepreneurship Initiative, R8 Life Members







#### Discussion:

Share with us some ideas you have planned for the coming months.

Which are your favorite professional and educational activities?

Engage with us: <a href="https://app.sli.do/event/m8c0cudf">https://app.sli.do/event/m8c0cudf</a>

https://tinyurl.com/PEASC2021





### **R8 Professional and Educational Activities**

#### **Educational Activities Key Principles**

- 1. We invite you to reach out different OUs when organising activities
- Educational concepts are very important when organising activities to ensure that STEM events are successful
- 3. Results are important! They need to be measured
- 4. Inform PEASC of your events and submit your activities through the STEM portal. Lets know about them.







IEEE Educational Activities Board

Learn more about Educational Activities programs www.ieee.org/education

Nominations accepted 15 February to 3 May

2020 EAB Virtual Awards Ceremony – Awardee Videos https://ieeetv.ieee.org/event/2020-eab-awards





### **Professional and Educational Activities**

Thank you

Keep in touch!

Like our FB page: /ieeeR8PEA

Engage with us: https://app.sli.do/event/m8c0cudf

https://tinyurl.com/PEASC2021