

~ HamSCI Workshop 2025 ~



Miracle Chibuzor Marcel

Founder and Director of PACS e-Lab

**PACS e-Lab's Space Education
Initiatives in Africa through
Amateur Radio on the International
Space Station**



Host: HamSCI

**Venue: NJIT Campus Center, 150 Bleeker St,
Newark, NJ 07103, USA**

Date: 14-15 March, 2025

Grok

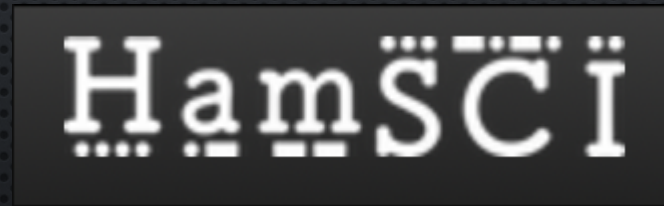


HamSCI

PACS e-Lab's Space Education Initiatives in Africa through Amateur Radio on the International Space Station

Presented by Miracle Chibuzor Marcel, Founder & Director, PACS e-Lab

HamSCI Workshop 2025, NJIT Campus Center, Newark, NJ, March 14-16, 2025



About PACS e-Lab

Pan-African Citizen Science e-Lab (PACS e-Lab) is an online platform that promotes STEM education by engaging educators, students, and ordinary people in hands-on astronomical Science.

Project: Asteroid hunting, Exoplanet Observation and Analysis, Double-Stars research, Astrophotography, Amateur radio on the International Space Station (ARISS), Telescope Donations.

Software: Astrometrica, EXOTIC, AstroimageJ, AfterGlow Access, Stellarium, Fits-Liberator, Gimp, Photoshop, Siril.

Instrumentation: Optical robotic telescopes (0.4-meter LCOGT, Slooh telescopes, and MicroObservatory) with CCD imaging.

About PACS e-Lab

Partners: International Astronomical Search Collaboration (IASC), NASA Exoplanet Watch, The Institute for Student Astronomical Research, ARISS – Amateur Radio on the International Space Station, Las Cumbres Observatory, Slooh, MicoObservatory, African Astronomical Society, Jean Pierre Grootaerd etc

Year: Dec 2020.

- Citizen Astronomers = 1000+
- Countries = 50+ / 54
- Groups or Units = 70+, STEM departments at universities and secondary schools, education and outreach divisions of national space agencies and observatories, and astronomy organizations like national societies and clubs.
- About 12 peer-reviewed entry-level research publications.
- Detected over 50 asteroids.
- Donated over 8 telescopes



Why did we choose to Partner with ARISS?

The Aims of ARISS (Amateur Radio on the International Space Station) include:

Inspiring STEM Education— Encouraging students to pursue careers in science, technology, engineering, and mathematics through hands-on learning.

Live Astronaut Communication— Enabling students to interact with astronauts aboard the ISS via amateur radio, fostering excitement for space exploration.

Global Space Engagement – Connecting schools and communities worldwide to space missions, promoting international collaboration and cultural exchange.

Building Technical Skills— Providing practical experience in electronics, radio wave propagation, satellite communications, and signal processing.

Encouraging Space Careers— Inspiring the next generation of space scientists, engineers, and professionals by increasing awareness and participation in space activities.

PACS e-Lab's Involvement in ARISS

ARISS Europe Chapter

- Europe, the Middle East, Africa, and Asia.
- Applications open on Feb-March & Sept.-Oct every year.
- We applied Feb-March, 2024.
- Jan – June 2025: April 14–20 and June 9–15, 2025.



ARISS Europe Representative <selection.manager@ariss-eu.org>

to me, peter.kofler ▾

Sat, Jun 1, 12:14 PM ☆ 😊 ↶ ⋮

Dear Sir, Dear Madam,
Dear School, Dear Youth Organization,
please, see attached ARISS letter.

Based on the information collected and processed, in according to the ARISS Europe school selection criteria, we are pleased to announce that your request have admitted in waiting list for an ARISS Telebridge contact targeting from January to June 2025.

If your ARISS event cannot scheduled, we invite you to re-submit a request during the following "Applications" Window.

Thank you for your interest in the ARISS project.

Best wishes and Good luck

⋮

One attachment • Scanned by Gmail ⓘ



ARISS EUROPE

Amateur Radio on the International Space Station

Francesco De Paolis, IK0WGF – School Selection Manager
E-mail: selection.manager@ariss-eu.org

31 May 2024

Dear Sir, Dear Madam,

Dear School, Dear Youth Organization,

In February and March 2024, ARISS-Europe organization received 22 applications from schools and youth organizations in the European region, targeting an ARISS school contact in the period extending from January to June 2025.

In accordance with the regional guidelines, provided by the ARISS International Educational Outreach and School Selection Committee, I would like inform you that we expect a limited number of opportunities for space conversations during the contact period in first semester 2025.

Based on the information collected and processed, in according to the ARISS Europe school selection criteria, we are pleased to announce that your request have admitted in waiting list for an ARISS contact targeting from January to June 2025.

If your ARISS event cannot scheduled, we invite you to re-submit a request during the following "Applications" Window.

Thank you for your interest in the ARISS project.

Best wishes and Good luck,

ARISS Europe school selection manager.

Francesco De Paolis, IK0WGF

E-mail: selection.manager@ariss-eu.org

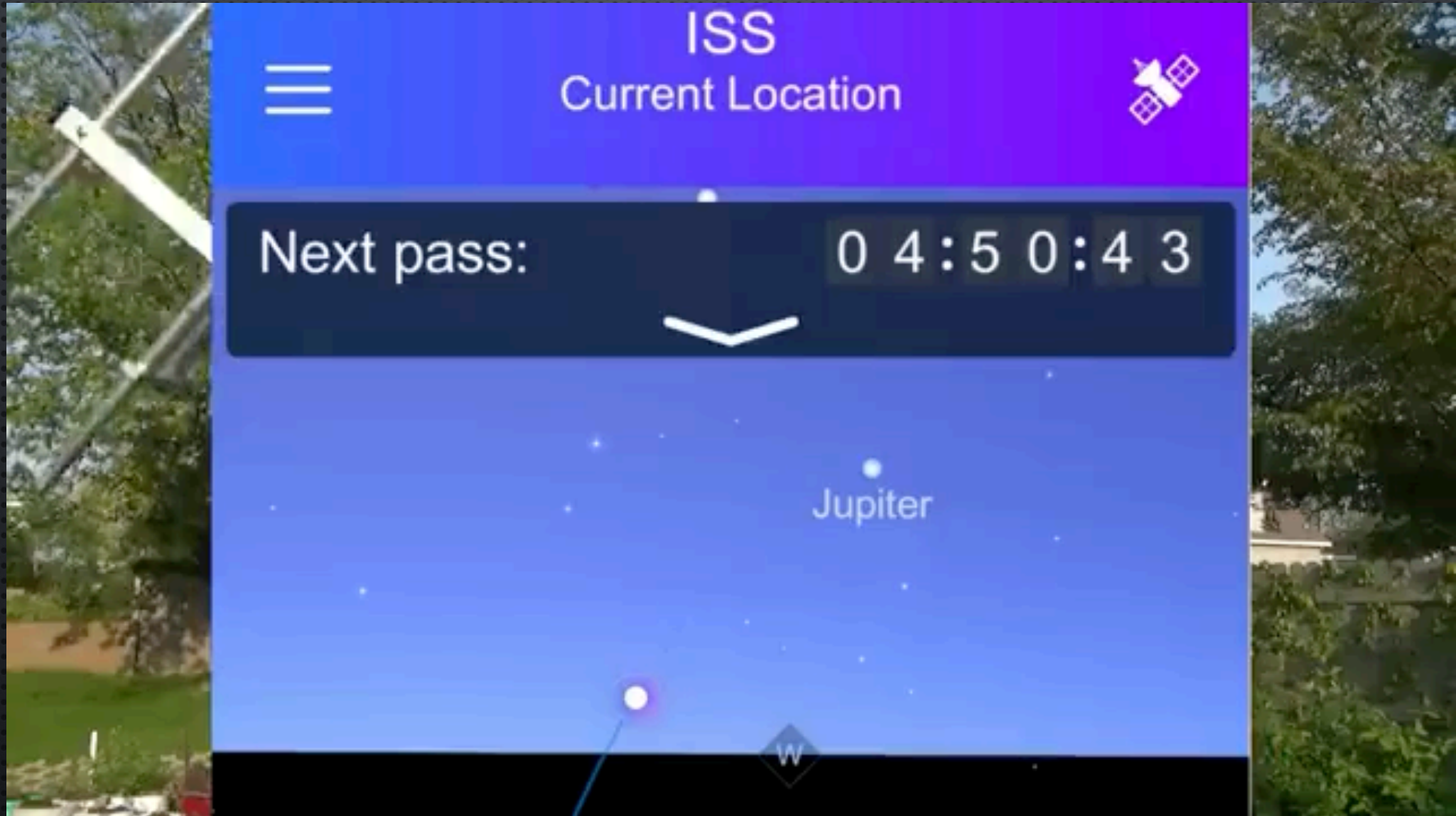
DECLARATION

ARISS cannot guarantee that the school contact will be scheduled and/or operated.

ARISS Europe operates in accordance with the GDPR

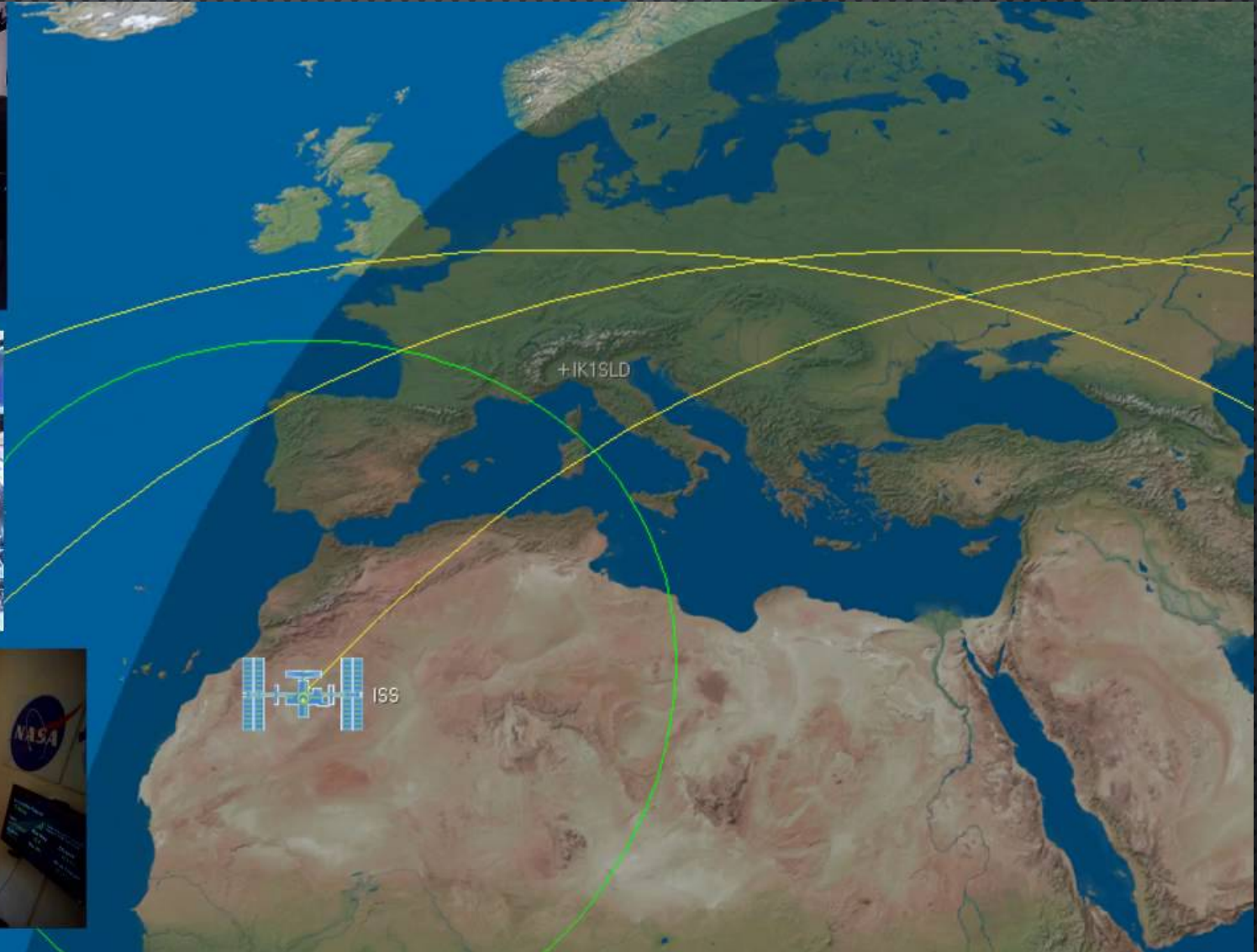
Types of Radio Contact

- Direct Contact



Types of Radio Contact

- A telebridge Contact







Preparations & Implementation

Because of the online nature of our platform:

- Will not be training students in radio communication via making an antenna.
- We shall focus on training students on tracking and spotting the ISS from their local skies.
- Educate students about the ISS.

Preparations & Implementation

- Fill out a form to express their intentions and their questions. Deadline: March 20
- Collect 20+ questions. 4 questions from each of the 5 geographical regions.
- Any age group is allowed but will prioritize age groups within secondary schools
- Practice how the questions will be asked twice before the schedule.

Media Plans

- AfAS Zoom Connections
- Social media
- Contact other mainstream media companies in Africa for publicity.

After the Event

- Conduct interviews or surveys to know their experiences.
- Report the activities through a publication
- Reapply on Sept. – Oct, 2025
- Continue to support our groups in the application process.
 - Nigerian Space Agency (NASRDA)
 - Ethiopian Space Science Society.



Following

Pan - African Citizen Science e - Lab



@pacselab Follows you

We promote Citizen Science and Soft Astronomy Research in Africa

Education Africa pacselab.space

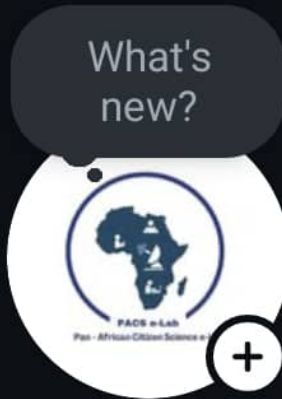
Born April 29 Joined November 2022

124 Following 86 Followers



Followed by Zimbabwean Astronomical Society, Jason Shingirai Makechemu, Free AstroScience, and 14 others

pacselab_



Pan-African Citizen Science e-Lab

433 posts

363 followers

442 following

We promote Citizen Science and Soft Astronomy Research in Africa

www.pacselab.space and 3 more

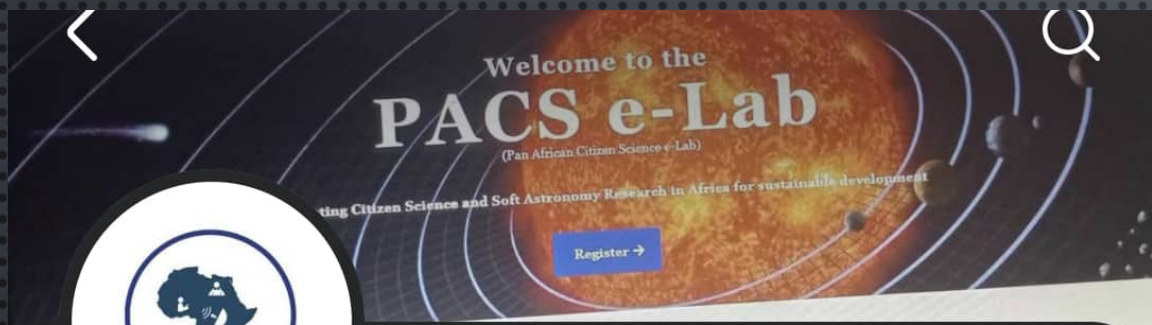
Professional dashboard

4.1K views in the last 30 days.

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Contact



Pan-African Citizen Science e-Lab

553 likes · 1K followers



We promote Citizen Science and Soft Astronomy Research in Africa 🌍

👍 Liked
💬 Message
⋮



Pan-African Citizen Science e-Lab

#pacselab #africa #research #webtelescope #citizenscience

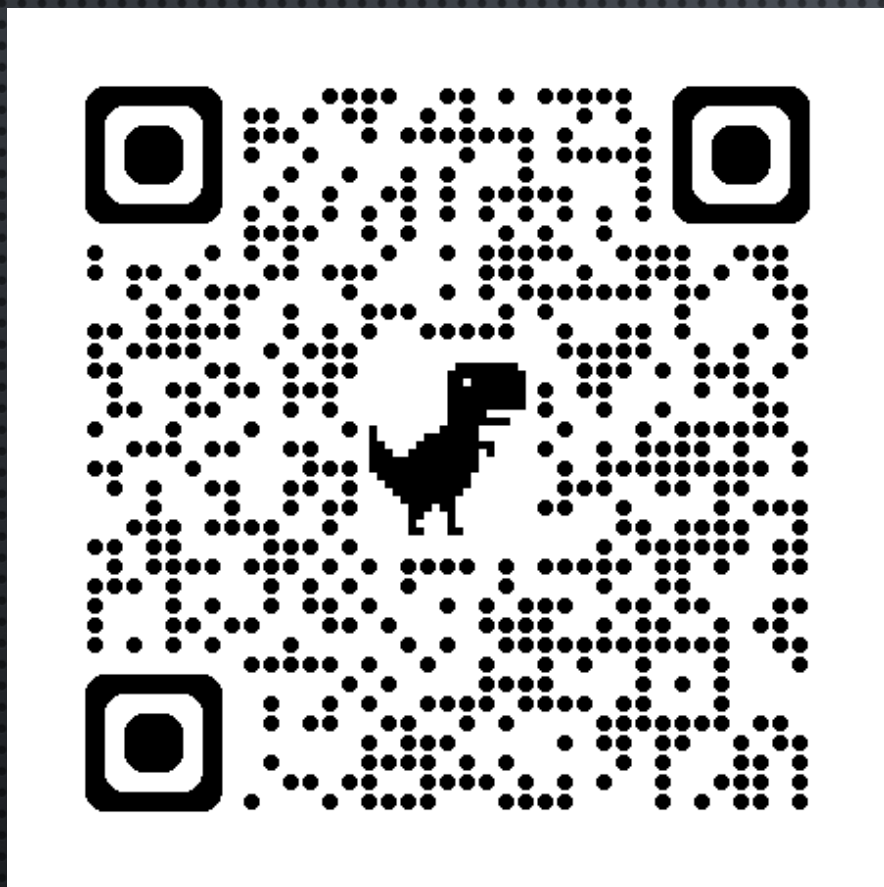
Education · Abuja · 592 followers · 2-10 employees



Call to Action

- Support our media plan.
- Support our African partners with ARISS Curriculum Development.
- Support to PACS e-Lab's initiatives through grants and long-term funding.
- Collaboration opportunities.

Contact PACS e-Lab



miracle.c.marcel@gmail.com

info@pacselab.space

www.pacselab.space