

WEBINAR #2

From application to evaluation

Open Call 3
Deadline: February 18, 16:00 CET

Join Zoom Meeting:

<https://us02web.zoom.us/j/89453074399?pwd=dGFxRzVNMEhZdDlnWmoIV2RZTFpYQT09>

SPEAKERS



Iwa Stefanik
Project coordinator



Pablo Trueba
Call management



Giulia Pastor
Communication
Manager



CONTENT

1. What you should know to succeed?
2. What's next? *Before, during and after*
3. Eligibility checks
4. US Nodes
5. Q&A



EXPLORERS





EXPLORERS

A stylized illustration of a white rocket with green fins and a blue nose cone, flying from left to right against a dark blue space background. The rocket has a blue oval on its side and a blue-to-red gradient flame. The background is filled with colorful, abstract shapes in yellow, orange, blue, and pink, as well as small white dots representing stars and a few larger planets with blue and pink patterns.

WEBINAR #2

What you should know to succeed?



CONCEPT



VISION

*"Bright ideas should know **no boundaries...**".*

Carlos Moedas, European Commissioner for Research, Science and Innovation



MISSION

Bridge new **opportunities** for collaboration between Europe and the US through **an exchange of talent and knowledge**, catalyzing the NGI



OUTCOME

Human Internet
- links research, policy, and society for the benefit of humans



NGI EXPLORERS

AI

Blockchain

Big Data

IoT




5G

Cyber-security




Cloud/Edge Computing

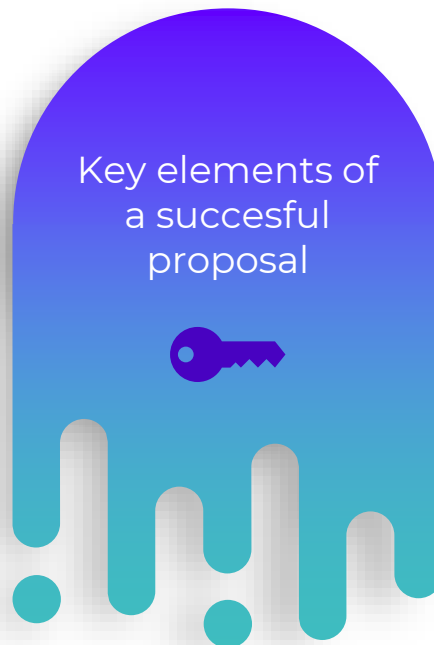
EXPECTATIONS

1| KNOW-HOW

-  Expertise & skills
-  NGI relevance
-  Experience

2| EXCELLENCE

-  Technical scope
-  Quality & clarity
-  Feasibility of the work plan



3| IMPACT

-  Technological
-  Social
-  Economic

Do you match with your US Node requirements and expectations?

CHECK YOUR US NODE



EMBRY-RIDDLE
Aeronautical University

Embry-Riddle Aeronautical University
Department of Electrical Engineering and Computer Science
Security and optimization for networked globe Laboratory (SONG Lab)

daytonabeach.erau.edu
@EmbryRiddle

Embry-Riddle Aeronautical University is the world's largest and most respected university specializing in aviation and aerospace, with over 130,000 graduates around the globe.

The Department Electrical Engineering and Computer Science works on the technologies that make air and space flight possible. From navigation and control systems to the electroluminescent dimming of the windows in a 787 airliner, these technologies involve embedded computers like those found in mobile phone and flight control systems.

The mission of the Security and Optimization for Networked Globe Laboratory (SONG Lab) to advance research and education through discovery and innovation at the confluence of cybersecurity, privacy, AI/machine learning, communications and networking, and cyber-physical systems (CPS).

READY FOR



US Node profile

NGI EXPLORERS



OPEN IDEAS

PROPOSE YOUR OWN IDEA

Submit openly a disruptive idea based on your line of research, product, or service. Attract the interest of this US node.



FOCUS TECHNOLOGY AREAS

AI

Cybersecurity

IoT

KEY APPLICATION SECTORS

Space

Transport

Security

Environment

Open Idea profile

NGI EXPLORERS



CHALLENGE #32 SCU-EDGE-02

Resource Allocation in Edge and Fog Computing Systems

Meet the expectations of this US Node through the technology challenge described below



GOALS

Resource-constrained IoT devices need to rely on edge, fog, or cloud computing resources to fulfill their application requirements. Resource allocation requires slicing both networking and computing resources in a timely and predictable manner. To this end, parameters such as the available resources of edge/fog nodes, the available bandwidth of links, and the delay of communication and processing resources must be taken into account. We will design and develop algorithms to control the reservation of both computing and communication resources in an efficient manner. Here, efficiency refers to reducing decision making time regarding resource allocation, as well as reducing the amount of traffic required to enforce the reservations. Since edge/fog computing is a relatively new field, there is no standard platform for research and development in a realistic environment. Existing works rely on simulation or emulation tools. On the other hand, existing edge and fog computing architectures only deal with the challenges of bringing cloud computing paradigms and NaaS towards the network edge. In response to these challenges, we have developed a platform called the fog development kit (FDK) for on-demand reservation (and release) of communication and computing resources. By providing high-level interfaces for allocating resources, the FDK system abstracts the complexities of fog computing from developers. We will extend the edge/fog system by adding the following features: (1) We will enhance the architecture to allow for resource negotiation when enough resources are not available to be reserved for a non-mission-critical application. For example, a video surveillance application may switch to the next lower

video resolution and request for resources again. (2) We will add interfaces to control the allocation of resources on each fog node to switching and processing tasks. We will rely on the existing virtualization technologies (e.g., processor pinning) to slice these resources. (3) We will enable fog nodes to perform duty cycling, similar to our previous work in. This enhancement will improve the energy efficiency and scalability of the fog system. Duty cycling of fog nodes will be centrally managed.

DETAILS

(1) Profiling and reducing the traffic required to enforce resource allocation in edge/fog networks. (2) centralized and distributed resource allocation algorithms compatible with existing SDN and virtualization technologies. (3) enabling in-network processing and software switching to reduce the deployment cost and maintenance of edge/fog computing systems.

SKILLS REQUIRED

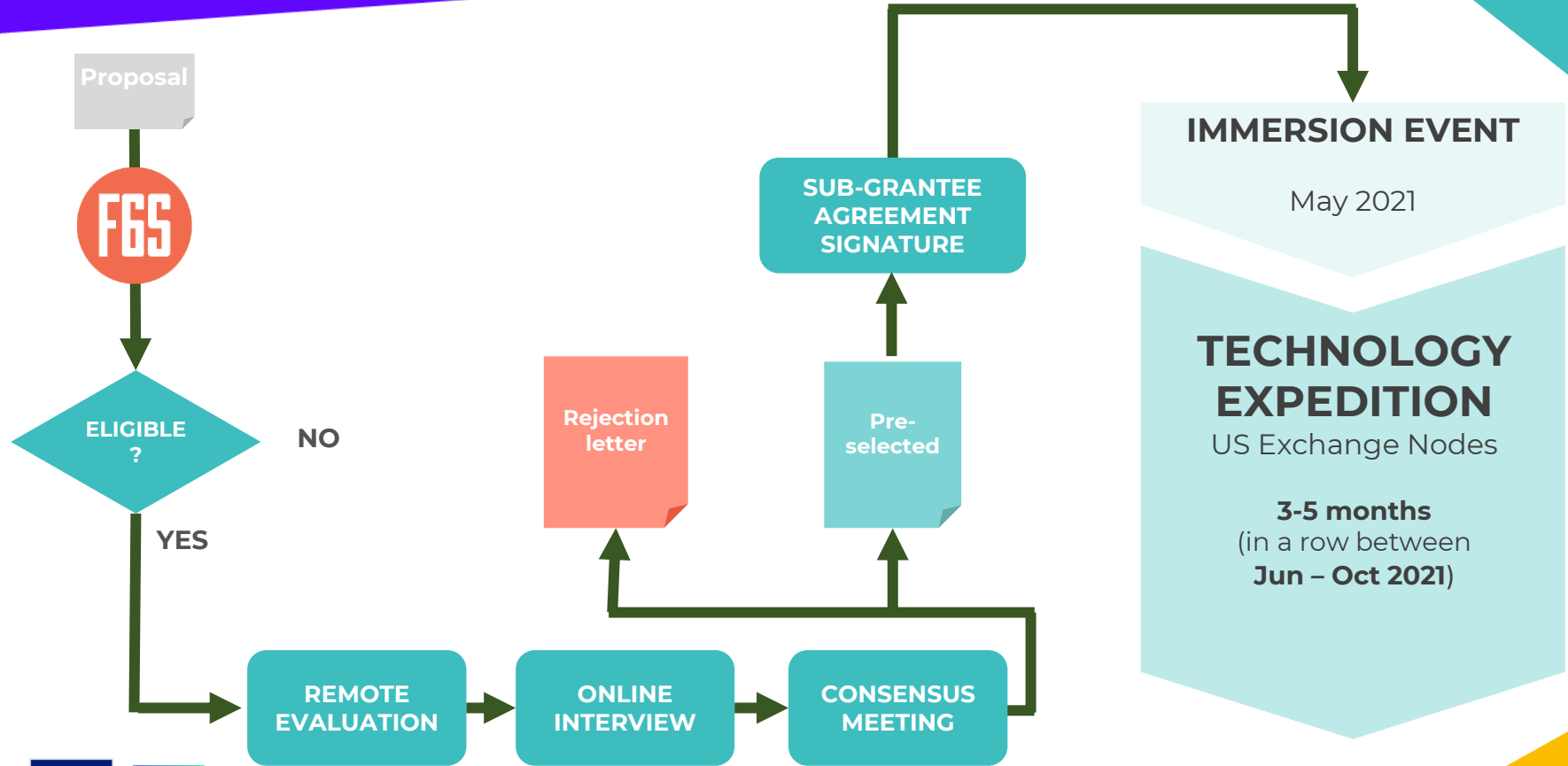
Software-defined networking, virtualization technologies, software switching, QoS, DPDK, Docker, algorithms, machine learning, optimization

Challenge profile



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SUCCEED IN EVALUATION





EXPLORERS



WEBINAR #2

What's next?



BEFORE - BOOTCAMP up to 3 days event

An intense agenda of four “training modules”:

LEARN

SUPPORT

GROW

CONNECT



CHECK INTERVIEWS with EXPLORERS CALL # 1



Ricardo CARMONA

INNOVATOR

FOCUS AREA AI

PROJECT TITLE
Bridge Monitoring with Predictive Intelligence





sponsors European
s + Innovators
peditions to the USA

months. 100% sponsored
Technology Challenges
US partners or propose
ten Idea

Teams. Applicants can
a proposal to advance
along with a specific
of their organizatio
ship support
powerful network
Internet

NGI Explorers

NEXT GENERATION INTERNET - 2/15

-  **NGI Explorers**
NEXT GENERATION INTERNET
1:00
-  **NGI Explorers First Expedition: meet the Explorers | Ricardo Carmona**
NEXT GENERATION INTERNET
2:16
-  **NGI Explorers First Expedition: meet the Explorers | Mohit Taneja**
NEXT GENERATION INTERNET
1:23
-  **NGI Explorers First Expedition: meet the Explorers | Michal Kedziora**
NEXT GENERATION INTERNET
0:48
-  **NGI Explorers First Expedition: meet the Explorers | Martin Serrano**
NEXT GENERATION INTERNET
2:00
-  **NGI Explorers First Expedition: meet the Explorers | Khulan Batbayar**
NEXT GENERATION INTERNET
3:05



DURING



Coaching & follow-up

- **Masterplan** completion: **milestones** and **deliverables**
- Online **follow-up meetings**
- **Mentoring** support
- Intermediary **reports**, and **KPIs** check-ups



Remember!

- The final **Masterplan** will be agreed upon by the Explorers and the US Node hosting them.
- The Program covers **travel** and **subsistence costs** for **3-5 month Expeditions** in the US

AFTER



NGI Explorers Oscars

- Awards to **top Explorers**
- Visibility and **brokerage event**



NGI Explorers Alumni

- Online meeting **environment**
- Connections with **US Nodes**
- **Careers & experiences**



Funding and supportive opportunities

- Prospection of **public** and **private** funding sources
- Collaboration with **TETRA project** services

TIMELINE OPEN CALL#3

EVALUATION & SELECTION

Mar - Apr 2021

IMMERSION

May 2021

NGI OSCARS

Nov 2021



OPEN CALL

Dec 2020 – Feb 2021



CONTRACTING

May 2021



USA EXPEDITION

3 -5 months between
Jun – Oct 2021



#1 payment

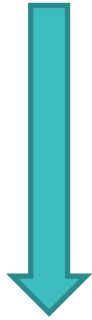
#2 payment

#3 payment



GRANT OPEN CALL#3

Fellowship grant: €4,650/month



COVID-19 pandemic
→ additional safety measures & requirements
10% extra allowance

'COVID-19' rate
€5,115/month in the USA

IMMERSION

May 2021



#1 payment



USA EXPEDITION

3 -5 months between
Jun – Oct 2021

#2 payment

NGI OSCARS

Nov 2021



#3 payment





EXPLORERS

A stylized illustration of a white rocket with green fins and a blue nose cone, flying from left to right against a dark blue space background filled with stars. The rocket has a large orange and red flame at its base. To the left of the rocket, there are colorful, abstract shapes in yellow, orange, and blue, resembling nebulae or clouds. Below the rocket, there are several small, colorful planets or moons in shades of blue, purple, and pink.

WEBINAR #2

ELIGIBILITY CHECKS



CONTENT

- Who can apply?
- Application options
- Visa & Insurance
- Reference documents
- COVID-19 impact



EXPLORERS



WHO CAN **APPLY**?

AM I ELIGIBLE?



NGI

EXPLORERS

The Program supports two **candidate profiles**:

Researchers



Holding a Master's degree or higher. Employed in: third level education institutes, research infrastructures, non-profit organizations and charitable (scientific) foundations and public research centres

Innovators



Internet technologists representing hi-tech startups, micro, small and medium-sized enterprises (SMEs), mid-caps working on Internet or and other related technologies

The Program support **individuals** (applicants), not teams



Candidates must be **employees** of any of the following **entities**:

- **Universities**
- **Research centres**
- **Mid-caps**
- **SMEs**
- **Startups**

These **entities** must be **established** in any of these **countries**:

- **Member States (MS)**
- **Overseas Countries and Territories (OCT)**

Anguilla, Aruba, Bermuda, Bonaire, British Antarctic Territory, British Indian Ocean Territory, British Virgin Islands, Cayman Islands

- **H2020 Associated Countries**



[List of H2020 associated countries](#)

APPLICATION OPTIONS

WHAT'S IN IT FOR ME?



APPLICATION OPTIONS



OPEN IDEAS

Propose a **disruptive idea** based on your **line of research, product** or **service**. Identify and select the preferred US Node taking into consideration common priorities

[List of US nodes](#)



CHALLENGE

Apply to one of the **challenges** designed by our **US nodes**

[List of Challenges](#)



PAIRED TEAMS

Submit a proposal with **your US partner**



VISA & INSURANCE

WHAT IS REQUIRED FOR MY US EXPEDITION?



Visa requirements

- Candidates must be valid **EU, OCT or H2020 Associated Countries passport holders***

** NOTE: Exception will apply to non EU passport holders that hold a valid **residence permission** in the EU, OCT or H2020 Associated Countries*

- Explorers are required to obtain a **valid Visa** for their stay in the US. Official recommended visa: **J-1 Visa** (any other type must be consulted with the selected US Node).



It is the Explorer's **responsibility** to ensure that all the **authorizations** required are in order before the Expedition takes place

Insurance

Explorers are fully responsible to ensure that their **health insurance coverage** meets the regulatory requirements in the US



Willful failure from the Explorer to maintain active insurance coverage is grounds for termination from the Program



[J-1 Visa Exchange Visitor Program support](#)



[Insurance requirements for the J-1 Visa](#)

REFERENCE **DOCUMENTS**

THE LIFESAVERS



- 👉 Guidelines for applicants
- 👉 *Online submission form*
- 👉 *Declaration of honour*
- 👉 Statement of commitment (Paired Teams only)
& Memorandum of Understanding (as reference)

3rd Open Call **Submission Kit**

- 👉 *Frequently Asked Questions*

FAQ section

**KEEP
CALM
AND
READ
THE
GUIDELINES**



COVID-19

WHAT IF COVID-19 SITUATION DOES NOT ALLOW ME TRAVELLING TO THE US?



Expedition: “3 or 5-months fellowship stay for EU Explorer in US Exchange Node”

Alternative Expedition options in the event that the **COVID-19 pandemic** does not allow traveling to the US under safe conditions by June 2021:



Full remote Expedition in Europe

(Explorers shall still perform a full work dedicated to executing their Expedition work plan)



Up to 50% of the “Fellowship grant” monthly rate

Weekly rate

Mix between in-person Expedition in the US & remote in Europe



While in remote in Europe: Up to 50%

In the USA – up 100% (incl. extra COVID-19 allowance)





EXPLORERS

WEBINAR #2

US NODES



USA PARTNERS

ASU Arizona State University

BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK

BOSTON
UNIVERSITY

Carnegie Mellon University

THE CATHOLIC
UNIVERSITY
OF AMERICA

CLEMSON
UNIVERSITY

**COLORADO SCHOOL OF
MINES**

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

ECU

EMBRY-RIDDLE
Aeronautical University

**GEORGE
MASON**
UNIVERSITY

Georgia State
University

THE GEORGE
WASHINGTON
UNIVERSITY
WASHINGTON, DC

IOWA STATE
UNIVERSITY

MISSISSIPPI STATE
UNIVERSITY

NJIT
New Jersey Institute
of Technology

**NM
STATE**

PennState

SAINT LOUIS
UNIVERSITY

Santa Clara
University

Simmons
UNIVERSITY

UNIVERSITY AT ALBANY
State University of New York

UCF

University of Colorado
Boulder

UCCS University of Colorado
Colorado Springs

UNIVERSITY OF
HOUSTON

IOWA

UMass | Dartmouth

UNIVERSITY OF MINNESOTA

THE UNIVERSITY
OF NORTH CAROLINA
at CHAPEL HILL

**UNIVERSITY OF
OREGON**

**UNIVERSITY OF
ROCHESTER**

USC University of
Southern California

South Carolina

**UNIVERSITY OF
SOUTH FLORIDA**
TAMPA BAY

THE UNIVERSITY OF TENNESSEE
CHATTANOOGA

VT VIRGINIA
TECH

Washington
University in St. Louis

**WESTERN
MICHIGAN**
UNIVERSITY

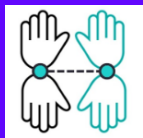
USA PARTNERS

Open Call #3
39 US Nodes
51 Challenges

USA PARTNERS



REMEMBER



With the option **Paired Teams** you can always propose to work with **your own partner in the US**

What they can provide

Catalyzers of the Transfer of Knowledge

Support to obtain the VISA

The physical space where the Explorers will live their experience

Integration with daily activities in their teams

First-hand mentorship and guidance for a better adaptation



Find more info
explorers.ngi.eu



Contact us
explorers@ngi.eu



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Exceed your limits
Become the best