

**6G**

**FLAGSHIP**  
UNIVERSITY  
OF OULU



**UNIVERSITY  
OF OULU**

**6G research and possible opportunities**

**6G FLAGSHIP**




**ACADEMY  
OF FINLAND**



**FLAGSHIP PROGRAMME**

**Nurul Huda Mahmood**

6G Flagship, Center for Wireless Communications, University of Oulu

The logo consists of three teal-colored diagonal bars: one on the left pointing down-right, one in the center pointing straight down, and one on the right pointing down-left.

**OULU**



# OULU

CAPITAL OF NORTHERN SCANDINAVIA

NORTHERN, HUMANE AND SMART OULU

HOME OF 208,000 PEOPLE

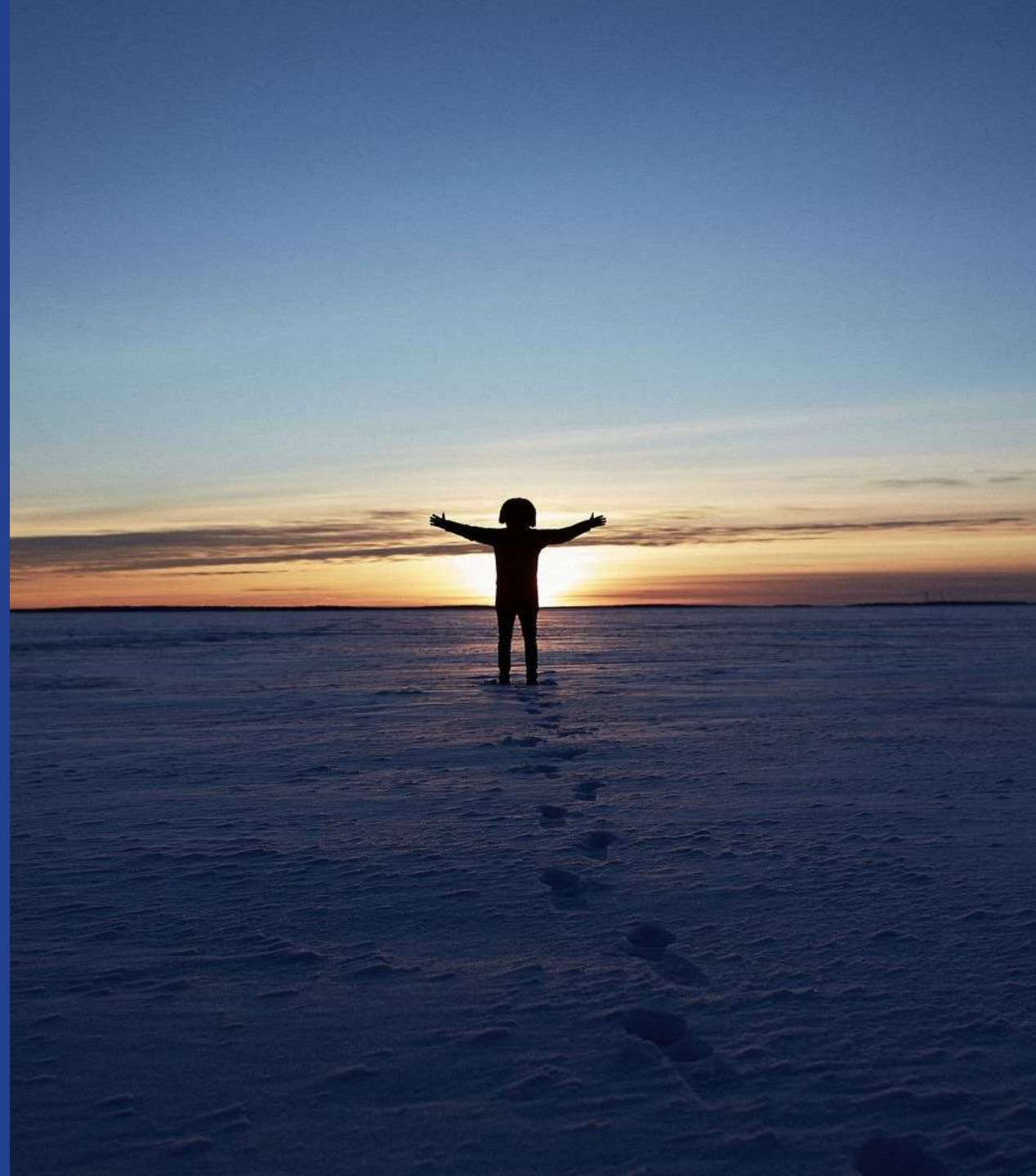
CYCLING CAPITAL OF FINLAND

CITY OF TECHNOLOGY – MOST PER CAPITA R&D INVESTMENTS





# University of Oulu

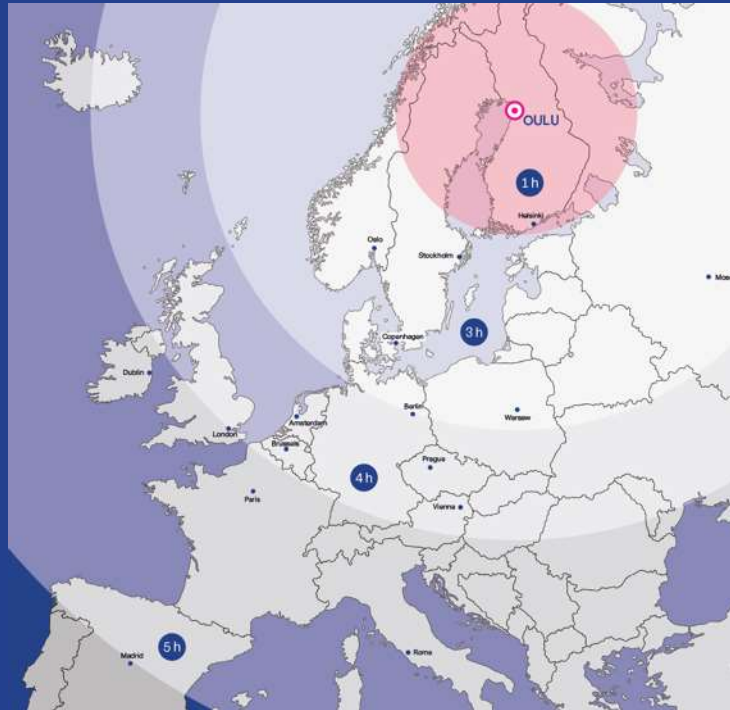


**Established 1958**





# The University of Oulu in brief



**Natural Sciences and Mathematics**

**Biosciences**

**Medicine and Health**

**Economics and Business Administration**

**Engineering and Architecture**

**Information and Communication Technologies**

**Education and Psychology**

**Humanities**

**13 900**  
Students

**3 800**  
Staff

**65 000+**  
Alumni



# International cooperation

Participating in international science networks is the foundation for the University's renewal and development.

International Master's Programmes



Different nationalities in the university community



Bilateral cooperation agreements with universities



Erasmus network: No. of agreements



Erasmus network: Partner Universities



**13 900**

Students

**1 470**

International students  
(2021)

**843**

Exchange students



# Our students learn how to solve global challenges

We train skilled and adaptable professionals who are able to apply the latest scientific knowledge and technology to practical challenges.



**Climate change and sustainable development**



**Health and wellbeing**



**Man and the changing world**



**Artificial intelligence and digitalisation**





# Key figures

International rankings

**301–500**

**top 3%**  
of the world's universities

Funding total in 2022 M€

**274**

Research based spin-off companies since 2000

**76**

Invention and software disclosures in 2022

**56**

**3006**  
Scientific publications  
in 2022

Bachelor's degrees in 2022

**1 205**

Master's degrees in 2022

**1 407**

Doctor's degrees in 2022

**170**

**2 784**  
Degrees in 2022



# 6G Flagship

A large, 3D, blue-tinted '6G' text is positioned on a sandy beach. The background shows a bright sunset or sunrise over the ocean, with the sun low on the horizon and its light reflecting on the water and sand. The text is slightly out of focus, giving it a sense of depth and scale.

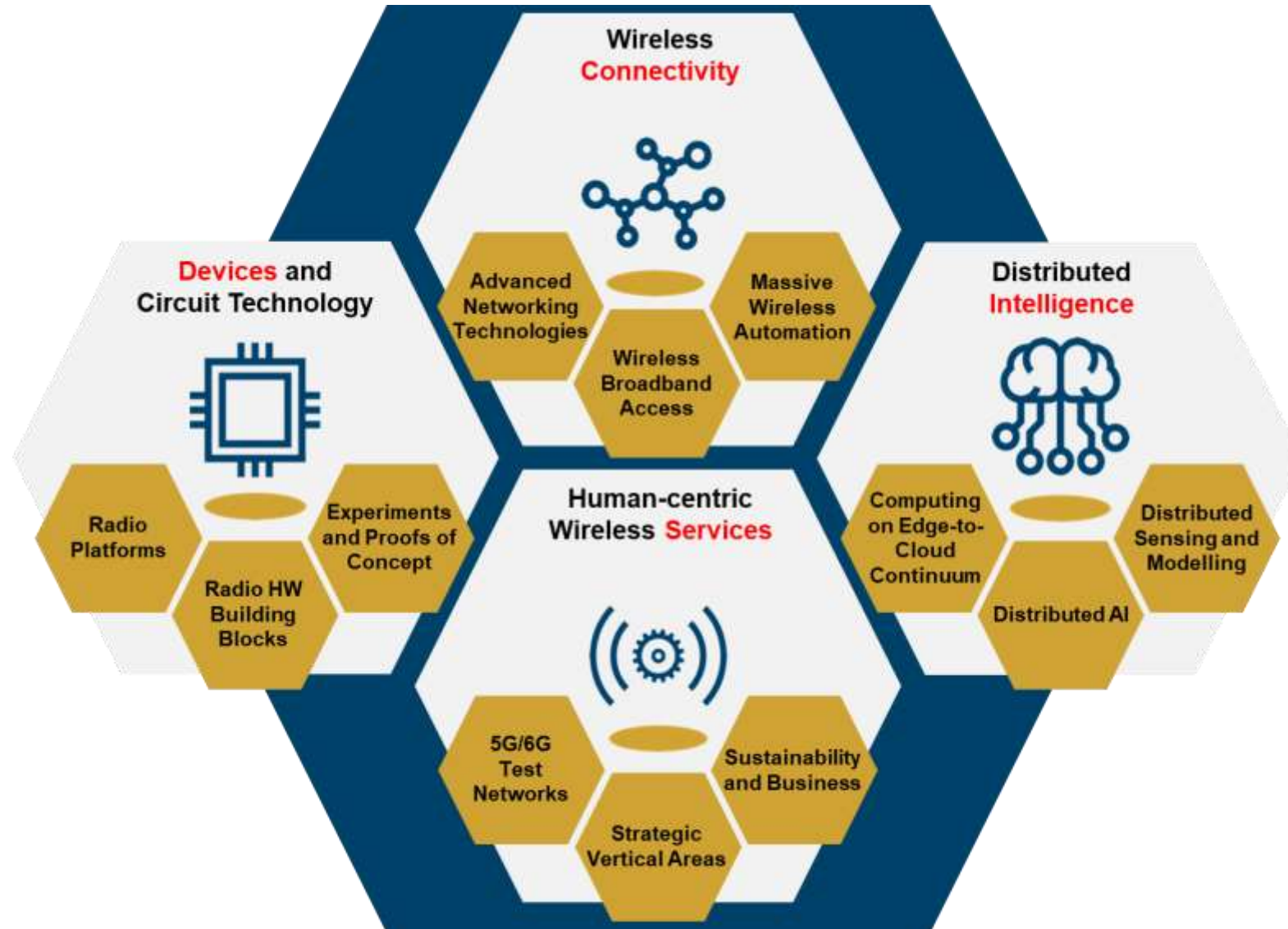


# Facts sheet

- National research flagship for 2018 – 2026.
- Successfully completed the first phase in 2018 – 2022.
- Operated by University of Oulu.
- Currently involves 400 researchers from 50 nationalities.
- Steered the first 6G visions work via 13 6G White Papers (downloaded over 1M times).
- Published 2500 per-reviewed papers and 85 doctoral theses.
- Over 400 company collaborators and more than 300 research projects so far.

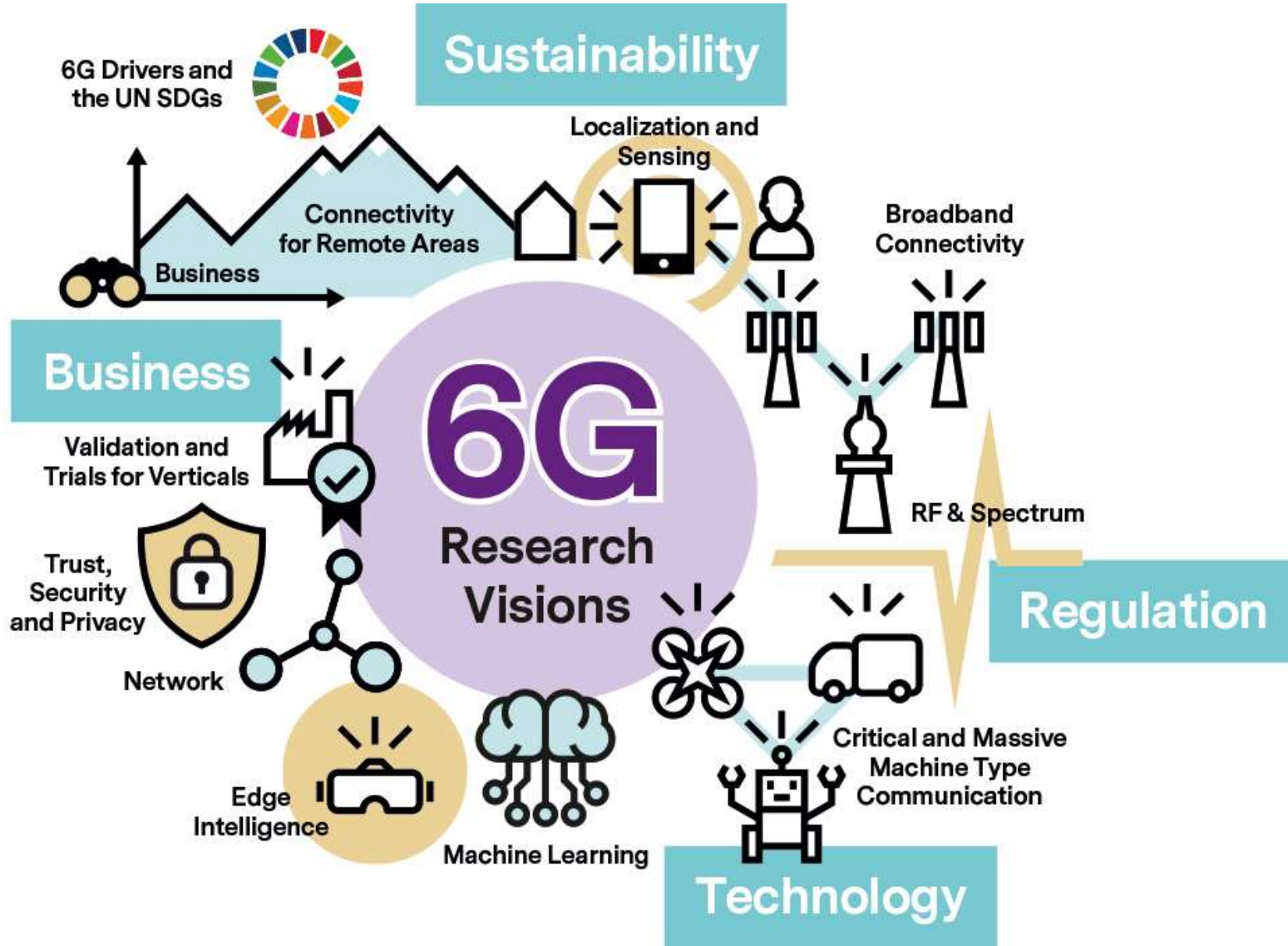


# 6G Flagship Strategic Research Areas



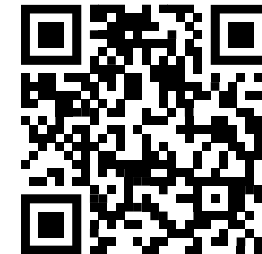


# Unique Research Agenda



The first-ever 6G white paper came out in 2019. Since then, other white papers have envisioned various future scenarios.

The 6G research visions will take you on a journey to explore the possibilities and imagine the opportunities in the 2030s.



READ MORE ON OUR VISIONS



# Testimonial: Oulu is the best choice for a 6G researcher



*“Communication between machines is an integral part of the design of the entire 6G technology.”*

**Asst. Professor Onel Alcaraz López**



**Researcher  
stories and  
Achievements**





# **Doctoral training**

**University of Oulu Graduate School  
(UniOGS)**



- Doctoral researchers at the University of Oulu are part of our international, multidisciplinary scientific community.
- Each doctoral researcher belongs to one doctoral programs:
- the content of the education and the final degree are determined by the doctoral degree program.







# Requirements for doctoral study admission

1. Principal supervisor: Each doctoral student must have a principal supervisor who commits to the supervision of the student's doctoral training.
2. Relevant Master of Science (MSc) degree
3. Grade requirements: MSc degree must have been completed with good grades (at least 60% of maximum grade, or 3/5, in both taught studies and the Master's thesis)
4. Sufficient language skills (English and/or Finnish)
5. Research plan

<https://www oulu.fi/en/science-arctic-attitude/graduate-school>



# Study requirements and thesis



Open (PhD  
and Post Doc)  
Positions

<https://oulunyliopisto.varbi.com/en/>

- Doctoral research and studies correspond to **4 years of full-time work**
- Most significant part of doctoral training is the research, which the doctoral researcher plans and conducts with the support of his/her supervisor.
- Depending on the discipline, 20 to 40 ECTS credits of courses and/or other research-related activities are required.
- Doctoral researcher must write a doctoral dissertation and defend it to complete the degree.
- Doctoral training culminates in a doctoral thesis defence, where doctoral thesis is examined publicly.



# Finland Fellowship Programme



# Finland Fellowship Programme

- For talented students from non-EU countries
- 100% salary funding for the **first year of research work** of a new **starting doctoral researcher**.
- A **relocation compensation of 2 000€** is paid to the Fellowship recipient's Finnish bank account after acceptance to the programme.
- Students indicate their interest in joining the Finland Fellowship programme when completing their study right application.
- The selection of a limited number of most talented students is done by the doctoral programme committees of the University of Oulu Graduate School based on the evaluation criteria (see next slide).

<https://www oulu.fi/en/research/graduate-school/admissions/finland-fellowship-programme-doctoral-researchers>



# How to Apply?

1. **Call deadline: 31 October 2023** (at 3.00 pm Finnish time)
2. Complete your application to a doctoral degree programme at the University of Oulu in Studyinfo.fi.
3. For the application, you need:
  - A principal supervisor affiliated with a research unit of the University of Oulu who confirms willingness to supervise with a commitment letter
  - A research topic agreed with the supervisor described in detail in your research plan
  - Master's degree certificate and transcript of the record
  - Master's degree completed with good grades
  - Demonstration of sufficient English or Finnish language skills
  - Brief statement of income
4. Indicate in your study right application that you are interested in joining the Finland Fellowship programme at the University of Oulu.



# What are the Evaluation Criteria?

- Application and granting of doctoral study right in autumn 2023
- Academic performance and motivation of the applicant
- Scientific quality of the research
- Feasibility and importance of the research
- Motivation to contribute to Research, Development, and Innovation in the Oulu region and in Finland



# Benefits

We offer you a wide range of staff benefits, including

- flexible working hours
- remote work possibility
- long annual holidays and holiday bonuses
- occupational health services and insurance
- paid family leaves
- sport, cultural, and wellness benefits
- opportunities for continuous skills development
- affordable meals at our campuses

<https://www oulu.fi/en/university/careers/staff-benefits>



# Services for International Staff



RELOCATION  
GUIDANCE



FINNISH LANGUAGE  
COURSES



CAFE  
LINGUA



CULTURE SHOCK  
SUPPORT



INTERNATIONAL STAFF  
NEWSLETTER



WELCOME TO FINLAND  
TRAININGS



ARCTIC  
ADVISORS



**International staff guide:**

<https://www oulu.fi/en/university/careers/international-staff-guide>



# Thank you!

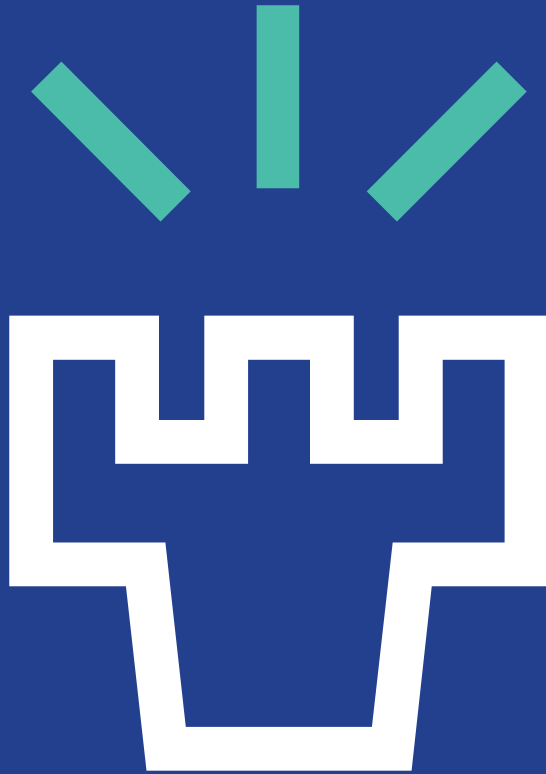
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