



## **Tutkimusneuvoston kokous 6/2023**

Aika            15.6.2023 klo 13.30–15.35  
Paikka        Teams

Tutkimusneuvoston jäsenet:  
tutkimusrehtori Taina Pihlajaniemi, puheenjohtaja  
professori Heli Jantunen  
professori Juhani Juntila  
~~professori Sanna Järvelä~~  
professori Juha Pekka Lunkka  
professori Aki Manninen  
associate professor Roger Norum  
professori Mikko Sillanpää  
professori Juha Tuunainen  
~~väitöskirjatutkija Sari Pramila Savukoski~~

Muut:

asiantuntija Taina Cooke 4§

hallinnollinen koordinaattori Mari Katvala, sihteeri

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## **1§ Aavaus: Kokouksen laillisuus ja päätösvaltaisuus** (esittelijä Mari Katvala)

Kutsu kokoukseen ja esityslista liitteineen on lähetetty 12.6.2023. Hallintoel on päätösvallainen, kun puheenjohtaja mukaan luettuna vähintään puolet jäsenistä on läsnä.

Päättösesitys: Tutkimusneuvosto toteaa kokouksen laillisesti kokoon kutsuksi ja päätösvallaiseksi.

Päättö: Tutkimusneuvosto totesi kokouksen laillisesti kokoon kutsuksi ja päätösvallaiseksi.



## **2§ Kokouksen esityslistan hyväksyminen** (esittelijä Mari Katvala)

Päättösesitys: Esityslista hyväksytään.

Päättö: Esityslista hyväksytiin seuraavin muutoksin: Lisättiin kohta 3.4 Esitys asiantuntijoiden nimeämisestä: Tenure Track Assistant or Associate Professor or Full Professor in Tenure in Augmented, Mixed, and/or Virtual Reality Technologies (Profi7 Hybrid Intelligence) ja siirrettiin 5§ Tutkimuksen tuloksellisuustarkastelu (esittelijä Taina Pihlajaniemi) elokuun kokoukseen.

## **3§ Professorinimitysten asiantuntijoiden hyväksyminen** (esittelijä Mari Katvala)

*3§ Esitykseen liittyvät dokumentit ovat nähtävissä tutkimusneuvoston Teams -työtilassa.*

*Ks. myös yliopiston ohjeet Patio-intranetissä: Palvelut ja ohjeet/Henkilöstö/Rekrytointi: Palvelukortit "Rekrytointiohje" ja "Professorin rekrytointi".*

### **3.1 Esitys asiantuntijoiden nimeämisestä: Tenure track assistant or associate professor or full professor in reduction metallurgy chemistry (Profi7 H2FUTURE)**

TENURE TRACK ASSISTANT OR ASSOCIATE PROFESSOR OR FULL PROFESSOR IN REDUCTION METALLURGY CHEMISTRY to join us in “Hydrogen Future as Climate Change Solution (H2FUTURE)” programme at the University of Oulu (Finland).

We, at the University of Oulu, work as part of the international science community to produce new scientific information and science-based



solutions. We are committed to educate future pioneers to build a more sustainable, intelligent, and humane world. Creating new, taking responsibility, and succeeding together are values that build a strong foundation for all our actions. Our university's several specialized research and service units enable extensive and diverse development and career opportunities for experts in various fields. The university is an international scientific community, with 15,000 students and 3,600 employees. More information <http://www.oulu.fi/english/>

#### About the profilation

**HYDROGEN FUTURE AS A CLIMATE SOLUTION (H2FUTURE)** combines University of Oulu's research strengths in future H2 production, sustainable metals reduction processes and hydrogen resistant steel development to a unique, holistic, multidisciplinary research community with ambition in enabling green and sustainable hydrogen transition. H2FUTURE is leveraging research excellences in future energy formation and its applications to mitigate the energy and environmental crisis.

H2FUTURE stands on fundamental research on physics, chemistry, process metallurgy, physical metallurgy and mechanical engineering related to H2FUTURE thematics. Thematics cover but are not limited to energy efficient and climate neutral hydrogen productions, fossile-free metals production and development of steels for hydrogen transition. H2FUTURE forms a part of our national profiling actions supported by the Academy of Finland and actively interacts with other profile areas of InStream, Genome of Steel and HiDyn within University of Oulu's research focuses. By recruiting talented researchers from natural sciences and engineering, H2FUTURE is accumulating knowledge to bolster scientific profiles and moreover creating new research expertise to develop the profile at the University of Oulu.

#### About the job

The focus is in hydrogen reduction of metal oxides. The replacement of a carbon by hydrogen in iron and steelmaking processes as a reducing agent is an important research theme. The research involves experimental and computational studies of hydrogen reduction phenomena in laboratory and industrial scale conditions. Different hydrogen reduction techniques with various process conditions and raw materials are to be covered. Furthermore, the development of novel in situ analyzing and monitoring methods to characterise process status during hydrogen reduction is of importance. The research field will involve working in close cooperation with other research units (i.e. materials engineering, sustainable chemistry, physics) and their projects in the field.

The position is to be hosted in one of the following research units of University of Oulu: Process Metallurgy or Sustainable Chemistry.

Määrääkaan mennessä (10.4.2023) saapui 11 hakemusta, joista valmisteluryhmä valitsi neljä hakijaa jatkoon:

Pauna, Henri, Oulu (assistant professor)

Ahmed, Hesham, Luulaja, Ruotsi (full professor)

Paek, Min-Kyu, Pohang, Etelä-Korea (associate professor)

Ponomar, Vitalii, Oulu (assistant professor)

Regarding the recruitment of Professor, Reduction Metallurgy Chemistry, in the Faculty of Technology, the following experts are proposed to be the external evaluators to conduct the academic evaluation of candidates.



1. Prof. Merete Tangstad

2. Prof. Evgueni Jak

3. Prof. Hauke Springer

The following experts are proposed as deputy evaluators:

(4.) Prof. Ragnhild Aune

(5.) Prof. Koen Binnemans

(6.) Prof. Dierk Raabe

In order to check possible disqualifications, shared publications and affiliations were checked utilizing a report produced by the bibliometrics team of the university library. Moreover, the external experts were asked to notify the recruitment committee of any disqualifications in connection with receiving the candidate details. To guarantee transparency and to recognize the risk of disqualification, the candidates were also notified of the evaluators before-hand.

Päättösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päättös: Tutkimusneuvosto keskusteli asiasta ja hyväksyi asiantuntijat seuraavassa järjestyksessä:

1. Prof. Merete Tangstad

2. Prof. Evgueni Jak

3. Prof. Dierk Raabe

Varalla:

4. Prof. Koen Binnemans

5. Prof. Ragnhild Aune

## 6. Prof Hauke Springer

Tutkimusneuvosto muutti järjestystä, koska alkuperäisessä esityksessä varasijoille asetettujen arvioitsijaehdokkaiden joukossa todettiin olevan profiiltaan erityisen ansioituneita tutkijoita alallaan.

### **3.2 Esitys asiantuntijoiden nimeämisestä: Tenure Track Assistant or Associate Professor or Full Professor in Resilient Organizations and Business Networks (Profi7 FRONT)**



We are now looking for a Tenure Track Assistant or Associate Professor or Full Professor in Resilient Organizations and Business Networks to join us in Frontiers of Arctic and Global Resilience (FRONT) Research Programme at the University of Oulu (Finland).

The programme forms a part of our national profiling actions supported by the Academy of Finland.

Located on the coast of the Gulf of Bothnia in Northern Finland with 15,000 students and 3,600 employees, the University of Oulu is one of the Nordic countries' largest universities and is a global leader in studies of Northern environments and peoples. The University has recently launched a new multi-faculty strategic research programme, "Frontiers of Arctic and Global Resilience", which focuses on changing human-environment relations and challenges to cope and adapt with that change. This programme will aim to ground-breaking transdisciplinary research on resilience and how to 'Adapt for Our Future' in the Arctic and elsewhere on the planet. The programme involves cutting-edge research to advance the existing frontiers of knowledge on the systemic changes needed for resilience planning and governance, and for finding solutions to the wicked problems of resilience across the social and environmental sciences. The programme focuses on international top-level collaborative and transdisciplinary research on socio-economic and socio-ecological resilience in different scales across social and environmental sciences, supported by the new Resilience Academy. By bringing together international, national and University of Oulu-based scholars from across disciplines, and encouraging effective public communication of science, Frontiers of Resilience (<https://www.oulu.fi/en/projects/frontiers-arctic-and-global-resilience>) will promote inter- and transdisciplinary and citizen-engaged

studies of the environment and raise the University's profile as an international leader in addressing the challenges of humans in change and human impacts and dependency on environment.

#### Position

Resilient Organizations and Business Networks



For this position focused on Resilient Organizations and Business Networks, we are looking for an internationally oriented scholar who is interested in pursuing work across traditional disciplinary boundaries on the resilience theme. The applicant should be conversant in theoretical frameworks linked to investigating how radical shifts and crises impact organizations and business networks, and how these entities can cope with transitions needed. In other words, how is resilience emerging in organizations and business networks? The specific research focus could include, but are not limited to, topics such as human and organizational characteristics and resources that enable organizations and business networks to cope with unexpected change, or strategies and practices that allow organizations and business networks to transform management and operations to meet with turbulence. The research questions may focus on aspects such as how resilience emerges in organizations and value networks, or how reconfiguration of varied competences takes place in resilient organizations and business networks – or in those that fail.

#### About the job

As an Assistant/Associate/Full Professor, you will develop and sustain research, scholarly and creative activities leading to academic publications and public-facing outreach initiatives, establish research partnerships across disciplinary boundaries in Finland and internationally, collaborate in service to FRONT programme, faculty, and university, active participation in the development and activities of Resilience Academy of Oulu (RAO), communicate research results to academic community, user groups and general public, develop and teach undergraduate and graduate level courses, supervise undergraduate and graduate students, act inter-sectorally to develop the impact of research.

Määräikaan mennessä (10.4.2023) saapui 25 hakemusta, joista valmisteluryhmä valitsi neljä hakijaa jatkoon:

Ahmad Arslan, Oulu (full professor)

Hanna Komulainen, Oulu (associate professor)

Annukka Näyhä, Jyväskylä (associate professor)

Awan Usama, Lappeenranta (full professor)

Profi7 Frontiers of Arctic and Global Resilience (FRONT) -tutkimusohjelmassa avoinna olleeseen Tenure Track Assistant or Associate Professor or Full Professor in Resilient Organizations and Business Networks (Varbi ID 2023/113) -tehtävään liittyen esitetään seuraavia asiantuntijoita toteuttamaan tehtävän täyttoon kuuluva kandidaattien akateeminen arviointi.

1. Prof. Catherine Pardo
2. Prof. Frans Prenkert
3. Prof. Katy Mason

Varalle esitetään:

(4. arvioija) Prof. Per Vagn Freytag

(5. arvioija) Prof. Martina Linnenluecke

(6. arvioija) Prof. Debbie Harrison

Esteellisyyskseen tarkistamiseksi yhteiset julkaisut ja affiliaatiot tarkistettiin kiraston bibliometriikkatiimin tuottaman raportin avulla.



Päätösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päätös: Tutkimusneuvosto keskusteli asiasta ja hyväksyi asiantuntijat esityksen mukaisesti.

### **3.3 Esitys asiantuntijoiden nimeämisestä: Tenure Track Assistant or Associate Professor or Full Professor in Socio-ecological Resilience (Profi7 FRONT)**

We are now looking for a Tenure Track Assistant or Associate Professor or Full Professor in Socio-ecological Resilience to join us in Frontiers of Arctic and Global Resilience (FRONT) Research Programme at the University of Oulu (Finland).

The programme forms a part of our national profiling actions supported by the Academy of Finland.

Located on the coast of the Gulf of Bothnia in Northern Finland with 15,000 students and 3,600 employees, the University of Oulu is one of the Nordic countries' largest universities and is a global leader in studies of Northern environments and peoples. The University has recently launched a new multi-faculty strategic research programme, "Frontiers of Arctic and Global Resilience", which focuses on changing human-environment relations and challenges to cope and adapt with that change. This programme will aim to ground-breaking transdisciplinary research on resilience and how to 'Adapt for Our Future' in the Arctic and elsewhere on the planet. The programme involves cutting-edge research to advance the existing frontiers of knowledge on the systemic changes needed for resilience planning and governance, and for finding solutions to the wicked problems of resilience across the social and environmental sciences. The programme focuses on international top-level collaborative and transdisciplinary research on socio-economic and socio-ecological resilience in different scales across social and environmental sciences, supported by the new Resilience Academy. By bringing together international, national and University of Oulu-



based scholars from across disciplines, and encouraging effective public communication of science, Frontiers of Resilience (<https://www.oulu.fi/en/projects/frontiers-arctic-and-global-resilience>) will promote inter- and transdisciplinary and citizen-engaged studies of the environment and raise the University's profile as an international leader in addressing the challenges of humans in change and human impacts and dependency on environment.

### Position

#### Socio-ecological Resilience

For this Socio-ecological Resilience position, we are looking for a scholar with interest in applying a systemic approach to exploring resilience and sustainability in the connections between social structures such as education systems, institutions, communities, and individuals. The aim is to identify the ways in which social contexts and in particular, educational institutions and learning communities (can) cope with global changes affecting all and (may) improve resilience and advance sustainability. Research may cover themes such as education, pedagogies and behavior change related to sustainable lifestyles, social justice, equality, equity, and responsiveness to diversity in education systems, learning communities, and beyond amidst socio-ecological challenges and crises. Demonstrated experience in research leadership and in the use of innovative research approaches relevant to studying socio-ecological resilience are additional merits.

#### About the job

As an Assistant/Associate/Full Professor, you will develop and sustain research, scholarly and creative activities leading to academic publications and public-facing outreach initiatives, establish research partnerships across disciplinary boundaries in Finland and internationally, collaborate in service to FRONT programme, faculty, and university, active participation in the development and activities of Resilience Academy of Oulu (RAO), communicate research results to academic community, user groups and general public, develop and teach undergraduate and graduate level courses, supervise undergraduate and graduate students, act inter-sectorally to develop the impact of research.

Määräaikaan mennessä (10.4.2023) saapui 37 hakemusta, joista valmisteluryhmä valitsi kuusi hakijaa jatkoon

Ruth Irwin, Sydney, Australia (Associate professor)

Petteri Muukkonen, Kerava (Full professor)

Maria Ojala, Uppsala, Ruotsi (Full professor)

Antti Rajala, Helsinki (Full professor)

Kaisa Vehkalahti, Oulu (Full professor)

Lijuan Wang, Oulu (Assistant professor)



Profi7 Frontiers of Arctic and Global Resilience (FRONT) -tutkimusohjelmaassa avoinna olleeseen *Tenure Track Assistant or Associate Professor or Full Professor in Socio-ecological Resilience* (Varbi ID 2023/112) -tehtäväan liittyen esitetään seuraavia asiantuntijoita toteuttamaan tehtävän täytöön kuuluva kandidaattien akateeminen arvointi.

1. Jørgen Klein

2. Ann Masten

3. Gry Paulgaard

Varalle esitetään:

(4. arvioija) Arjen Wals

(5. arvioija) Nicola Walshe

(6. arvioija) Bettina Hannover

(7. arvioija) Cecilia Lundholm

(8. arvioija) Ilkka Ratinen

(9. arvioija) Kirk Anderson

(10. arvioija) Karen Malone

(11. arvioija) Amy Cutter-Mackenzie-Knowles

Esteellisyyskseen tarkistamiseksi yhteiset julkaisut ja affiliaatiot tarkistettiin kiraston bibliometriikkatiimin tuottaman raportin avulla.

Päättösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päättös: Tutkimusneuvosto keskusteli asiasta ja huomioiden asiantuntijahenkodkaiden ansiot päätti nimetä varsinaisiksi asiantuntijoiksi:

1. Ann Masten

2. Arjen Wals

3. Amy Cutter-Mackenzie-Knowles

Varalla:

4. Nicola Walshe

5. Bettina Hannover

6. Cecilia Lundholm

7. Karen Malone

Esityistä asiantuntijoista neljän (Jørgen Klein, Gry Paulgaard, Ilkka Ratinen ja Kirk Anderson) ei katsottu olevan riittävän ansioituneita arvioimaan tehtävän hakijoita. Lisäksi todettiin, että ei ollut perusteltua syytää nimetä kotimaista asiantuntijaa, sillä ehdolla oli poikkeuksellisen runsaasti asiantuntijoita ulkomailta.



### **3.4 Esitys asiantuntijoiden nimeämisestä: Tenure Track Assistant or Associate Professor or Full Professor in Tenure in Augmented, Mixed, and/or Virtual Reality Technologies (Profi7 Hybrid Intelligence)**

We are now looking for

Tenure Track Assistant Or Associate Professor Or Full Professor In Tenure  
In Augmented, Mixed,

And/Or Virtual Reality Technologies

The University has recently launched a new multi-faculty strategic research program, "Hybrid Intelligence: Human-AI Co-evolution and Learning in Multi-realities" (HI). The program is part of our national profiling actions supported by the Academy of Finland. HI stands on the fundamental research on emotion AI, learning processes, and perception engineering for AI-based solutions, e.g., in education and nursing. HI research combines the strengths of humans and machines, emphasizing mutual understanding and learning from each other in their co-evolution. We propose to build the idea of a metaverse by combining our physical and virtual realities towards a multi-reality. The program focuses on international top-level collaborative and multidisciplinary research, supported by LeaF, a unique learning and interaction research infrastructure, and its new Ethics Forum and Data Forum, which will establish a further deep cross-cutting HI discussion in ethical and responsible ways. HI aspires to scientific leadership in solving global challenges by facilitating human-human and human-technology interaction, understanding, and collaboration for the human capital behind AI. With its international networks, HI will pave the way toward breakthroughs in how humans and machines interact, understand, and learn from each other. HI will recruit new talented international researchers to bolster the scientific profile at the University of Oulu and initiate new collaborations with companies.

Position



Augmented, mixed, and virtual reality (AR/MR/VR) technologies enable interaction in metaverses that co-exist with the physical world by modifying the perception and integrating information from multiple concurrent realities. In contrast, intelligence augmentation can enhance human cognitive abilities using artificial intelligence. In this tenure position, the research topics include, e.g.: Creating new approaches for human-human and human-machine interaction based on multi-reality technologies; Creating new approaches for intelligence augmentation using advanced methods from artificial intelligence and machine learning ; Developing applications in education and medicine where multi-realities and AI can boost human capabilities.

We expect collaboration with other subthemes of HI. Research experience in AR/MR/VR and AI methods and technologies is beneficial.

#### About the job

As an Assistant/Associate/Full Professor, you will:

Develop and sustain research, scholarly and creative activities leading to academic publications and public-facing outreach initiatives ; Establish research partnerships across disciplinary boundaries in Finland and internationally ; Collaborate with program leaders to further progress the aims of Hybrid Intelligence ; Participate in administrative (e.g., university or faculty level) service duties ; Take part in national and international academic networks and scientific organizations ; Design education and provide teaching for undergraduate and graduate-level courses ; Supervise undergraduate and graduate students ; Act inter-sectorally to develop the impact of research.

Määräkaan mennessä (16.4.2023) saapui 13 hakemusta, joista valmisteluryhmä valitsi viisi hakijaa jatkoon:

Juho Kannala, Department of Computer Science, Aalto yliopisto  
(Full professor)

Teemu Laine, Department of Digital Media, Ajou University, Suwon,  
Republic of Korea (Full professor)

Matti Pouke, Center for Ubiquitous Computing, University of Oulu  
(Assistant professor)

Pengyuan Zhou, University of Science and Technology of China (Assistant professor)

Xiang Su, Norwegian University of Science and Technology, Norway (Associate professor)

Profi 7 Hybrid Intelligence (HI) tutkimusohjelmassa avoinna olleeseen monitieteisen alan professorin tehtävään Tenure track position: H3 Tenure Track Assistant or Associate Professor or Full Professor in Tenure In Augmented, Mixed, and/or Virtual Reality Technologies 2023/109, liittyen

esitetään seuraavia asiantuntijoita toteuttamaan tehtävän täytöön kuuluva kandidaattien akateeminen arvointi.

1. Professori Alan Bovik (M)
2. Professori Xilin Chen (M)
3. Professori Ming Lin (F)

**Varalle esitetään:**



- Professori Kristen Grauman (F)  
Professori Laurence Nigay (F)  
Professori Chris Baber (M)  
Professori Jon Alte Gulla (M)  
Professori Jie Lu (F)

Esteellisyksien tarkistamiseksi yhteiset julkaisut ja affiliaatiot tarkistettiin kirjaston bibliometriikkatiimin tuottaman raportin avulla. Lisäksi asiantuntijoita pyydettiin ilmoittamaan esteellisyydestään hakijatietojen toimittamisen yhteydessä. Läpinäkyvyyden takaamiseksi ja esteellisyyriskien tunnistamiseksi myös arvioitavat saivat arvioijat tietoansa jo etukäteen.

Päätösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päätös: Tutkimusneuvosto keskusteli asiasta ja hyväksyi asiantuntijat esityksen mukaisesti.

**4§ Tasa-arvo- ja yhdenvertaisuussuunnitelman tilanne**  
(esittelijä Taina Cooke)

Tasa-arvo- ja yhdenvertaisuustoimikunta on tehnyt kevään aikana seurantaa nyt voimassa olevan suunnitelman (2022–2023) toimenpiteistä (9 kpl) ja kerännyt palautetta TAYV-työstä yliopistolla. Uuden tasa-arvo- ja yhdenvertaisuussuunnitelman (2024–2025) toimenpiteet ovat nyt pohdittavina ja niistä päätetään syksyn aikana.

Päätösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päätös: Tutkimusneuvoston keskustelussa tasa-arvosta ja yhdenvertaisuudesta nousivat esiin ei-suomea puhuvat tutkijat, joiden mahdollisuuksia



osallistua työryhmiin ja päätöksentekoon pohdittiin. Todettiin, että yliopistolla toimii jo useita työryhmiä suomeksi ja englanniksi, mutta näitä ryhmiä voisi olla enemmänkin. Lisäksi todettiin, että nykyään hallintohenkilöstön englanninkielentaito on hyvällä tasolla verrattuna aikaisempaan, ja hallintohenkilöstön pitää pystyä toimimaan molemmilla kielillä.

[Yliopiston kielipoliittisessa ohjelmassa](#) linjataan tarkemmin kielen valinnasta eri tilanteissa.

## **5§ Tutkimuksen tuloksellisuustarkastelu**

(esittelijä Taina Pihlajaniemi)

Päätösesitys: Tutkimusneuvosto keskustlee asiasta ja tekee tarvittavat päätökset.

Päätös: Esitys siirrettiin elokuun kokoukseen.

## **6§ Vuosikello**

(esittelijä Mari Katvala)

Tutkimusneuvosto keskustlee tulevista tehtävistään ja päivittää tarvittaessa vuosikelloa. Vuosikello on nähtävissä tutkimusneuvoston työtilassa.

Päätösesitys: Tutkimusneuvosto päivittää vuosikelloa.

Päätös: Tutkimusneuvosto päivitti vuosikelloa.

## **7§ Muut asiat**

(esittelijä Mari Katvala)

### **7.1. Tutkimusneuvoston seuraava kokous ja syyskauden kokokset**

Kesäkuulle tarvittaneen ylimääräinen kokous asiantuntijaesitysten hyväksymiseen ennen lomia.

Sovitaan loppuvuoden kokousajat.

Päätösesitys: Tutkimusneuvosto keskustelee asiasta ja tekee tarvittavat päätökset.

Päätös: Ylimääräinen kokous järjestetään 27.6. mikäli sille on tarvetta.

Syyskauden kokousajat:

-22.8.2023 klo 9–11 (Teams)

-ti 19.9. klo 9–11

-ke 18.10. klo 12–14

-ti 21.11. klo 13–15

-ma 18.12. klo 10–12



## 7.2. Muut asiat

### 8§ Kokouksen päätäminen

Taina Pihlajaniemi  
puheenjohtaja

Mari Katvala  
sihteeri

Tämä dokumentti on allekirjoitettu sähköisesti UniOulu Sign-järjestelmällä

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Päiväys / Date: 16.06.2023 16:10:55 (UTC +0300)

**Oulun yliopisto**  
**Mari Katvala**

Organisaation varmentama (UniOulu käyttäjätunnus)  
Certified by organization (UniOulu user account)

*Certified by organization*

Päiväys / Date: 19.06.2023 10:11:38 (UTC +0300)

**Oulun yliopisto**  
**Taina Pihlajaniemi**

Organisaation varmentama (UniOulu käyttäjätunnus)  
Certified by organization (UniOulu user account)

*Certified by organization*