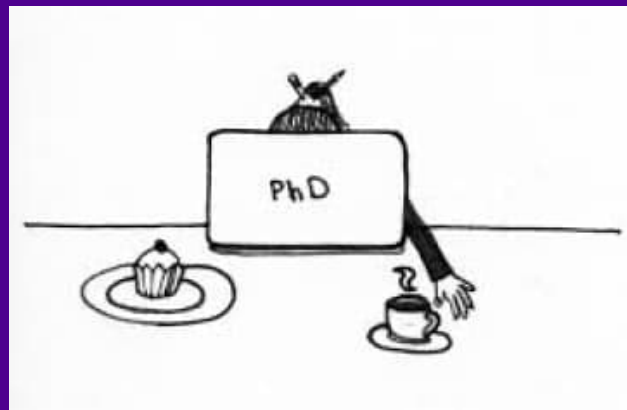


# Finalizing Info 2023

Doctoral Programme in Engineering and Natural Sciences

Esa Räsänen & Anna Nykänen

14 February 2023



# TLTO Doctoral Committee



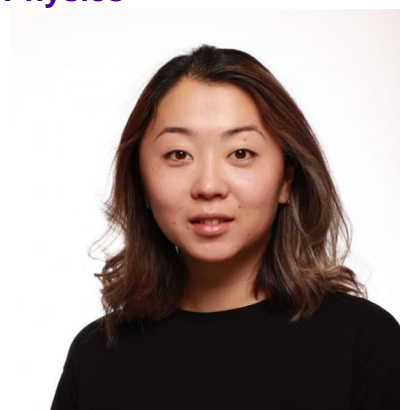
**Mika Valden, Professor, Physics**



**Marika Kokko, Associate Professor  
(tenure track), Bio and circular  
economy**



**Alex Berdin, Doctoral  
Researcher, Physics**



**Olga Lem, Doctoral  
Researcher, Chemistry**



**Esa Räsänen, Vice Dean for  
Education, TLTO Programme  
Director, Professor, Physics**



**Nikolai Tkachenko, Professor,  
Chemistry**



**Matti Rissanen, Associate  
Professor (tenure track), Physics**

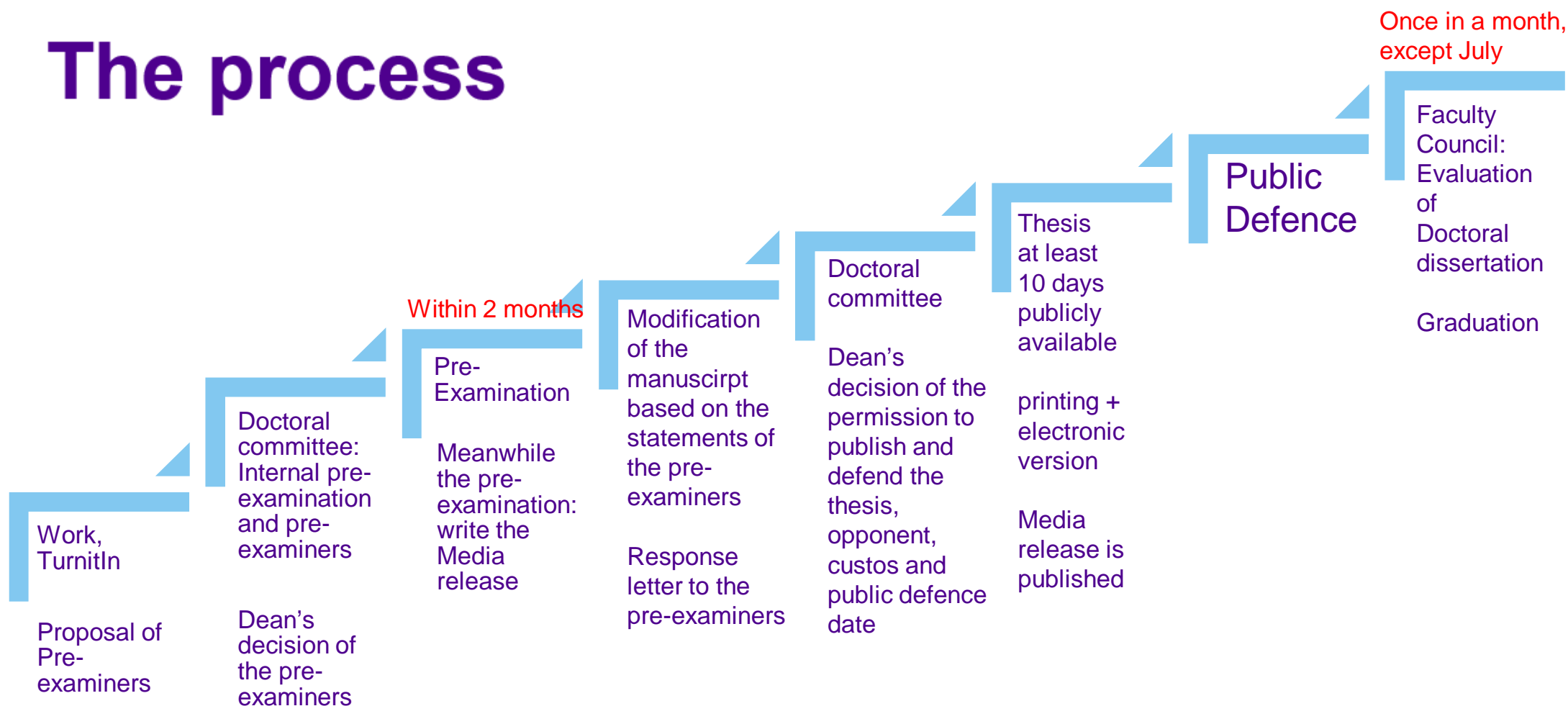
## Requirements for the readiness of the thesis

- Compilation theses must contain **at least 3 (most commonly 4-5) publications** in internationally recognized peer-reviewed journals; **one of those papers can be in the “submitted” stage**. In case of 3 publications, their quality / impact and the role of the candidate are particularly important.
- Compilation theses must contain a comprehensive but concise introductory part (typically 50-80 pages) preceding the publications.
- Monograph theses are allowed, in principle, but should be avoided.

## Some advice

- Dissertation template: <https://libguides.tuni.fi/dissertationpublishing/template>
- Remember that the introduction part of the thesis (preceding the articles) is a small
- fraction of the complete thesis work (<10%); don't get stuck with it! :-)
- Ask your supervisor(s) and colleagues for feedback!

# The process



# Internal pre-examination in the Doctoral Committee

## Purpose

- To confirm the quality of the theses sent out from TAU to pre-examination
- To help the candidate to improve the thesis according to the international standards

## Points considered

- Sufficient scientific impact in terms of published papers
- Clear description of the own contribution
- Clear formulation of research questions
- Clear summary of the main findings
- Appropriate use of references
- Appropriate language and style according to the international standards

## Examiners (=pre-examiners & opponent): Conflicts of interest

- **Candidate & examiner:**  
no joint publications; no close collaboration (e.g., joint publications, joint research grant or supervisor-employee relationship). Ever.
- **Supervisor(s) & examiner:**  
recommended, that no joint publications during the past 3 years. Visits etc. are OK.
- **Pre-examiners and opponent:**  
must not have had significant mutual collaboration. Conflicts of interest between the examiners must be avoided.
- (Re)using the same examiners in several dissertations should be avoided.

# Pre-examination statements

- Official time 2 months
- Includes a report & multiple-choice evaluation
- Recommendation:
  - Publication as such** - “I recommend the permission to publish the thesis.  
*Minor amendments, technical revisions and error and stylistic corrections can be suggested, for the doctoral candidate to take into consideration.*”
  - Not to be published** - “I don’t recommend the permission to publish the thesis for the reasons set out in my statement.”
- “Publication as such” recommendation must be received from both examiners.
- The candidate must revise the thesis accordingly and write a response letter to the pre-examiners.
- The responsible supervisor checks the revisions.

# Organising public defences

- Streaming is recommended
- Can be traditional public defence or partly or fully remote
- AV-support to the events needs to be ensured



# The permission to publish and defend the thesis, appointing the opponent and custos and confirming the date

- The candidate applies for the permission to publish the dissertation.
- At the same time, the responsible supervisor proposes an eligible opponent and custos (who normally is the responsible supervisor) and the date of defence.
- Opponent, custos and the defence date will be approved by the Doctoral Committee.
- Dean grants the permission, confirms the defence date and appoints the opponent and custos.

# Practical arrangements of the public defence



## Candidate

- Sends a printed version of the dissertation to the opponent
- Contacts campus assistants ([kampusassistentit@tuni.fi](mailto:kampusassistentit@tuni.fi)) to arrange all the practical arrangements (auditorium reservation and coffee arrangements etc.)
- Contacts library ([dissertations@tuni.fi](mailto:dissertations@tuni.fi)) Starts the publication process  
<https://libguides.tuni.fi/dissertationpublishing>
- Contacts printing place ([dissertations@punamusta.com](mailto:dissertations@punamusta.com)) Orders the printed versions of the dissertation, 50 copies
- Contacts communications, ([viestinta.tau@tuni.fi](mailto:viestinta.tau@tuni.fi)) Prepares a media release  
<https://libguides.tuni.fi/dissertationpublishing>
- Arranges a party in honour of the opponent (in Finnish karonkka)
- Familiarizes with the room and technical equipment of the defence auditorium with the help of the info office staff

## Custodian

- Sends the dissertation manuscript to the opponent electronically
- Keeps the opponent updated on practical arrangements and expectations
- Supports and guides the candidate in preparing for the defence
- Organizes the lunch (with campus assistant)
- Possibly organizes a pre-defence dinner with the opponent
- Helps the opponent in terms of travel arrangements (university-hotel-party)
- Ensures the fluent progress of the defence day according to the university protocol and leads the defence event
- Makes sure the opponent delivers the evaluation statement as soon as possible to the faculty

# Public defence

- Dress code
  - Candidate, opponent and custos wear dark, festive outfits (e.g., tailcoat w. black vest, dark suit, black skirt suit or a long black long-sleeved dress)
- Entrance and opening words
  - *lectio praecursoria*, max. 20 minutes
- Examination of the dissertation (~2 hours)
- Closing

*Disheet Shah (right) after his defence with the opponent, Doc. Virpi Talman (left) and custos, Prof. Katriina Aalto-Setälä (middle).*



# Assessment and grading of the dissertation

- Opponent prepares a written statement for the faculty  
(Hint: encourage the opponent to write it on the defence day!)
- Internal pre-examiner proposes a grade (fail, approved, approved with distinction) according to the (three) statements of the pre-examiners and the opponent. The doctoral committee and the supervisors may be consulted in borderline cases.
- The Faculty Council makes the decision of accepting and grading the dissertation (meeting once in a month except July).

# Evaluation principles in the Faculty of Engineering and Natural Sciences

<https://intra.tuni.fi/handbook/4646/5833/4702?page=4232>

The following points must be considered when evaluating a doctoral dissertation

- a) *The entire dissertation process from start to finish*
- b) The introduction and conclusion written by the doctoral candidate
- c) The scientific publications included in the dissertation and the doctoral candidate's contributions thereto
- d) A monograph dissertation as a whole
- e) The doctoral candidate's performance during the public defence of the dissertation
- f) Preliminary examiners' statements to an applicable extent
- g) The opponent's statement about the dissertation, the public defence of the dissertation and his/her proposal for the grade

*A doctoral dissertation that is of exceptionally high quality may receive the "Approved with Distinction" designation. Only a small percentage of all approved dissertations, approximately 10 per cent, are deemed worthy of this designation. Pre-examiners, opponents and the chairperson presiding over the public defence must unanimously agree that the dissertation meets the criteria for the designation and is among the international top 10 per cent of dissertations in the field.*

## ”Karonkka” banquet – celebration in honour of the opponent



*Hat & sword are traditional doctor symbols. Dr. Disheet Shah from TAU organized a karonkka party with his colleagues and received a sword as a present. The karonkka traditions vary a lot depending on the field / research group etc., but it's always fun! Speeches & presents are typically given between the main dish and dessert.*

# Graduation

The doctoral candidate

- has to be enrolled as attending student
- has made a personal study plan in Sisu
- has degree requirements approved
  - studies have been completed according to the requirements and registered
  - acceptance of the study modules has been applied in Sisu
- has the dissertation registered
- has applied for a degree certificate in Sisu
- may attend graduation ceremony, organized twice a year, in June and December



# Graduation Ceremony

- The President hands out the certificates to the newly graduated Doctors, Licentiates and Masters of Science



# Conferment of Doctoral Degrees



- Traditionally, the right to use the doctoral hat has been awarded at a conferment of doctoral degrees ceremony
- Organized once every few (about 3-5) years , was in 2022, the next likely to be in 2024/25.





# Information and support

Student's guide > Doctoral studies

<https://intra.tuni.fi/en/handbook/4646/5833/4702?role=student&university=uni>

The programme-specific instructions are found in the lower part of the general pages.

Forms for doctoral studies

<https://intra.tuni.fi/en/handbook/4646/5833/4694?role=student&university=uni>

Education Specialist Anna Nykänen, [anna.nykanen@tuni.fi](mailto:anna.nykanen@tuni.fi)

Head of the Programme Esa Räsänen, [esa.rasanen@tuni.fi](mailto:esa.rasanen@tuni.fi)



# Competencies of a doctor

## Core competence

understand complex information and synthesize it

obtain results through a creative scientific process

draw scientific conclusions and defend them

propose and specify relevant research questions and problems

recognize the larger context and societal impact of the research

ability to apply scientific skills across different fields

ability to work independently / self-confidence of reached knowledge & skills

## Scientific practices

knowledge of the scientific method

recognition of essential publication channels and practices

knowledge of research ethics and appropriate conduct of research

information retrieval skills

knowledge of an academic career path

## Communication skills

abilities to operate in an international research / industrial community

ability to write and co-write scientific publications

ability to report results to the scientific community

ability to report research beyond the scientific community (outreach)

oral presentation skills

basic evaluation skills (publications, reports, theses, ...)

social & networking skills

## Other skills

ability to give, accept and utilize justified criticism

project management skills, incl. financial issues

supervision and tutoring/mentoring skills (MSc & BSc students, trainees)

familiarity with industrial environment / public sector, understanding of career path

basic entrepreneurial skills

self-management, personal development