

UiO : **Department of Mathematics**
University of Oslo

PhD-questionnaire: sum-up report



Table of Contents

| | |
|---|-----------|
| INTRODUCTION | 3 |
| DEGREE | 4 |
| TYPE..... | 4 |
| YEAR | 4 |
| FIELD..... | 5 |
| EMPLOYMENT..... | 5 |
| TIME PASSED FROM OBTAINED DEGREE UNTIL EMPLOYMENT | 5 |
| THE COUNTRY OF CURRENT EMPLOYMENT | 6 |
| SECTOR..... | 6 |
| JOB TITLE | 7 |
| MAIN WORK TASKS | 8 |
| POSITION WITH HIRING RESPONSIBILITIES | 8 |
| INCOME..... | 8 |
| MAIN OCCUPATION | 10 |
| JOB CHARACTERISTICS | 11 |
| CORRELATION BETWEEN PHD-EDUCATION AND EMPLOYMENT | 12 |
| EMPLOYERS' AWARENESS OF THE CONTENT OF THE EDUCATION..... | 12 |
| THE USEFULNESS OF YOUR EDUCATION AT UIO IN YOUR ACTIVE PROFESSIONAL LIFE..... | 12 |
| CONCLUDING REMARKS..... | 13 |
| APPENDICES..... | 15 |
| APPENDIX 1 THE QUESTIONS INCLUDED IN THE QUESTIONNAIRE | 15 |
| APPENDIX 2 ANONYMISED RESULTS OF THE QUESTIONNAIRE | 19 |

Introduction

The goal of the questionnaire was mapping the career paths of the doctoral candidates with a PhD or similar degree (Dr.Philos, Dr. Scient) from the Department of Mathematics, University of Oslo after obtaining their degree. The target group were doctoral candidates who obtained a degree in the period January 2000 until June 2018 at which point the questionnaire was sent out.

There were 161 candidates in the system with a registered PhD or similar degree from the Department of Mathematics. Of these, 82 answered the questionnaire.

Contact information of the candidates were found in various ways. Firstly, we used lists provided by UiO's alumni coordinator, thereafter contact information was obtained by using Google search and Linked-In at the end. 8 candidates were documented unreachable. In total 153 candidates were invited to participate and 53,6% replied. We do not know if the remaining 46,4% even received the questionnaire.

The questions included in the questionnaire are found in Appendix 1. The questionnaire is divided into sections: Personal Information, Degree, Employment and Other and will be presented here in the similar order (except the section on Personal Information). The section "Employment" is, for the purposes of this report, divided into "Employment" and "Correlation Between PhD-Education and the Employment". The section "Other" is summarized in the concluding remarks of this report.

All of the replies to the questionnaire, anonymised, are the content of Appendix 2.

Degree

Type

The respondents hold mainly PhD degrees from the Department of Mathematics (74%), but Dr.scient.- degree holders (22%) and Dr.philos (4%) were also represented.

Year

The degree completion year of the respondents was almost equally scattered from 2000-2018.

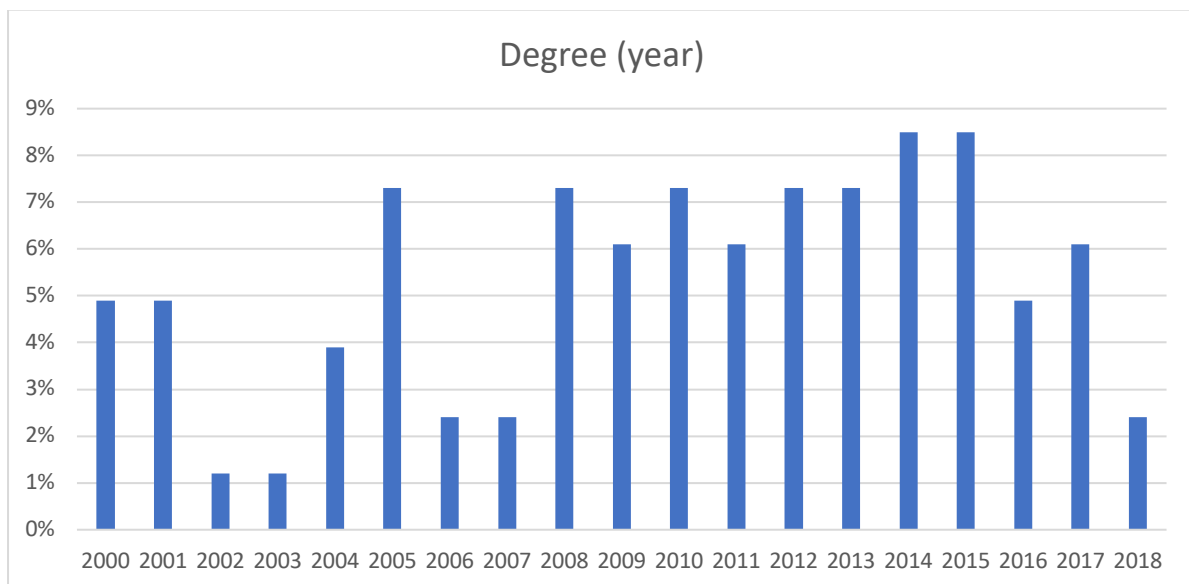


Chart 1: Representation of the year in which the respondents obtained a degree.

Field

The candidates were asked to write a couple of keywords that describe their mathematical PhD-education. The keywords were categorised to apply to current organisational model of the Department of Mathematics, divided into six sections: <https://www.mn.uio.no/math/om/organisasjon/seksjoner/>

Where the sectional affiliation was ambiguous, the main supervisor's affiliation was taken into account.

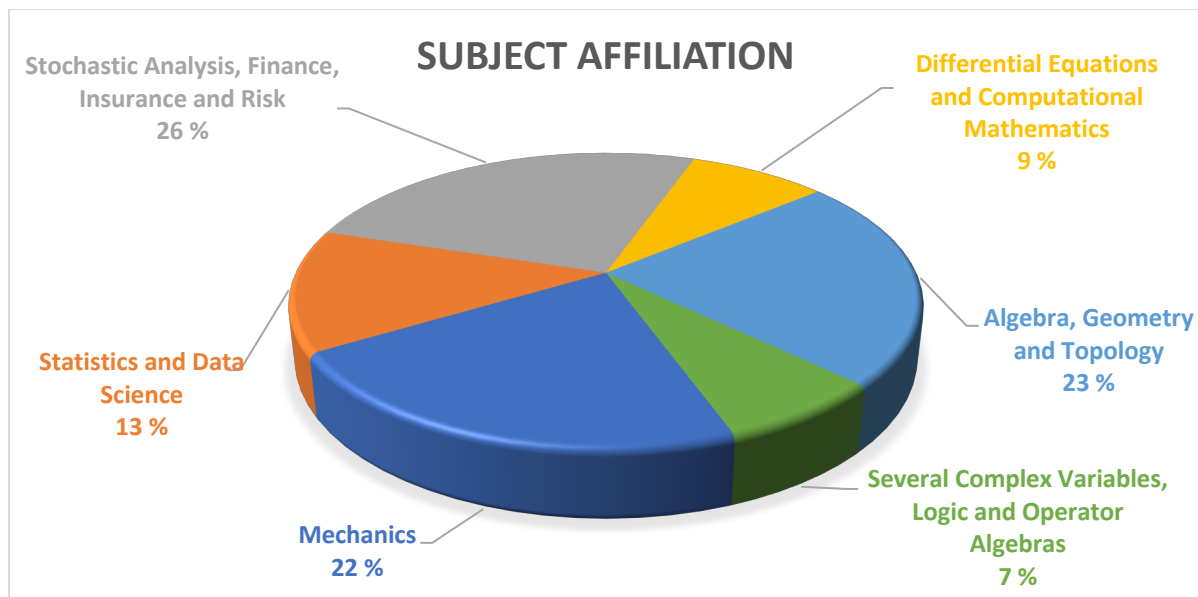


Chart 2: Representation of the field/subject affiliation of the respondents adjusted to the current organisation model of the Department of Mathematics, UiO.

Employment

Time passed from obtained degree until employment

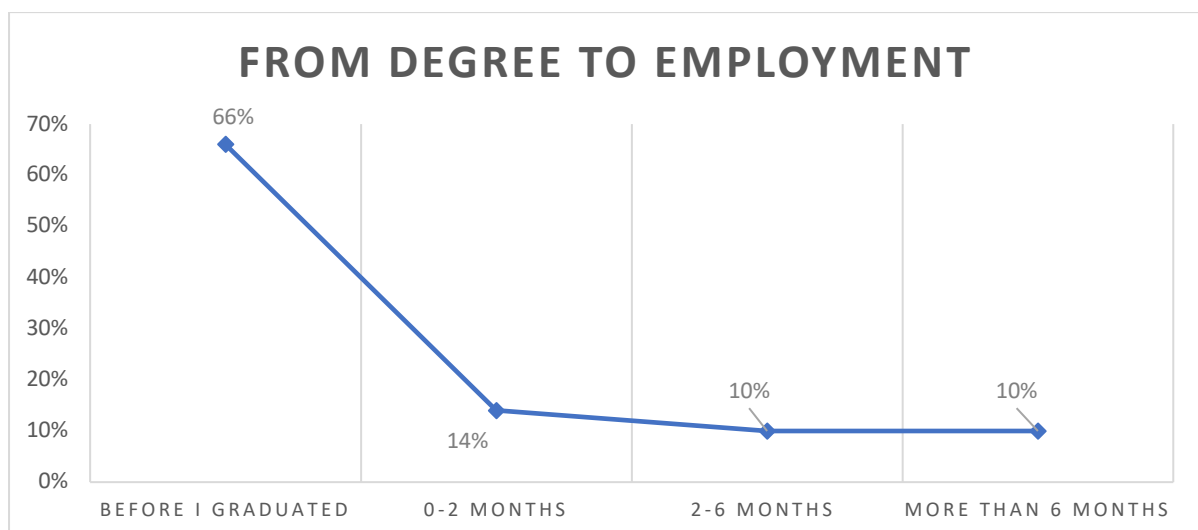


Chart 3: Representation of the time passed between the obtained degree and employment.

The country of current employment

Norway is specified by country name in the chart below, as the majority of respondents work in Norway. The European countries the respondents work in are Italy, Poland, Sweden, Germany, Iceland, the Netherlands, and the United Kingdom. The Asian countries that the respondents work in are Malaysia, China and India. The one state in North America is USA.

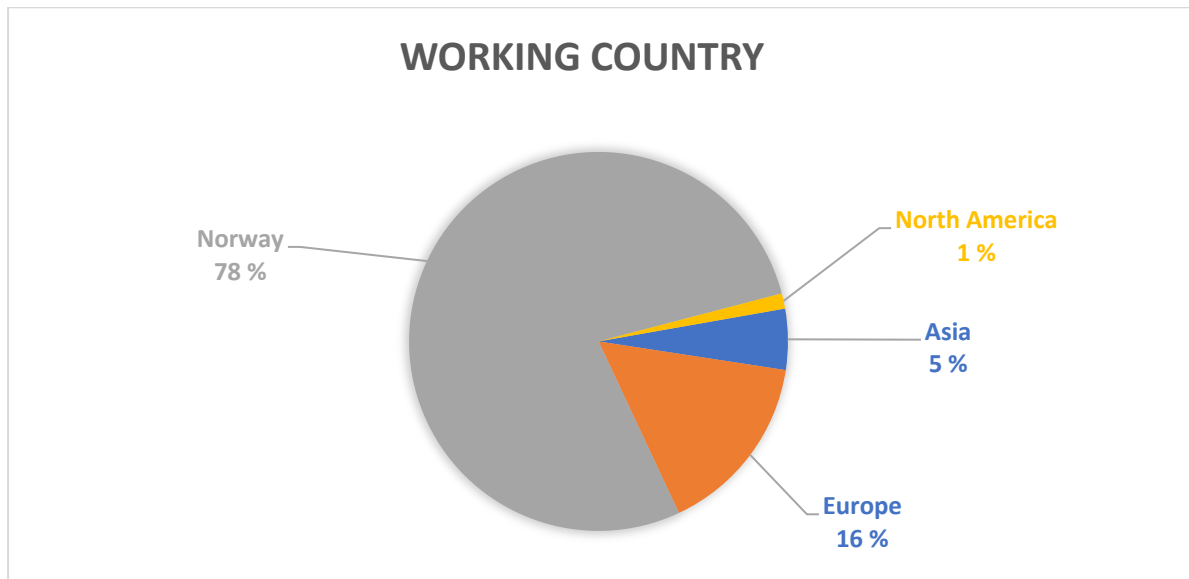


Chart 4: Representation of the country of respondents' current employment.

Sector

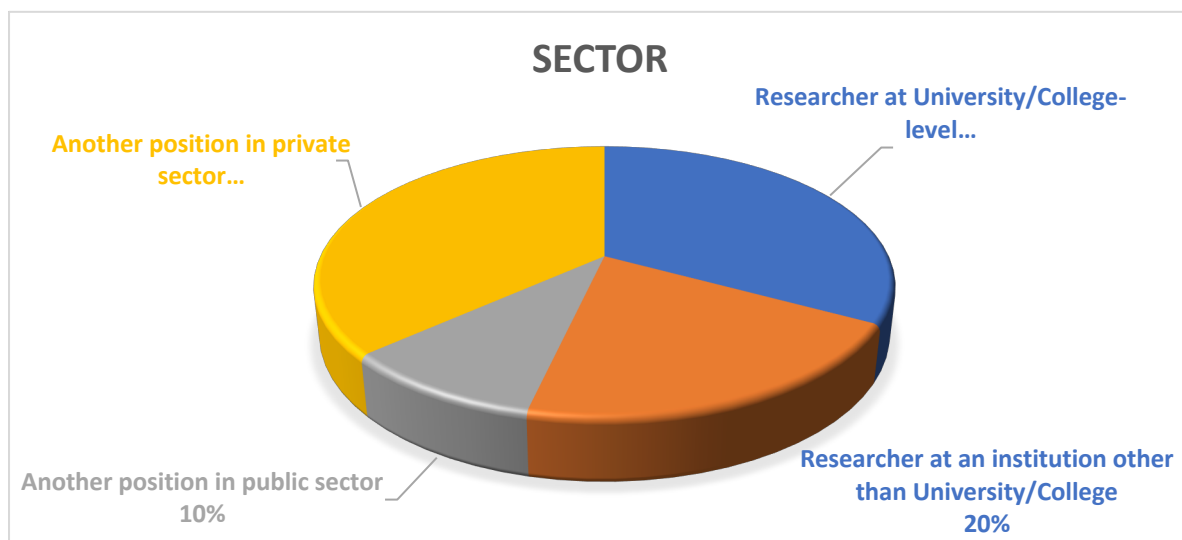


Chart 5: Representation of the sector in which the respondents work.

Job title

There is a wide variety of job titles given by the respondents. These have roughly been sorted in the following categories:

- Associate / Assistant Professor (this category embraces the titles of Lecturer and Senior Lecturer, ref. UiO's guidelines for the translation of titles)
- Professor
- Post doc
- Engineer (the following have been summed up in this category: Head Engineer, Principal Engineer, Senior (Software) Engineer, (Senior) Project Engineer)
- Analyst (this category sums up all the analyst and consultant positions and was mentioned under the following titles: Quantitative Analyst, Senior Analyst, Consultant, Principal Specialist, Expert Principal)
- Researcher is the category that has the most variations as the titles for both institute sector and private sector, as well as some of the academic positions, were included. This title came mostly with the following variations: Researcher, Research Scientist, Senior Researcher, Principal Researcher, part time Researcher, Research Director Chief Technical Officer, Senior Research Adviser, Research Developer, Model Developer
- Other

The University of Oslo's guidelines for the translation of the titles has been used:

<https://www.uio.no/for-ansatte/arbeidsstotte/profil/sprak/stillingsbetegnelser/index.html>
as well as Universities Norway's dictionary: <http://termbase.uhr.no>
for the translation of the titles (mostly academic).

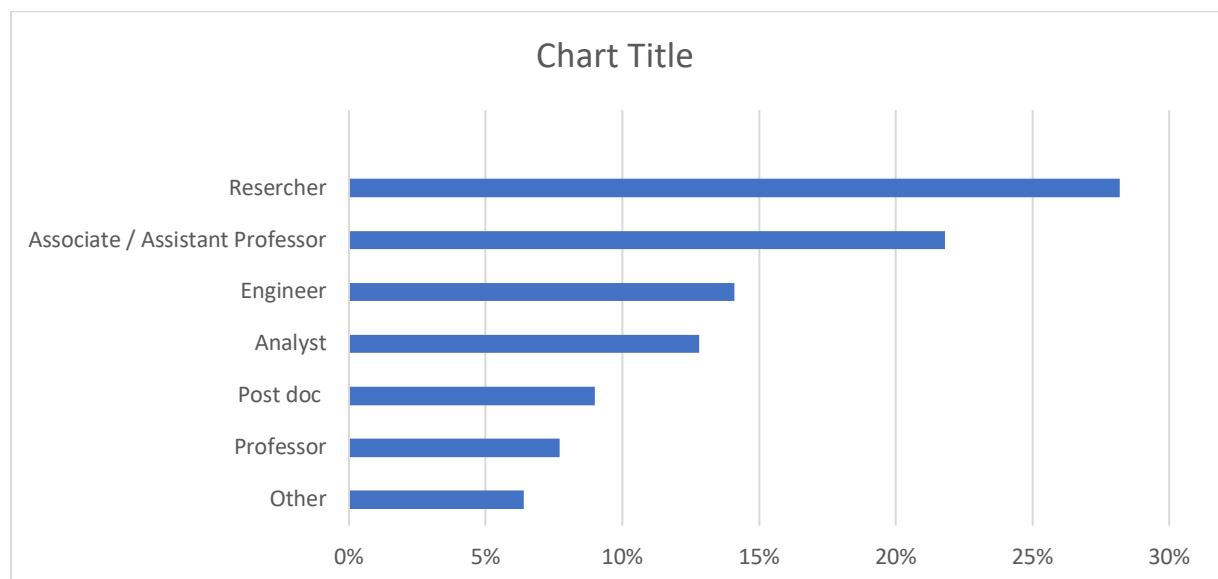


Chart 6: Representation of the respondents' job titles.

Main work tasks



Picture 1: Representation of some of the main tasks the respondents have in their daily work.

The main tasks of the respondents are listed in their original form in Appendix 2 (page 22-23 of this document).

Position with hiring responsibilities

We asked the respondents if the position requires participation in the hiring processes of other employees. 46% answered positive to this question while 54% answered that they do not participate in hiring of other employees.

Income

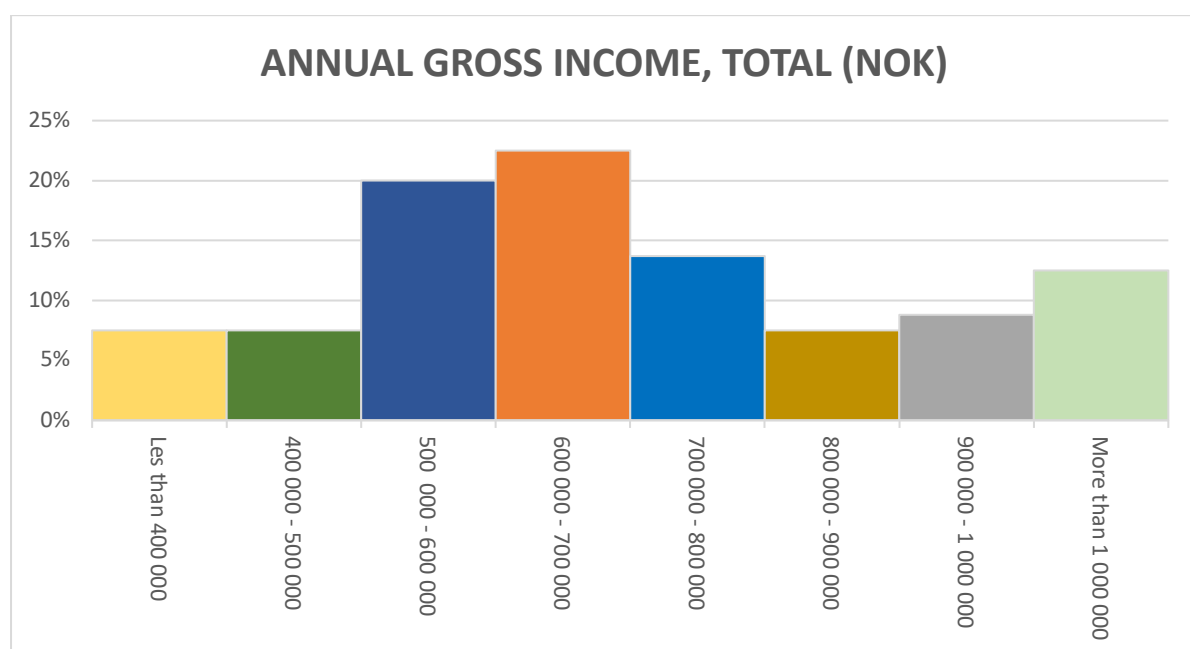


Chart 7: Representation of the respondents' annual gross income.

In the next four graphs the correlation between the sector the respondents work in and the annual gross income is represented.

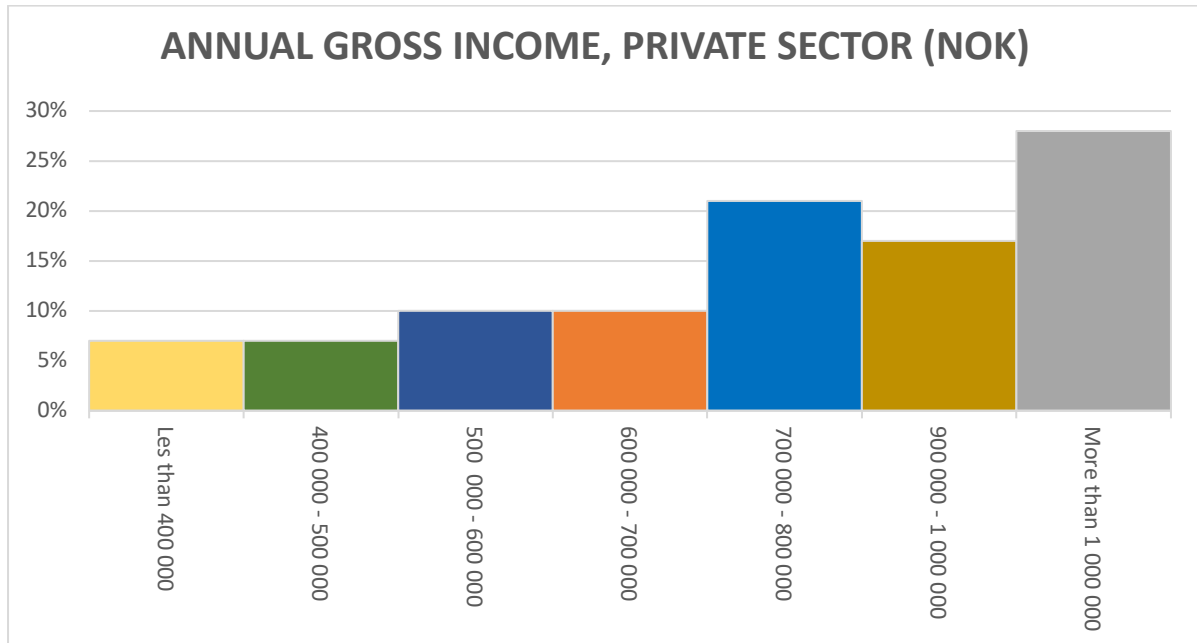


Chart 8: Representation of the income respondents working in a private sector have.

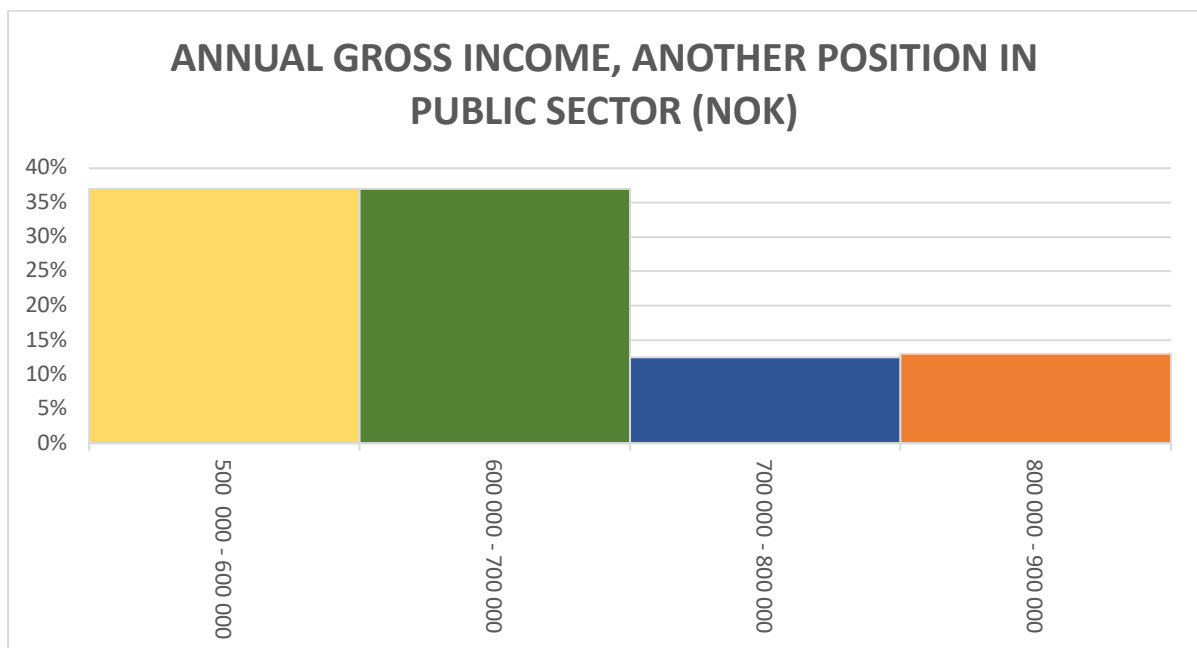


Chart 9: Representation of the income respondents working in a public sector have.

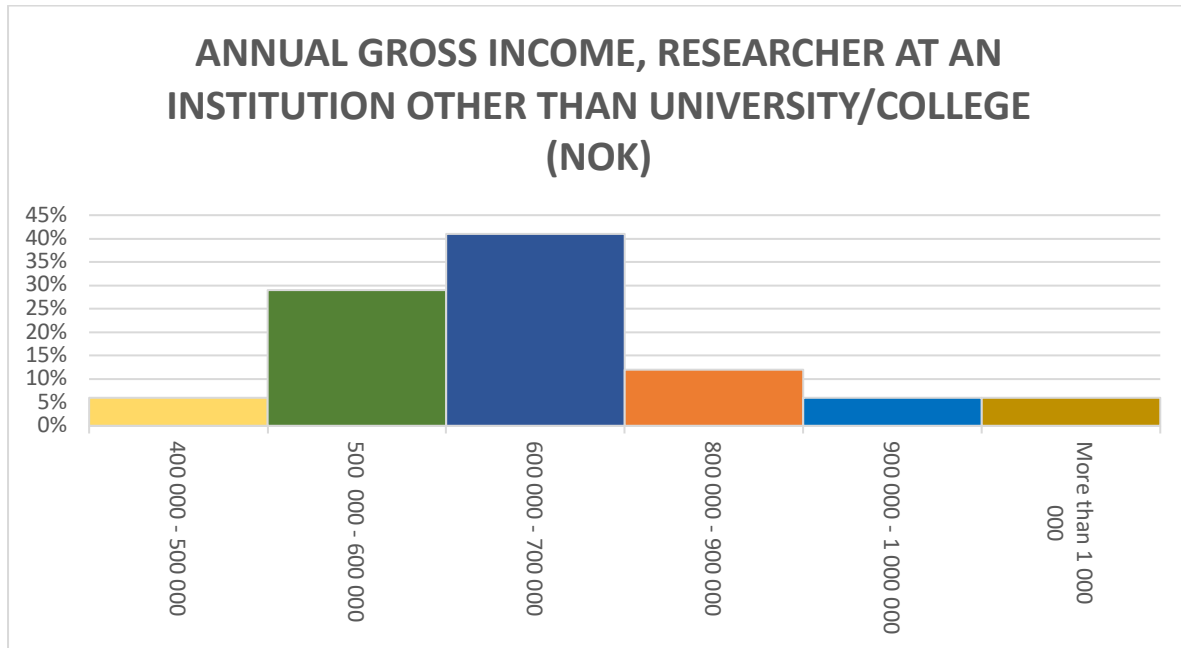


Chart 10: Representation of the income respondents working as a researcher at an institution other than university/college have.

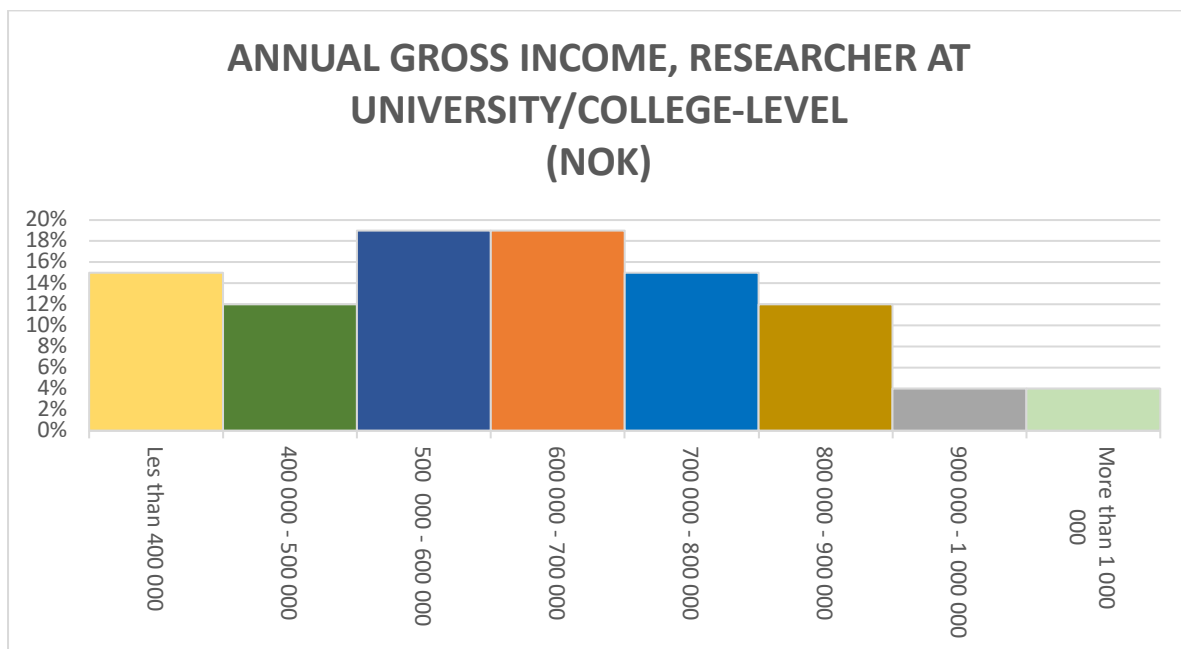


Chart 11: Representation of the income respondents working as a researcher at university/college-level have.

Main occupation

A large majority of respondents are permanently employed, with only few being temporary employed, disability benefit recipients or other. None of the respondents were self-employed, on the long-term sick leave, students, unemployed or working as freelancers.

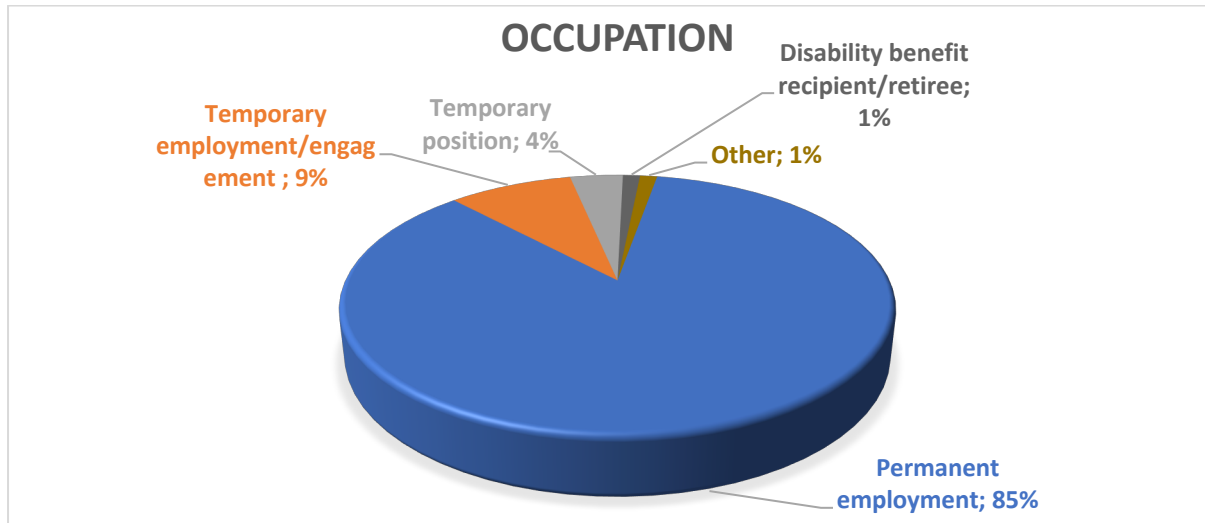


Chart 12: Representation of the respondents' main occupation as of 1st May 2018.

Job characteristics

The respondents were asked to rate how important certain job characteristics are to them, on a scale from 1 to 5 where 1 is "not important at all" and 5 is "very important". The statements and answers in their original form can be seen at the Appendix 2 (page 24).

Here are the job characteristics that are considered to be "important" or "very important" by respondents.

- less ← Importance ↑ more
- Professional challenges (95%)
 - Possibility of learning and personal development (92%)
 - Independent work (91%)
 - Flexible working hours (86%)
 - Control over your own work pace (86%)
 - Varied work tasks (79%)
 - Doing something useful for society (70%)
 - Collaboration with others (67%)
 - Good career opportunities (58%)
 - Recognition from leaders and colleagues (53%)
 - Opportunity to make international career (38%)
 - High income (33%)
 - Possibility of influencing community development (30%)
- numbers in parentheses: sum of the numbers of replies of "important" and "very important"

Picture 2: Representation of some of the main tasks the respondents have in their daily work

Correlation between PhD-education and employment

Employers' awareness of the content of the education

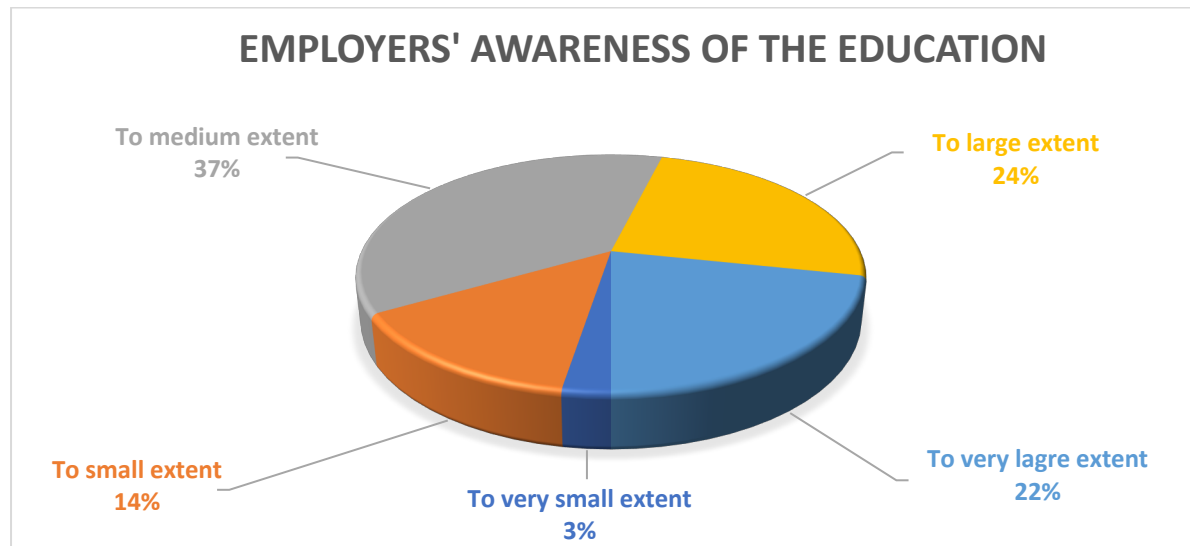


Chart 13: Representation of the extent to which the respondents find that their employers are aware of the content of their education.

The usefulness of your education at UiO in your active professional life

On a scale from 1 to 5 where 1 is "totally disagree" and 5 is "totally agree", the respondents were asked to which extent they agreed with certain statements about the usefulness of their education in their professional life. The statements and answers are given in their complete form in the Appendix 2 (page 25). Here are the statements that the respondents agree with the most:

- My studies helped me develop my ability for analytical thinking (91%)
- My studies trained me for the process of collecting and processing complex information (83 %)
- My studies helped develop my writing abilities (79%)
- My studies gave me skills/competency that meets the demands of my professional life (74%)
- My studies prepared me in the use of computer as a work tool (65%)
- My studies gave me a good practice in oral preparation (60%)

numbers in parentheses: sum of replies in the categories "agree" and "totally agree"

Picture 3: Representation of some of the main tasks the respondents have in their daily work

Concluding remarks

At the end of the questionnaire respondents gave a feedback on whether they wanted to stay in touch with the Department of Mathematics.

They also commented on career choice in light of their education:

- “Start telling people that there are almost no permanent jobs in academia.”
- “While being a mathematician who work as a programmer, it has become clear to me that working on interesting problems with highly skilled colleagues is the best way to learn and develop my skills. Doing a PhD polished my ability to be focused on a difficult and complex problems, but the relevance to my current work is below average.”
- “I think it would be important to put projects related to a higher extent of reality. Sometimes (most often in industry) the theoretical challenge is rather small (e.g., the mathematical level is not that high). However, to see why/why not a theory do not work in a practical situation is not that obvious all the time. Knowledge in that could improve by working more on real life timeseries and practice on relating number to variables [...]”

The respondents also gave some advice related to the career guidance to both the Department and PhDs to come:

- “Make sure they sometimes are exposed to real industry problems, and not only academic problems.”
- “Oral presentation skills and writing abilities are crucial for a successful career”
- “Learn to program! The industry isn't smart enough to understand your impressive math skills. But they do understand solutions and they can run programs. And learn basic testing and documentation! Too many feel they do not need to, but maintaining your own codebase over a couple of years is going to cause you more headache than you realize.”
- “A solid basis in statistics is useful for almost every professional area.”
- “Perhaps it would be a good idea to invite companies who value candidates with a PhD to have stands/hold presentations once a year. How about arranging a PhD career day? The companies could even present a current problem they are facing as a challenge in case some of the PhD's feel like picking up on this and using it as an application in connection to their thesis? This should be a win-win situation, since the students can get ideas for applied problems and ideas for where to work later on, the companies get an excellent recruitment possibility and potentially help with a problem they have, and the department gets a closer connection to relevant companies. This can lead to collaborations between the regular employees at the department and the companies as well. Ideas for companies: SINTEF, Oslo Universitetssykehus, DnB, Finn, Norges Bank, NR, Kongsberggruppen, IFE (and probably many more!). There is already a PhD day, but this is more "survive your PhD"-oriented than career oriented, and personally, I think a career day would be more useful.”
- “PhD students need to know about their job opportunities in industry and get prepared for such jobs as well and not just for the very limited number of

permanent academic jobs. Tell them about the number of faculty jobs available vs. number of PhDs and postdocs!”

- “Most of the work you have to do yourself. If you want to improve your writing or ability to present your work, you have to ask for advise, not sit around and wait for someone (your supervisor) to discover your weaknesses (it's a bit hard to call it weakness, but anyway) and help you out.”
- “They should for sure get internationally connected. Organize international meeting or send them to some.”
- “Partly mentioned above, but also provide/learn to investigate how to do when theoretical requirements are not fulfilled. Why can/cant it be ignored. Be aware that industry is often far behind theoretically but not necessarily when it comes to solving practical problems, which could often be the main issue for a new graduate.”

Appendices

Appendix 1 The Questions included in the questionnaire

PhD-questionnaire, Department of Mathematics, UiO – Vis – Nettskjema

11/12/18, 6:48 PM

PhD-questionnaire, Department of Mathematics, UiO

Side 1

Personal information

Name *

What is your e-mail address? *

Date of birth

Degree

What degree did you obtain at the University of Oslo?

Dr.scient.

Dr.philos.

PhD

Other

Dette elementet vises dersom et av følgende alternativer er valgt på spørsmål «What degree did you obtain at the University of Oslo?»: Other

Comment

When did you graduate?

Please write a few keywords that describe the subject areas of your mathematics education (e.g. statistics, computer engineering)

Employment

How many months after graduation did you gain employment? *

Before I graduated

0-2

2-6

More than 6 months

Dette elementet vises dersom et av følgende alternativer er valgt på spørsmål «How many months after graduation did you gain employment?»: More than 6 months

Comment

In which country do you work?

What sector are you currently working in? *

- Researcher at University/College-level
- Researcher at an institution other than University/College
- Another position in public sector
- Another position in private sector

If you are employed, what is your job title?

What are your main work tasks? Please describe three examples of your daily work assignments.

Does your position require you to participate in the hiring process for new employees?

- Yes
- No

Please state what is your approximate annual gross income.

- Less than 400 000 NOK
- 400 000 - 500 000 NOK
- 500 000 - 600 000 NOK
- 600 000 - 700 000 NOK
- 700 000 - 800 000 NOK
- 800 000 - 900 000 NOK
- 900 000 - 1 000 000 NOK
- More than 1 000 000 NOK

What is your main occupation as of 1 May 2018?

- Permanent employment
- Temporary employment/engagement
- Temporary position
- Working as a freelancer
- Self-employed
- Unemployed

- Long-term sick leave/rehabilitation
- Student/pupil
- Disability benefit recipient/retiree
- Other

Dette elementet vises dersom et av følgende alternativer er valgt på spørsmål «What is your main occupation as of 1 May 2018?»: Other

Comment

To what extent do you find that employers in general are aware of the content of your education?

- To very small extent
- To small extent
- To medium extent
- To large extent
- To very large extent

Job characteristics

How important, on a scale from 1 to 5 where 1 is "not important at all" and 5 is "very important", are the following job characteristics to you?

| | Not important at all | 2 | 3 | 4 | Very important | I do not know |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Independent work | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Professional challenges | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Varied work tasks | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Possibility of learning and personal development | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| High income | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Good career opportunities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Doing something useful for society | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Possibility of influencing community development | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Recognition from leaders and colleagues | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Collaboration with others | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Flexible working hours | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Control over your own work pace | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Opportunity to make international career | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

The usefulness of your education at UiO in your active professional life

On a scale from 1 to 5 where 1 is "totally disagree" and 5 is "totally agree", to which extent do you agree with the following statements?

| | Totally disagree | 2 | 3 | 4 | Totally agree | I do not know |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| My studies gave me skills/competency that meets the demands of my professional life | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My studies helped me develop my ability for analytical thinking | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My studies trained me for the process of collecting and processing complex information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My studies helped develop my writing abilities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My studies gave me a good practice in oral preparation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My studies prepared me in the use of computer as a work tool | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other

Is there something we haven't asked about your work life that you would like to tell us about?

Can we stay in touch?

We are constantly trying to work with issues that may be relevant to our PhD students.

We would therefore appreciate if we can stay in touch with graduated PhD students and use you as resources in our work.

- Yes
 No

Do you have any advice for us?

We are currently making a career course for our current PhD students. Feel free to share any advice with us!

Se nyfjelle endringer i Nettskjema (v471_4rc1)




















Appendix 2 Anonymised results of the questionnaire

Degree

What degree did you obtain at the University of Oslo?

| Svar | Antall | Prosent |
|------------|--------|--|
| Dr.scient. | 17 | 21,8 %  |
| Dr.philos. | 3 | 3,8 %  |
| PhD | 58 | 74,4 %  |
| Other | 0 | 0 % |

When did you graduate?

| Svar | Antall | Prosent |
|------|--------|---|
| 2000 | 4 | 4,9 %  |
| 2001 | 4 | 4,9 %  |
| 2002 | 1 | 1,2 %  |
| 2003 | 1 | 1,2 %  |
| 2004 | 3 | 3,7 %  |
| 2005 | 6 | 7,3 %  |
| 2006 | 2 | 2,4 %  |
| 2007 | 2 | 2,4 %  |
| 2008 | 6 | 7,3 %  |
| 2009 | 5 | 6,1 %  |
| 2010 | 6 | 7,3 %  |
| 2011 | 5 | 6,1 %  |
| 2012 | 6 | 7,3 %  |
| 2013 | 6 | 7,3 %  |
| 2014 | 7 | 8,5 %  |
| 2015 | 7 | 8,5 %  |
| 2016 | 4 | 4,9 %  |
| 2017 | 5 | 6,1 %  |
| 2018 | 2 | 2,4 %  |

Please write a few keywords that describe the subject areas of your mathematics education (e.g. statistics, computer engineering)





- Statistics
- financial mathematics, stochastic analysis
- Fluid mechanics, turbulence
- Mathematics, statistics, financial mathematics
- Statistics, risk and reliability
- geometric modelling
- Structural mechanics, Applied mathematics
- intersection between differential equations and probability theory
- Algebraic geometry

- Partial differential equations
- Fluid Mechanics
- Algebraic geometry
- Stochastic Analysis
- Biostatistics, genomics, penalty regression.
- Algebra, algebraic geometry, deformation theory
- stochastic analysis
- Algebraic Topology
- Applied math
- Statistics, optimization, graphs
- Fluid Mechanics
- Algebraic Geometry
- Statistics
- Stochastic analysis involving empirical and theoretical behavior s related to the energy market.
- Algebra, Geometry, Approximation Theory, Splines
- Hydrodynamics, waves, cfd
- Stochastic analysis and financial mathematics
- Operator algebras
- financial mathematics
- Mathematics (especially algebra and algebraic geometry), physics, statistics, computer science
- Modelling of multiphase flow
- Algebraisk geometri
- Stochastic analysis, optimization problems, optimal stopping, Investment theory.
- Stochastic analysis
- Computational mechanics, hydrodynamics
- Applied mathematics and mechanics
- fractal geometry
- Topology
- fluid mechanics, waves
- Applied statistics
- Stochastic analysis, stochastic optimization, mathematical finance.
- Statistics, probability theory, quantitative methods, software reliability, software dependability
- Mathematical modelling and simulation of hydrocarbon multiphase flow
- Aluminium Extrusion (in collaboration with SINTEF/Hydro)
- Mechanical Engineering
- Algebraic geometry
- Computational math
- Numerical analysis, PDEs
- Applied mathematics, fluid mechanics
- Operator Algebras, Functional Analysis
- Statistics
- Algebraic Geometry with applications
- Stochastic analysis, numerical analysis
- Statistics.
- Mathematical Logic
- Operator algebras
- mathematical logic
- Stochastic Analysis
- Algebraic geometry
- Stochastic Analysis
- Mathematical finance, Computational finance, Stochastic analysis
- fluid mechanics

- Uncertainty quantification, computer engineering, probability theory
- Dynamical Systems Theory, Stochastic Dynamics,
- algebraic geometry
- Algebraic topology
- Optimization, Matrix theory
- Algebraisk geometri
- statistics, biostatistics
- cand.scient: algebra. dr.scient: statistics
- algebraic topology
- Statistics, Informatics
- Algebraic Geometry
- Fluid Mechanics
- Mathematical Logic
- Risk analysis and statistics
- Mathematical modelling of solidification, numerical methods, computer science, materials technology
- Applied mathematics, numerical analysis, PDEs
- Probability theory, stochastic analysis, statistics and functional analysis


Employment

How many months after graduation did you gain employment? *

| Svar | Antall | Prosent |
|--------------------|--------|--|
| Before I graduated | 54 | 65,9 %  |
| 0-2 | 12 | 14,6 %  |
| 2-6 | 8 | 9,8 %  |
| More than 6 months | 8 | 9,8 %  |

Due to the anonymity reasons, question “In which country do you work?” is taken out of the summary. Please see the sum-up report for the statistical report on this question.

What sector are you currently working in? *

| Svar | Antall | Prosent |
|--|--------|--|
| Researcher at University/College-level | 27 | 32,9 %  |
| Researcher at an institution other than University/College | 17 | 20,7 %  |
| Another position in public sector | 8 | 9,8 %  |
| Another position in private sector | 30 | 36,6 %  |

Due to the anonymity reasons, question “If you are employed, what is your job title?”. Please see the sum-up report for the statistical report on this question.

What are your main work tasks? Please describe three examples of your daily work assignments.

- Research
- Doing research.
- Teaching, administration, student guidance
- Research, teaching, administrative duties
- Skrive papers, jobbe med kliniske studier sammen med leger på radiumhospitalet, veiledning.
- Teaching/research
- Teaching and research
- Developing software, and software systems involving machine learning.
- Oil and gas exploration. Develop improved methods for seismic acquisition and processing. Signal processing. Numerical modeling.
- Simple programming (scripts), writing, reading
- Strategy, integration, management
- Project Management of market research activities Data analysis Algorithms development
- Research, supervision, teaching
- Model validation, risk management, mathematician
- Analysing experimental data, numerical modeling, matlab programming
- Software development
- Research, teaching, supervision, study programme coordination
- Programming, advice on data management and data analysis, lecturing
- Teaching, research and administrative
- Research on waves, computer programming
- Applied research. Working on industry projects, writing research applications, writing papers
- Research and structural engineering
- Research: Read papers, write papers, review papers. Write research proposals. Write course material. Teaching: Courses on bachelor or master level. Supervising bachelor students. Communicating scientific research: Talks for new students, high school students, teacher etc. Interviews with media if required.
- Everything! Development of the faculty's IT-studies, administration, follow up students, follow up employees
- Advising management of upstream oil and gas companies focusing in particular on digital transformations
- Development and implementation of new die technology Performance improvement in production
- Software development of mathematical modeling software Management of a team of 15 persons DevOps engineering (software infrastructure)
- Research, teaching, watch youtube videos, drink coffee
- Programming/scripting in python. Calculations in oil and gas
- I work with turbulence, mainly simulations but also some field work and experiments.
- - Develop models in mathematical finance for pricing commodity derivatives. - Implement models/methods in a C++ library, for pricing, risk computations, applying scenarios, among other coding tasks. - Engage with various stakeholders (traders, IT, model validation,...) in order to discuss issues, project execution, and possible solutions.
- Carrying out applied research statistical analysis risk assessment
- Project management, applying for funding, carrying out research
- Mathematical modelling of multiphase pipe flows
- Research and Development work Technical leadership and verification Sales of specialised services
- Research Organizing seminars/conferences
- Java programming, implementing a system for counting road traffic in Norway. Also meetings with the customer (in this case, The Norwegian Road Authority (Statens Vegvesen)).
- Apply machine learning techniques to predict the effect of immunotherapy on individual patient. Code development of the Scientific Backend for a Software as a Service. All types of research and development, including being advisor to a Master's student and writing journal articles.
- Statistical analysis of Health data
- Standard university faculty position; research and teaching at all levels.
- Research and development, consulting, evaluation, programming.
- I do applied research on contracts awarded by the research council (of Norway or the EU) and for industrial customers. Some daily assignments: - Read and review literature to learn about applied research questions we want to solve or work on in our projects - Write and present papers about the outcomes of our work - (Perhaps most importantly) Decide upon and implement (i.e. as computer code) algorithms to solve the problems in our projects
- * Stordata-analyse innen medisinsk genetik * Matematisk modellering av genetiske prosesser * Statistisk genetik, slektskapsanalyse
- Statistical analyses, paper writing, research management
- Administration of high performance computing (HPC) systems. User administration Computer security
- Writing code.
- Programming Infer statistical models Writing paper
- Sales support - products propeller Project management Technical work actual projects
- Reservoir Modelling, reservoir simulation, statistical analyses
- Teaching and research
- The development of price models to be implemented in an individualized mortgage pricing model. This involves development of price models in SAS MM and SAS DM and the deployment of these models in SAS RTDM. Other tasks include the development of new views based on new data sources such as Matrikkelen and Grunnboka. I also do analyses.

- Teaching courses, supervision of master and PhD students, research within statistics
- 1. Maintaining existing code base 2. Developing new features 3. Providing support for existing customers.
- Teaching, preparing for classes, reasearch
- Teaching and research
- Research, supervision, grant proposal writing
- Programming for implementation of mathematical models and processing ov data.
- modelling, statistical analysis, writing reports
- Research and teaching
- Scientific software development
- Teaching, Doing Research, Supervising Undergraduate and Postgraduate Students, Enhancing Existing or Developing New Courses/Programs.
- Write code Trade financial products Do statistical analysis
- teaching & reseach
- Statistical analysis
- Vi tar oppdragsforskning for private/offentlige; jeg jobber mye på diverse prosjekter for ulike kunder. Dette inkluderer utarbeidelse av prosjektplan/beskrivelse, gjennomføring, koding, dokumentasjon av metode og programvare/kode, møter hos kundene. Bruker også noe tid på markedsføring og søknadsskriving for å skaffe nye prosjekter.
- Develop and improve fundamental models (theoretically and programming in matlab) related to energy markets. Do analysis of data, and asses quality of input data used in models. Everyday price analysis for the day ahead electricity prices. Including writing reports on different contracts traded in the energy market.
- Teaching, Research, Admission Tutor for undergraduate programs in Mathematics
- Technical work, analysis
- Research, teaching and some administration
- - Data / statistical analysis - Programming - business meetings
- lecture, research and administration
- Teaching. Making obligatory hand-in assignments and their solutions. Research.
- LedaFlow Development, Multiphase flow modelling, Online Flow Assurance Simulators (FAS), Production Assurance
- Undervise Forske Administrere
- Teaching high school students, participating at seminars about leadership, work shops about how to motivate others.
- Assessment of banks' and insurance companies' risk models
- Development of custom made solutions for load calculation, (coding), solving problems using computational mechanics, extreme value estimation
- Teaching, administration and research

Does your position require you to participate in the hiring process for new employees?

| Svar | Antall | Prosent |
|------|--------|---|
| Yes | 37 | 45,7 %  |
| No | 44 | 54,3 %  |

Please state what is your approximate annual gross income.

| Svar | Antall | Prosent |
|-------------------------|--------|---------|
| Less than 400 000 NOK | 6 | 7,5 % |
| 400 000 - 500 000 NOK | 6 | 7,5 % |
| 500 000 - 600 000 NOK | 16 | 20 % |
| 600 000 - 700 000 NOK | 18 | 22,5 % |
| 700 000 - 800 000 NOK | 11 | 13,8 % |
| 800 000 - 900 000 NOK | 6 | 7,5 % |
| 900 000 - 1 000 000 NOK | 7 | 8,8 % |
| More than 1 000 000 NOK | 10 | 12,5 % |

What is your main occupation as of 1 May 2018?

| Svar | Antall | Prosent |
|--------------------------------------|--------|---------|
| Permanent employment | 69 | 85,2 % |
| Temporary employment/engagement | 7 | 8,6 % |
| Temporary position | 3 | 3,7 % |
| Working as a freelancer | 0 | 0 % |
| Self-employed | 0 | 0 % |
| Unemployed | 0 | 0 % |
| Long-term sick leave/rehabilitation | 0 | 0 % |
| Student/pupil | 0 | 0 % |
| Disability benefit recipient/retiree | 1 | 1,2 % |
| Other | 1 | 1,2 % |

Job characteristics

How important, on a scale from 1 to 5 where 1 is "not important at all" and 5 is "very important", are the following job characteristics to you?

| | Not important at all | 2 | 3 | 4 | Very important | I do not know |
|--|----------------------|--------|--------|--------|----------------|---------------|
| Independent work | 2,5 % | 0 % | 6,2 % | 32,5 % | 58,8 % | 0 % |
| Professional challenges | 1,2 % | 1,2 % | 2,5 % | 27,5 % | 67,5 % | 0 % |
| Varied work tasks | 0 % | 3,8 % | 16,2 % | 41,2 % | 37,5 % | 1,2 % |
| Possibility of learning and personal development | 0 % | 1,3 % | 6,4 % | 26,9 % | 65,4 % | 0 % |
| High income | 2,5 % | 22,5 % | 42,5 % | 23,8 % | 8,8 % | 0 % |
| Good career opportunities | 2,5 % | 7,5 % | 31,2 % | 30 % | 27,5 % | 1,2 % |
| Doing something useful for society | 0 % | 5 % | 23,8 % | 45 % | 25 % | 1,2 % |
| Possibility of influencing community development | 5 % | 18,8 % | 43,8 % | 23,8 % | 6,2 % | 2,5 % |
| Recognition from leaders and colleagues | 3,8 % | 10 % | 33,8 % | 40 % | 12,5 % | 0 % |
| Collaboration with others | 2,5 % | 5,1 % | 24,1 % | 45,6 % | 21,5 % | 1,3 % |
| Flexible working hours | 1,2 % | 0 % | 12,5 % | 37,5 % | 48,8 % | 0 % |
| Control over your own work pace | 0 % | 5,2 % | 9,1 % | 37,7 % | 48,1 % | 0 % |
| Opportunity to make international career | 13,8 % | 23,8 % | 25 % | 25 % | 12,5 % | 0 % |

The usefulness of your education at UiO in your active professional life

On a scale from 1 to 5 where 1 is "totally disagree" and 5 is "totally agree", to which extent do you agree with the following statements?

| | Totally disagree | 2 | 3 | 4 | Totally agree | I do not know |
|--|------------------|--------|--------|--------|---------------|---------------|
| My studies gave me skills/competency that meets the demans of my professional life | 1,2 % | 5 % | 18,8 % | 28,8 % | 45 % | 1,2 % |
| My studies helped me develop my ability for analytical thinking | 1,2 % | 0 % | 7,5 % | 17,5 % | 73,8 % | 0 % |
| My studies trained me for the process of collecting and processing complex information | 1,2 % | 5 % | 11,2 % | 18,8 % | 63,8 % | 0 % |
| My studies helped develop my writing abilities | 1,2 % | 6,2 % | 13,8 % | 30 % | 48,8 % | 0 % |
| My studies gave me a good practice in oral preparation | 3,8 % | 13,8 % | 22,5 % | 27,5 % | 32,5 % | 0 % |
| My studies prepared me in the use of computer as a work tool | 1,2 % | 17,5 % | 16,2 % | 25 % | 40 % | 0 % |

Can we stay in touch?

We are constantly trying to work with issues that may be relevant to our PhD students.

We would therefore appreciate if we can stay in touch with graduated PhD students and use you as resources in our work.

| Svar | Antall | Prosent |
|------|--------|---|
| Yes | 77 | 93,9 %  |
| No | 5 | 6,1 %  |