Dear colleagues,

As you may know, my own research has mainly been in the field of bioinformatics where I have worked both with development of methods and taken part in and led cross-disciplinary projects developing and utilizing computational approaches for example to advance understanding and treatment of cancer. In addition I have a keen interest in machine learning, data science, and AI.

One of the large open problems attracting intense research within bioinformatics for the last five decades is the Protein folding problem. Last year, there was a big breakthrough when DeepMind – who has earlier launched systems learning to play Go and chess through self play – wiped all competitors off the playing field in the biannual CASP “competition”. Their entry into the competition demonstrated that they to a large extent had solved the problem – producing highly accurate structural model for most targets.

One interesting question was then whether they would share details of what they had done and ideally share code allowing others to use and build on their system. A number of competing academic groups started working on related approaches and it was clear that competing systems would be openly available before long. Anyway, this summer DeepMind did publish in Nature (a competing academic group publishing a competing method the same week in Science) also releasing source code and trained models.

This week the Norwegian AI Research Consortium NORA, together with Digital Life Norway and ELIXIR Norway, organized a workshop around this – and I had the pleasure to give one of the presentations. The timeliness of the workshop was demonstrated through more than 600 researchers from all over the world signing up and taking part in the (online) workshop.

I share this story not only because I think it is fascinating – and arguably one of the greatest scientific breakthroughs of this decade – but also because I think it tells us another important lesson: It is vitally important that the public sector and academia is given resources to stay at the forefront of research – in particular in the field of Artificial Intelligence – and does not leave this entirely up to the industry. In this way we have a better chance of ensuring that the results can be used for the good of the society as a whole.

I wish you all a nice weekend!

Inge

The Dean’s Blog – Gunn Mangerud

The Dean’s blog aims to inform us of ongoing work and processes at Faculty of Mathematics and Natural Sciences.

Her latest postings:

- Endelig kan vi ønske velkommen til en (semi-) åpen campus!
- Slik skaper vi universitetet uten vegger
Welcome new colleagues!

**Tuukka Korhonen**
Tuukka is our new PhD student in algorithms starting from 1st September. The position is connected to the project "Beyond Worst-Case Analysis in Algorithms", financed by the RCN. His main supervisor will be Fedor Fomin.

Modern theoretical computer science faces a fundamental challenge: the current methods fail to explain the effectiveness of modern machine learning algorithms. To reconcile the algorithmic intractability with machine learning, we will develop novel algorithmic and complexity methods. The successful completion of our program will yield progress in both areas of theoretical computer science and machine learning.

Tuukka is from Finland. He holds a Master's in computer science from University of Helsinki in 2020.

**Johannes Langguth**
Johannes is our new adjunct Associate Professor (20%) from 1st September.

He will be associated with the Algorithms group, with the intent of strengthening the groups capacity for conducting applied research and to host master students. The research focus of the position is particularly geared towards the solution of combinatorial problems on sparse graphs using modern computers with multiple computing units.

Johannes is German. He did his PhD at our Department in 2011, then a postdoc in Lyon, France and then a postdoc with Simula. Now, his main position is research scientist at Simula, and he also holds a Researcher position at the Department of Data Science and Analytics BI Norwegian Business School.

**Jack Law**
Jack is a new Postdoctoral Fellow at the CBU in the Grellscheid Group, employed by the Department of Biological Sciences

Jack will be studying biological condensates. His main task involves developing methods to accurately measure mechanical properties of condensates in living cells from microscopy data.

Jack is from Wales. He has done an integrated Master’s in physics at the University of Bath, followed by a PhD in soft matter physics at Durham University as part of the SOFI CDT.

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**Current Issues**

**På Høyden** - **Khrono** – **News from NFR** – **News from UiB** – **Informatics on Facebook**

**Current corona related restrictions** [https://www.uib.no/en/corona](https://www.uib.no/en/corona)

The current UiB restrictions are as good as unchanged from the last weeks and are now valid until further notice:

- **Physical teaching.** It is emphasized that higher education institutions must use every other seat in the teaching situation. This already applies at UiB.
- **Face masks** must be used in all common areas where it is not possible to keep a distance of one meter.
- **Home office** is recommended for employees who need public transport and has the possibility to work from home.
  If you need to work from home, this should be by agreement with your line manager. Note: if your work does not fit well with working from home, you should come to your campus office even if this implies using public transport.
- **Rapid testing.** UiB will maintain stations for rapid tests on campus this week, but unfortunately not the one we had just outside our building. For our students we have agreed locally that testing/self-testing is mandatory before entering evening social events. Self-tests are available also for employees in the Reception 4th floor.
- **Travels.** We follow national regulations regarding traveling abroad. There should be an assessment of the importance of a trip before going since it still involves a certain risk. Our department policy will then be that trips abroad are approved by the head of department beforehand. Please notice that if there should be a quarantine requirement, expenses will not be covered by the university. For booking of flights etc, see this website - especially now in the pandemic period, it is advisable to use the travel agency since they can give advice on insurances, cancellation policies that are relevant in these times.
Picture report from Boat trip with students last week
Some 140 of our 1st and 2nd years bachelor students and 1st year Master students went on a nice boat trip last Thursday. Inge, Linda and Marta also joined as “adults” (or oldies) on the trip and enjoyed very much the lovely weather, beautiful scenery and the company of all the nice young students. What a joy! 😊

Department Gathering 2021 – save the date!
Our department gathering 2021 will be at the new Scandic Hotel at Voss on October 18-19. All Informatics staff, emeriti, CBU group leaders and members of echo are welcome to join. We will soon announce the program and open the registration. For now: please save the dates!

PhD updates

PhD defense - Morten Øygarden
Morten will defend his thesis "Algebraic Cryptanalysis of Cryptographic Schemes with Extension Field Structure" on 06.09.2021 at 14:00 on zoom. All are welcome!

- Opponent: Researcher Antoine Joux, The CISPA Helmholtz Center for Information Security
- Opponent: Associate Professor Magali Bardet, Université de Rouen, Normandie
- Committee member: Professor Kjell Jørgen Hole, Simula UiB
- Leader of the defense: Associate Professor Pål Grønås Drange

Please find the press release here.
<table>
<thead>
<tr>
<th>Name</th>
<th>Thesis Title</th>
<th>Defense Date</th>
<th>Congratulations Notes</th>
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</thead>
<tbody>
<tr>
<td>Sachin Jayesh Valera</td>
<td>&quot;Topological Quantum and Skein-Theoretic Aspects of Braided Fusion Categories&quot;</td>
<td>27th August</td>
<td>Congratulations to Sachin, the Selmer Center and supervisor Matthew Parker.</td>
</tr>
<tr>
<td>Dan Zhang</td>
<td>&quot;Design of sequences with good correlation properties&quot;</td>
<td>26th August</td>
<td>Congratulations to Dan, the Selmer Center and supervisor Matthew Parker.</td>
</tr>
<tr>
<td>Nikolay Stoyanov Kaleyski</td>
<td>&quot;Towards a deeper understanding of APN functions and related longstanding problems&quot;</td>
<td>24th August</td>
<td>Congratulations to Nikolay, the Selmer Centre, supervisor Lilya Budaghyan and his co-supervisors.</td>
</tr>
</tbody>
</table>

**New deadlines for PhD thesis submission**

The thesis must now be submitted 12 weeks ahead of the defense, and not 10 weeks as before. This is introduced to allow for longer processing should there be a need for small revisions in the thesis. Summer and Christmas holidays do not count towards this deadline.

This results in the following deadlines for defenses before Christmas / summer holidays:

- Defense before Christmas 2021: deadline 24 September (for defense 17 December)
- Defense before summer holidays 2022: deadline 8 April (for defense 1 July)

The evaluation committee must still submit its evaluation report four weeks ahead of the defense.

Learn more here.
7th Annual NORBIS conference
Time: 27-28 October 2021
Location: Sola strandhotell, Stavanger

Information and registration
Registration deadline: October 1st 2021.
Program: TBA! This year our focus will be on our students and their research. We will also have a session where the focus will be on motivation during your PhD given by psychologist Jan-Martin Berge.

General information: We invite master students, PhD students and post-docs to present their research project during the annual meeting. This is a great opportunity to get feedback from fellow students and group leaders within bioinformatics, biostatistics and systems biology. The talks will be of a duration of 15 minutes with additional 5 minutes time for questions and discussion. We will arrange a feedback committee for each session. As we have a limited number of sessions available for student talks during the meeting, we will select those who are invited to give a talk and expect that the rest will bring a poster instead. We will have one poster presentation. We plan for local poster sessions to increase interaction with local participants. We also like all poster presenters to make a short video (maximum 2 minutes), presenting your poster. How you like to present it, is up to you. These videos will be available at a password protected website for all participants and will be deleted two days after the conference. Those who are presenting their posters online, will give a 2 min flash talk about their poster.

NORBIS Course: Bioinformatics for functional meta-omics
Dates: 1-5 November 2021. Location: NMBU Ås
This course will introduce, explore and assess the vast array of sequencing technology and bioinformatic methods that are available to address these core issues. The course will include an array of contrasting tools to decrypt microbial communities, including those that assess community structure (metagenomics, predictive genome-reconstruction) and function (metatranscriptomics, metaproteomics). It shall involve “hands-on” experience with these different types of data, and also explore approaches used to integrate and use it to interpret community function.

More information and registration here

NORBIS Course: Modern methods for analyzing survival and time to event data - imb9335
Dates: December 6-10, 2021. Location: Domus Medica, Runde Auditorium, University of Oslo
The analysis of survival data and other types of time-to-event data are central in modern medical research and a number of other fields. A large number of methods for analysing time-to-event data have been developed, but many researchers have no knowledge of survival analysis, or they only know the most basic methods. The aim of the course is to give PhD-students and other researchers in biostatistics, bioinformatics, epidemiology, and related fields an up-to-date overview of statistical methodology for analysing time-to-event data.

More information and registration here

Teaching and student affairs
Upcoming TeLEd Event, 14 September
Title: Merit Systems for Excellence in Teaching: Where are we and where are we going?
Speaker: Oddfrid Kårstad Førland (along with a panel of Excellent Teaching Practitioners)
Date: Tuesday, 14. September 2021
Time: 14.00-15.30 CEST
Location: Zoom Webinar

Learn more about Teaching and Learning in Higher Education (TeLEd)
**Department / CEDAS seminar, 7 October 2021**

**Abstract:** Neighbor Embedding (NE) that aims to preserve pairwise similarities between data items has been shown to yield an effective principle for data visualization. However, even the currently best NE methods such as Stochastic Neighbor Embedding (SNE) may leave large-scale patterns such as clusters hidden despite of strong signals being present in the data. To address this, we propose a new cluster visualization method based on Neighbor Embedding. We first present a family of Neighbor Embedding methods which generalizes SNE by using non-normalized Kullback-Leibler divergence with a scale parameter. In this family, much better cluster visualizations often appear with a parameter value different from the one corresponding to SNE. We also develop an efficient software which employs asynchronous stochastic block coordinate descent to optimize the new family of objective functions. The experimental results demonstrate that our method consistently and substantially improves visualization of data clusters compared with the state-of-the-art NE approaches.

**Speaker:** Zhiron Yang received his Doctoral degree from Helsinki University of Technology, Finland in 2008. He is working as a professor in Norwegian Open AI Lab and Department of Computer Science at the Norwegian University of Science and Technology. He also works as IEEE Senior Member and leads the project "ShuttleNet: Scalable Neural Models for Long Sequential Data" (NFR 2018–2023). His current research interests include data visualization, cluster analysis, learning representations for structured data.

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**Department seminar, 4 November 2021**

Each year, the Research Council of Norway (RCN) has a call for Researcher Projects, inviting researchers from all fields to apply for funding to deliver new insights, advance research frontiers, promote scientific careers, establish and broaden international cooperation, facilitate excellent researcher training and more. With a deadline on 2 February 2022, researchers can apply in one of the following categories: Researcher Project for Scientific Renewal, Researcher Project for Young Research Talents, or Three-year Researcher Project with International Mobility. All of these calls come with a different set of (eligibility) requirements. During the seminar, we will go through the main characteristics of each call and make you aware of the most important specificities. We will finish the seminar with a Q&A session with successful grantees, Professor Lilya Budaghyan (Selmer Center), Researcher Mateus de Oliveira Oliveira (Algorithms), Professor Tom Michelet (Computational Biology Unit), and Professor Susanna Röblitz (Computational Biology Unit).

The seminar will be hosted by Stefanie Meyer, research coordinator at the Department of Informatics. Stefanie has worked as a research advisor for third funding for the past 6 years and has a broad overview over different local, national, and international funding bodies (including RCN, Trond Mohn Foundation, ERC, Marie Skłodowska-Curie Actions).
NORA Annual Conference, 2021
Register for the first inaugural NORA Annual Conference 2021. Register for the conference now!

We are thrilled to announce the launch of the first Norwegian Artificial Intelligence Research Consortium Conference (NORA) Annual Conference, which will take place at Grand Bergen, November 17th and 18th, 2021!

The conference aims to gather the Norwegian research community within the field of Artificial Intelligence and create a platform where invited speakers and participants can share research, ideas, theories, models and new perspectives, and interact with peers from the field. Knowledge sharing and interaction will be at the center of the conference, which will in turn foster a strong community of researchers and practitioners, while bridging the gap between young researchers, startups and industry.

Research School in Artificial Intelligence in Bergen - AIB 22

The International Artificial Intelligence in Bergen Research School aims at disseminating recent advances on AI. It is mainly intended for master and Ph.D. students, postdocs, and researchers wishing to learn more about the theme of the research school. In 2022, the broad theme of the school is: Knowledge Graphs and Machine Learning.

The event will be co-located with a workshop where participants will be invited to present their work in oral and poster sessions.

For more information about the Research School in Artificial Intelligence and to register, please visit the Research School Website.
Registration for the NordicAlMeet2021 is now open!

Learn more and register here

Invitation: FRONT-conference 2021: Likestilling i akademia

Tema for årets konferanse er likestilling i akademia.

Vi har invitert anerkjente forskere på fagfeltet til diskusjon og det blir lansering av boka «Likestilling i akademia – fra kunnskap til endring» av Øystein Gullvåg Holter og Lotta Snickare (redaktører).

Tid og sted: 8. nov. 2021 09:30–16:00, Hotell Bristol. Mer informasjon her.

Publishing Open Access and Data Management Plans

UiB’s policy for Open Science

Data Management Plans

Publication fund for Open Access at UiB

Open access publishing deals

Open Access - what, why and how
Useful courses for handling of research data

The goal of the University of Bergen is that data resulting from research activity should be made readily available for reuse in accordance with FAIR-principles. UiB Library Research Support offers following courses to help meet these requirements:

**Data management Plan**

The Norwegian Research Council and Horizon 2020 require projects to submit a data management plan (DMP). A data management plan describes how data in a research project will be collected, processed and made available.

The courses «Introduction to DMP” and “DMP workshop” give you a short introduction to what a data management plan is, why you need it, and how to write one. In the workshops you will have the opportunity to work on your own DMP using a digital DMP tool, and then share your DMP with other participants and get feedback from peers and experts on your own DMP.

- **September 17th** at 10:00-14:00 (introduction to DMP + workshop). Read more. Sign up here.
- **October 15th** at 10:00-10:45 (introduction to DMP, in Norwegian). Sign up here.
- **November 12th** at 10:00-14:00 (introduction to DMP + workshop). Read more. Sign up here.

**How can you make your research data open and FAIR?**

Researchers are encouraged to make their data openly available as early as possible in the research process, and most funders, e.g. Norwegian Research Council or Horizon Europe, and publishers require that the research data from a project is made openly available. But how can you do this in practice, and where?

In the course you will get a short introduction to how you can make your research data open and FAIR, and how to archive your data in our institutional archive UiB Open Research Data.

- **September 3rd** at 10:00-11:30. Sign up here.
- **October 1st** at 10:00-11:30. Sign up here.

**Finding & reusing research data**

Sharing and re-using quality-assured research data is considered good scientific practice. Re-using existing datasets as secondary data avoids unnecessary duplication of efforts and can inspire new avenues of research.

For example, new questions or methods can be applied to a dataset, or data from different studies or disciplines can be integrated. In this course you will learn how you can use existing datasets as a resource for your research. The course consists of three short modules, and you can participate in either or all of the modules.

- **August 27th** at 09:30–12:00. Sign up here.
- **November 26th** at 09:30-12:00. Sign up here

Want to know more about Open Data and Data management? See our webpages:

Open Access to Research Data  
Data Management Plans

**Software Carpentry course in research computing skills: Shell, Python, Git**

Reproducible research benefits strongly from learning some research computing skills. Are you tired of manually moving files? Would you like to be able to efficiently analyze data and create fancy plots? Would you like to learn programming, but you do not know where to start? Would you like your data analysis to be more reproducible? This is the course for you!

The Software Carpentry course in research computing skills will provide researchers with computational tools to address their research questions in new or more efficient and reproducible ways. The course is aimed at novices and no previous programming knowledge is required.

September 20th-24th, 9:00-13:00. Read more & sign up.
Upcoming funding opportunities
On a monthly basis, the department releases a comprehensive overview over upcoming funding opportunities on its website for research support services. Please inform research coordinator Stefanie Meyer about all planned and ongoing funding applications! This includes both applications you coordinate yourself, and those where you are included as a partner/collaborator! At this point, we would like to highlight the following upcoming calls and funding/research-related events:

**Enabling technologies.** There is an open call for Collaborative Projects on Digital Security and Artificial Intelligence, Robotics and Autonomous Systems. “The objective of this call is to develop new knowledge within one or both topics for the call: Digital security and/or AI, Robotics and Autonomous Systems. [...] The project must involve two or more Norwegian partners that are not research organisations. Partners that are not research organisations must together participate with a minimum of 10 per cent of the total project costs.” Application deadline: open-ended.

**AURORA researcher exchange NO-FR.** “Researchers from Norway may seek support for funding for short-term visits in France for the purpose of launching and developing new joint research projects.” Application deadline: 15 September 2021.

**Researcher projects.** The RCN has published preliminary calls for Researcher Projects for Scientific Renewal, Researcher Projects for Young Talents, and Three-year Researcher Projects with International Mobility. Application deadline: 2 February 2022.
ERC. Call deadlines for the 2022 calls are:
- Synergy Grant ’22, 10 November 2021
- Starting Grant ’22, 13 January 2022
- Consolidat. Grant ’22, 17 March 2022
- Advanced Grant ’22, 28 April 2022

ERS funding explained: Watch the ERC’s instructional videos.

MSCA Doctoral Networks. “The MSCA Doctoral Networks aim to train creative, entrepreneurial, innovative and resilient doctoral candidates, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit. [...] MSCA Doctoral Networks will implement doctoral programmes, by partnerships of universities, research institutions and research infrastructures, businesses including SMEs, and other socio-economic actors from different countries across Europe and beyond.” Application deadline: 16 November 2021. (next: 15 November 2022)

MSCA Postdoctoral Fellowships. “The goal of MSCA Postdoctoral Fellowships is to enhance the creative and innovative potential of researchers holding a PhD and who wish to acquire new skills through advanced training, international, interdisciplinary and inter-sectoral mobility.” This funding scheme is part of Horizon Europe’s Pillar I (Excellence). It is highly competitive and has quite strict eligibility criteria, but also represents an excellent opportunity to recruit talented young researchers to UiB and/or to gain experience abroad. If you are interested in this funding scheme, please contact Stefanie Meyer. Application deadline: 12 October 2021. (next: 14 September 2022)

CAS. “The Centre for Advanced Study (CAS) invites researchers to pursue excellent, fundamental, curiosity-driven research in Oslo during the 2023/2024 academic year. Assemble your international dream team of prominent researchers and apply for a research stay at CAS.” Application deadline: 18 October 2021.

Need help?

Please contact research coordinator Stefanie Meyer if you have questions with regard to your planned and ongoing funding applications as well as all contractual work related to external funds! All applications and agreements/contracts need to be approved by the department leadership. In addition, you can have a look at our websites for research support services, where you will also find a list of our services.

Sabbatical. All at least 50%, permanently employed professors and associate professors can apply for a sabbatical and, if relevant, related travel funds. Application deadline: 1 October 2021.
Vacant positions

Tenure Track Associate Professor in Informatics – applied cryptology
Please find the full announcement here. Closing date: 30.09.2021.

SEAS postdoctoral research fellow in topological and geometric machine learning for marine sustainability

Welcome to the cake club (Kakeklubben) on Wednesdays!
Kakeklubben aims to help our international colleagues to practice Norwegian while spending nice time together with people across group borders. Club meetings are held on Wednesdays at 12 o’clock in Kroken, 4th floor.

You bring your own lunch, and we serve cake and coffee. Everyone is welcome, no matter how much Norwegian you speak. We hope to see you there, both internationals and Norwegians!

Welcome to Yoga on Wednesdays!
Yoga is a great way to reduce stress and tensions from work. Yoga classes are held at our department on Wednesdays at 2:30 p.m. to 3:30 pm at the CBU seminar room in 5th floor.

Our professional yoga instructor, Kjersti Naess, is teaching in English. No signing up, and no participation fee. Please bring your own yoga mat. We also have some mats for loan. All employees are welcome — also those of you who never tried yoga before.

And remember: When you are too busy to go to the yoga class – then is when you need it the most!

Nordic Al Meet. “The main purpose of the symposium is to provide a platform for young AI researchers to exchange ideas, build collaborations and form a nordic approach for building AI solutions for the societal good.” Event: 1-2 November 2021. Registration is open.

NORA Annual Conference 2021. The first Norwegian Artificial Intelligence Research Consortium Conference (NORA) Annual Conference “aims to gather the Norwegian research community within the field of Artificial Intelligence and create a platform where invited speakers and participants can share research, ideas, theories, models and new perspectives, and interact with peers from the field. Knowledge sharing and interaction will be at the center of the conference, which will in turn foster a strong community of researchers and practitioners, while bridging the gap between young researchers, startups and industry.” Event: 17-18 November 2021.
Working with Norwegians- cultural training course for new international staff

International Centre invites new international staff to the cultural training course “Working with Norwegians”. This is the third step in our three-step introduction course.

The course is held 6. October 2021. It is planned to be online due to Covid situation.

We welcome new international staff to join us. The course is held by Karin Ellis of Ellis culture.

More information and link to registration is found here