The Department
of Biosciences

Highlights 2020

UNIVERSITETET
I OSLO

Address from Head of Department

The coronavirus pandemic made 2020 a *global annus horribilis*. Everyone was affected in many different ways, both personally and in our work or studies. On March 12th, the Government introduced strong measures to control and combat the epidemic. Universities were essentially shut down, allowing only critical functions to continue. As everyone else, also IBV went into crisis management modus and many were involved in securing critical functions. Most research activities were shut down and students and staff were sent into home office.

Thanks to excellent leadership at our Faculty and heroic efforts by teachers and support staff, transition to digital teaching was quick and as good as it could be, as Zoom became our digital work horse and, later on, systems for digital home exams were introduced. Despite all this, it is clear that students have suffered a lot during the pandemic. Starting the new semester with new students in August was a special challenge. In the autumn, lots of efforts were done to maintain as much teaching physical as possible, within the limits of infection prevention measures. Moods were at a low in October/November, when we realized that a second wave was inevitable. But turned to hope again when news on efficacy of vaccines started emerging.

Although much of the research activities gradually started again in late spring, there is now doubt that the losses have been extensive. A system for providing compensations for PhD students affected was introduced before summer. Post.docs and researchers have, however, not been prioritized so far.

In the midst of all this, much work continued. Two IBV teams received funding from the Research Council from the special call for research on the coronavirus and the pandemic. Several teams in the Department prepared and submitted applications for the new national call for status and funding as Centres of Excellence. Finalists will be announced in June next year. Others prepared applications for the next round of funding national infrastructures.

Many at the Department have also involved in the work which led to the finalisation of the first UiO Roadmap for research infrastructure. This Roadmap, which will be updated every second year, should help and facilitate future development and investments in much needed research instruments and facilities.

dScience, a new cross-departmental centre for data and computational science was established this year and aims to boost activities in this field in several ways. We expect that several IBV researchers will engage in dScience as it starts its activities in 2021.

It has been a dramatic and demanding year. Yet, as we peek into 2021, we hope the vaccination programme will be fast and effective and that we can return to a new normality soon.

Rein Aasland

Head of Department
May, 2018

In brief

The Department of Biosciences (IBV) was established January 1, 2013, following the merge of the Departments of Molecular Biosciences and Biology.

The Department has five research sections: Aquatic Biology and Toxicology, Biochemistry and Molecular Biology, Physiology and Cell Biology, Genetics and Evolutionary Biology and Centre for Ecological and Evolutionary Synthesis.

The Department's research focuses on understanding the fundamental biological processes from molecular and cellular level to population and ecosystem level.

284
employees

647
students

24 977
credits produced

294
papers

Income:

283
mill NOK

194
projects

Interdisciplinary education for a lifelong career

By studying bioscience, our students learn about the diversity and connections in nature and about how the body normally functions, from organ systems to cells and genes and what goes wrong with disease. We use mathematics and computer tools to model everything from how the brain works to how the climate affects ecosystems.

The department offers both a bachelor program and a master program in biosciences. An important part of our programs is to provide students with an introduction to programming in order to create and experiment with models of biological systems.

The department's goal is for our students to succeed both academically and professionally. This involves creating a robust and interdisciplinary education based on the skills our students will need for a lifelong career.

Education

331

is the total number of bachelor students

102

students started at the new bachelor-program in august 2020

200

is the total number of master students

152

master candidates graduated during 2020

116

is the total number of PhD candidates

15

PhD candidates defended their thesis

Students key in keeping us informed

Biology students Audun Rugstad, Emilie Andersen König and Henrik Baumann have this summer been responsible for updating hundreds of articles at Store norske leksikon. They have done this at home in their own living room.

– It is the perfect summer job for communication enthusiastic realists, the students grin.

Store norske leksikon (SNL) is known to most people as a free online reference work. The encyclopedia has over two million users every month and with over 300,000 articles read every day, it is important that the texts are updated. In order to achieve this task, the lexicon editors employ students as subject staff every summer. This year, the MNKOM students Audun, Emilie and Henrik have been among them.

The most popular textbook example of punctuated evolution debunked

Researchers at the University of Oslo have debunked a textbook example about how evolution proceeds during speciation. Renowned paleontologist Stephen Jay Gould fronted the old theory.

“We find no evidence for punctuated evolution in our reanalysis of the most recognized dataset that Gould used to support his theory”, says Kjetil Lysne Voje at UiO's Center for Ecological and Evolutionary Synthesis (CEES) at the Department of Biosciences.

Species are continuously evolving and the research results support the hypothesis that evolution does not "behave" differently when new species emerge. The paper with the new results was published in the May issue of The American Naturalist. The authors of the study are Kjetil Lysne Voje, Emanuela Di Martino and Arthur Porto.

The IBV award for Communication of Science

This year price winner was **Katharina Vestre** for communication of Science.

Katharina Vestre already has a long record of communicating biology to the general public including radio interviews, popular science talks and articles, and her Instagram account @dyrefakta.

In 2018, she made her literary debut with the book “The First Mystery” (Det første mysteriet) which tell the story of you, and everybody else, from conception to birth. The book is sold in over 20 countries.

Her second book, “The Animal Book of Records” (Dyrenes rekordbok) tells funny and fascinating world record for animals. Both books are nicely illustrated by her sister and communicate biological mysteries to children.

Selected awards and prizes

Double Brage Prize for Day O. Hessen

Professor Dag O. Hessen won two Brage Prizes this year. In addition to the prize for best non-fiction, Hessen also won the Honorary Prize for his ability to build a bridge between science and the Norwegian public.

Chinese honorary award to Nils Chr. Stenseth

Professor of evolutionary biology, Nils Christian Stenseth, was awarded the highest honorary award that can be given to a foreign researcher in China.

The Chinese honorary award International Science and Technology Cooperation Award was presented to Nils Christian Stenseth, during a ceremony in the Great Hall of the People in the capital Beijing. President Xi Jinping was present when Stenseth received the award.

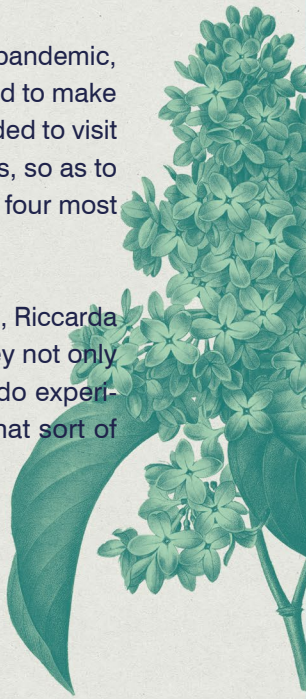
Into the lab:
virtual visits of four model organism facilities

Viola Lobert, who teaches genetics and developmental biology at the Department of Biosciences, has made virtual lab tours of four model organism facilities to introduce her students to the wonders of development, but also to give them a taste of what it's like to do experiments in a lab.

This year the visit to the labs was not possible due to the pandemic, so instead Viola decided to organize a virtual lab tour. And to make it even more interesting than in previous years, she decided to visit four labs, which house different model organism facilities, so as to give the students a taste of what it's like to work with the four most common model organisms.

To get a student's perspective on these model organisms, Riccarda Ricci Schimanski joined her in the different labs, and they not only learned how to take care of these animals, but how to do experiments using them, what is unique about them, and what sort of research can be done using them.

Watch the videos:
youtube.com/channel/UC1wVj2hSgbdArHE_znrr0EQ



Research infrastructure

The Department has 12 larger research infrastructures, including a marine field station at Drøbak and an alpine field station at Finse.

The department includes several units with heavy equipment and a highly competent technical staff that works closely with the scientists. Most of these facilities can be hired for research activities.

- Ancient DNA laboratory (aDNA)
- CLIPT Stable Isotope Laboratory
- Electron microscopy (EM-Lab)
- Finse Alpine Research Center
- InVivo facility
- Marine Research Station Drøbak
- NORCCA – Algae collection
- Norwegian Sequencing Centre (NSC)
- Oslo NorMIC Imaging Platform
- Proteomics service
- Research vessels
- The Plant laboratory – The Phytotron

Prizes and awards

The best lecturer	The student committees awarded Hans-Petter Hersleth the Golden Lazer Award.
Science communication Prize	The winner of the Communication Prize was Katharina Vestre
Darwin Prize	This years Darwin Prize was given to Finn-Eirik Johansen.
Health, Safety and Environment Prize	Ivan Myhre won the HSE-Prize for his effort to make lab work and field work as secure as possible.
The employee of the year	This years employee of the year was My Hanh Tu.
The best paper award	The winner of the Best paper award was Sissel Jentoft group
Outstanding publication award	The winners of the Outstanding paper award was Michael Koomey group and Pål Falnes group.

Reported research results 2020

294
journal articles

13
books chapters

72
conference contribution

7
in the media

18
reports

55
popular science in Titan

194
active projects

Currently there are 194 active projects led by, or involving, our researchers.

15 projects

are funded by EU Horizon 2020

98 projects

are financed by The Research Council of Norway

In addition, the department got 2 new COVID projects from NFR

The department takes part in the large research project the Nansen Legacy

9 projects

are funded by The Norwegian Cancer Society

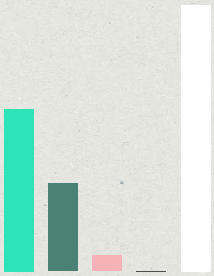
Funding

The total income during 2020 was 283 mill NOK

Basis income
180
mill NOK

Projects
103
mill NOK

Basis



	Basis	Basis
Salary	66%	140 429
Running expenses	32%	69 186
Equipment	2%	4 158
Overhead	0%	0
Total	**100%**	**213 773**

External projects

	External projects	EFV
Salary	55%	54 447
Running expenses	12%	12 399
Equipment	6%	5 909
Overhead	27%	27 142
Total	**100%**	**99 897**

An international working environment

284
employees

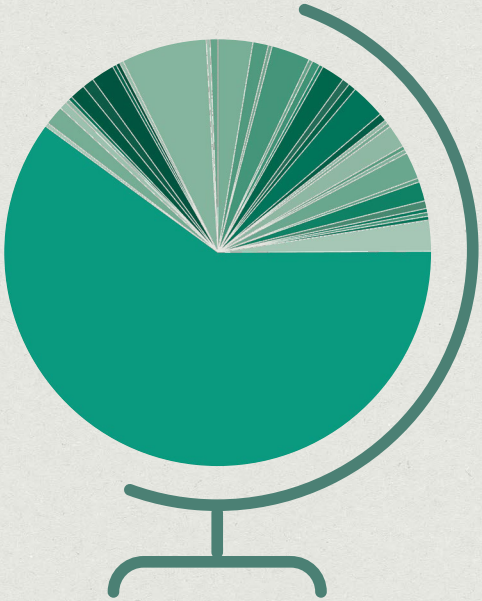
The Department has 284 employees.

35 **different countries**

49% **are women**

Overall 49% of our employees are women. Counting only scientific staff the number will be 47%. However, only 30% of our professors are women, whereas 69% of the PhD students are.

International staff



American	6	Estonian	1	Italian	8	Polish	4
Argentinian	1	Ethiopian	1	Chinese	6	Portuguese	1
Austrian	1	Finnish	1	Croatian	2	Spanish	9
Belgian	1	French	7	Cypriot	1	Swiss	1
British	4	German	18	Malaysian	1	Swedish	5
Canadian	3	Greek	3	Mauritian	1	Taiwanese	1
Costarican	1	Indian	2	Mexican	1	Tyrkish	1
Danish	4	Iraqi	1	Norwegian	174	Vietnamese	1
Dutch	11	Icelandic	1	Palestinian	1		

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