

DATA SCIENCE LAB

ANNUAL REPORT 2020

UNIVERSITY OF COPENHAGEN
FACULTY OF SCIENCE



**Data Science Lab
aims to enhance the quality
of scientific data analyses in
research carried out at
SCIENCE**

**We do this through courses,
workshops, collaboration
with researchers, and
counseling of students and
researchers**



HISTORY

- 2020-2023
KU Data Science Lab (one of five)
- 2018-2019
Data Science Lab
- 2013-2017
Laboratory for Applied Statistics
- 2013
Merge of faculties with different traditions

FUNDING

Hosted by MATH and DIKU

Funded with 2+2 ÅV, 50:50 between KU and SCIENCE (from 2020)

EMPLOYEES

Eight employees are affiliated with the Lab

Changes from 2019: New CS postdocs in 2020 and 2021, new Stats student programmer(s) in 2021



OVERVIEW OF ACTIVITIES

Consultations

- Meetings with students and researchers

Courses

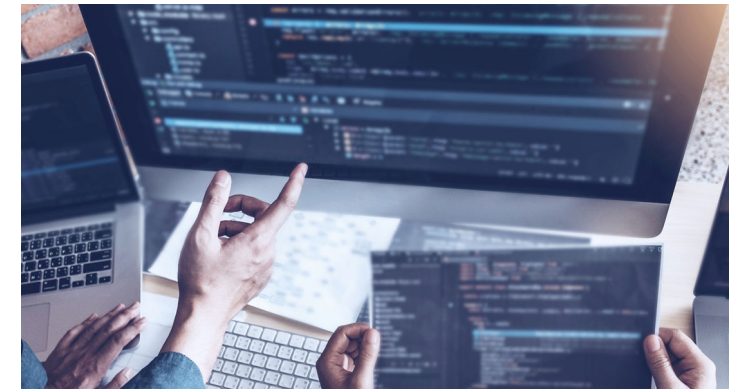
- Four PhD courses per year
- Short courses about Python, R, and Data Science

Collaboration

- Research collaboration
- Supervision of BSc and MSc theses in collaboration with other departments or private companies

Communication and Outreach

- Presentations at PhD courses, visits to sections, dissemination, Matchmaking, RCR
- For payment: Criminal court cases, courses and counseling for public offices and private companies



HIGHLIGHTS FROM 2020

2020 was of course characterized by Covid19. We had contact to fewer (MSc and PhD) students at our consultations but actually some of them got faster and more comprehensive advice over email/zoom than they would have at meetings with days/weeks in-between. Some of them ended up as collaboration projects, which they may very well not have done under more usual circumstances.



Helle Sørensen (MATH)
Head of Laboratory (Statistics)

2020 marked the start of the other KU Data Science Labs, with coordination meetings and getting to know each other. For example, we made a collaboration with HeaDS at SUND on an R course for researchers and another with all Data Labs on computational resources. We also participated in projects with the communication group at SCIENCE about infrastructure and webpage.



Erik Bjørnager Dam (DIKU)
Head of Laboratory (Computer Science)

CONSULTATIONS FOR STUDENTS

WHAT

Consultancy meetings with students two times per week at Nørre Campus or Frederiksberg Campus. Done via email/zoom in 2020.

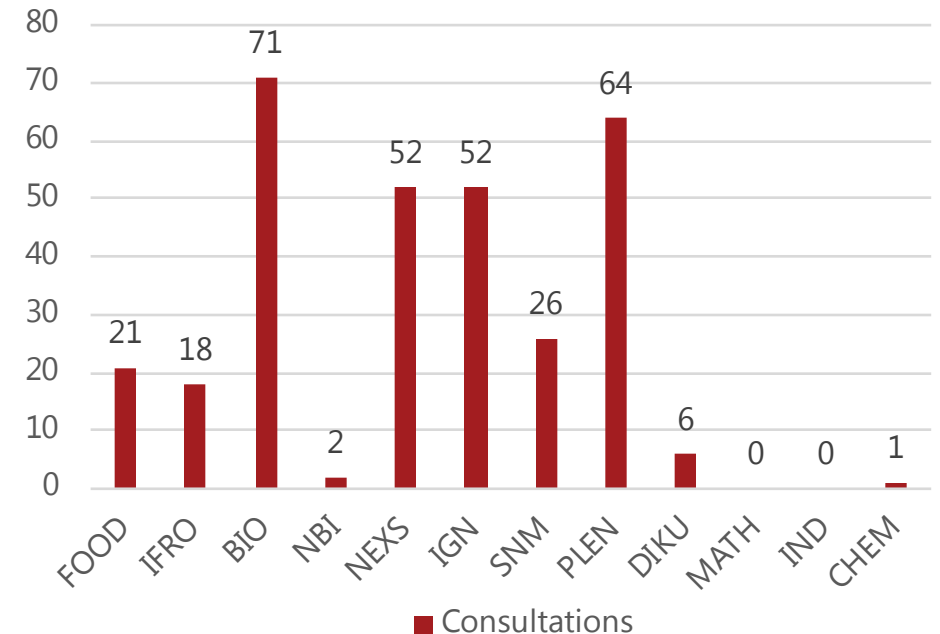
Meetings last 20 minutes.
Students at all levels are welcome

In 2020 we had **360** consultation meetings.

Most visitors write their MSc thesis (64%), but PhD (22%), BSc students (4%), and even VIPs show up.

Most departments represented in 2020, except for MATH and IND. BIO, PLEN, NEXS, IGN account for 66% in total.

In 2019, we had 465 consultation meetings.



COURSES

WHAT

- ✓ Introduction to R for PhD students and up, 2 days
- ✓ Introduction to Python for students and employees, 2 days
- ✓ Statistical Methods for the Biosciences I, 4.5 ECTS
- ✓ Statistical Methods for the Biosciences II. Project course, 3 ECTS
- ✓ Machine Learning and Imaging Methods, 3 ECTS
- ✓ Machine Learning and Imaging Projects, 4.5 ECTS

Number of participants in courses in 2020

Course	Number of participants
Introduction to R	46 participants (70 signed up, 2019: 44)
Introduction to Python	49 in Absalon (110 signed up, 2019: 80)
Statistical Methods for the Biosciences I	41 completed (2019: 37)
Statistical Methods for the Biosciences II	12 completed (2019: 5)
Machine Learning and Imaging Methods	29 in Absalon (2019: 31)
Machine Learning and Imaging Projects	14 participants (2019: 7)

In addition, we contributed to the R course at HeaDS, SUND

RESEARCH COLLABORATION AND PUBLICATIONS

WHAT

- ✓ Open for counseling of all researchers from SCIENCE (PhD students and up)
- ✓ Range from a single meeting or email to co-authorship and development of new Stat / CS methods
- ✓ Collaboration with scientists outside SCIENCE, some for Payment

In 2020 we had **58** new approaches
(plus 80 short consultancy meetings with PhD students)

25 of the approaches have potential for collaboration (joint papers and/or grant submission)

16 cross-disciplinary journal/conference publications

Numbers from 2019: 86, 26, 21

In addition, several ongoing collaboration projects

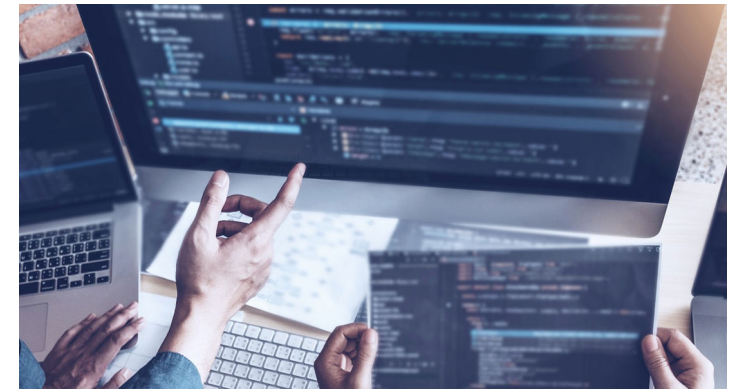
COMMUNICATION AND COLLABORATION

Communication about Data Science Lab

- Presentations at PhD courses
- Visits to sections
- Matchmaking events at SCIENCE
- RCR courses
- SCIENCE Communications Project

Collaboration with UCPH Data Labs

- Coordination in UCPH committee
- Our courses offered to other Data Labs
- Shared R course at SUND with HeaDS
- Heading shared IT infrastructure application



ADVICE ON THE FUTURE DIRECTION

USER PANEL

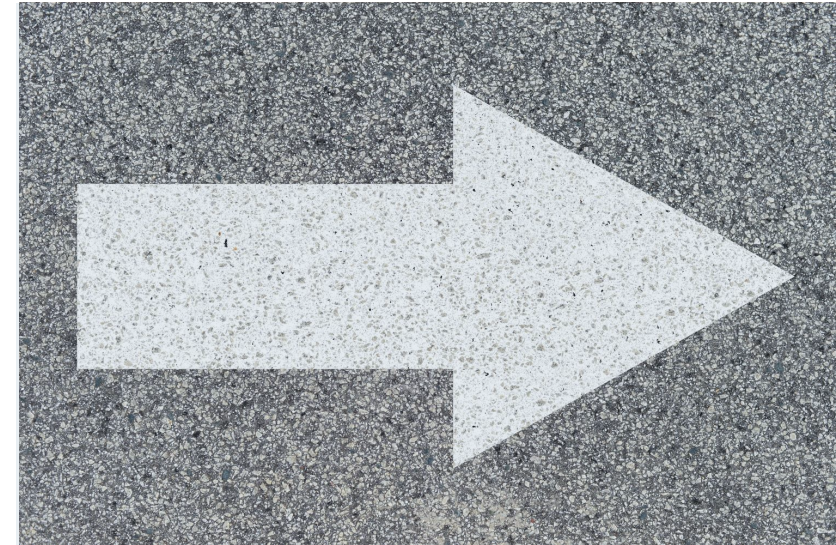
In Sept. 2020 we had our first meeting with Data Science Lab's newly established user panel:

DEPARTMENT	MEMBER
PLEN	Giorgio Tomasi
IGN	Jesper Riis Christiansen
FOOD	Rasmus Bro
IFRO	Arne Henningsen
NEXS	Anne Raben
CHEM	Jan H. Jensen
PhD School (+ IFRO)	Lasse Læbo
SCIENCERådet	Student rept. (to come)

Members provide feedback on existing activities and input to new activities such that researchers and students can benefit the most from the lab.

SFU+UVU

We receive advice from SFU (from 2020) + UVU (from 2021) on the future direction for the Data Science Lab where we present the yearly report and discuss future directions.




CURIOUS FOR MORE INFORMATION?


Visit our website at
datalab.science.ku.dk

Contact us
datalab@science.ku.dk


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Data Science Laboratory

At the Data Science Laboratory we aim to enhance the quality of scientific data analyses in research carried out at SCIENCE. We do this through courses, workshops, collaboration with researchers, and counseling of students and researchers.



WORKSHOPS AND PHD COURSES


Workshops in Python and R and various PhD courses




COLLABORATE WITH US

Brief guidance, Co-supervision of PhD students, larger collaborations etc.


ABOUT US



STAFF AT THE LAB



CONTACT US



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