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Palle Villesen, PhD & Associate professor (Klinisk Medicin & BiRC)





Mikkel Schierup
Menneskets udvikling
Forhistorisk DNA
Populationsgenetik
Evolution



Kasper Munch
Genomanalyse
Genetisk diversitet
Naturlig selektion
Artsdannelse
Selviske gener



Thomas Bataillon
Eksperimentel evolution
Sars-cov-2
Populationsgenetik



Palle Villesen
Machine learning in forensics
Populationsgenetik
Sars-cov-2 evolution
Endogenous viruses and human health

Hvad laver vi på BiRC?

- Noget med biologiske data og computere.
- De fleste ting vi laver bruger viden fra/om
 - biologi, ofte populationsbiologi og -genetik
 - (DNA) data i store mængder
 - data science & statistik
 - programmering på biologi niveau
 - python (Kasper Munch), bachelorkursus
 - R (Palle Villesen), bachelorkursus på molbio + molmed

Populationsstruktur i seks subpopulationer af afrikanske bavianer

Predicting the age of criminal suspects from blood and fingerprints

Inferring miRNA Activity during Cell Differentiation using miReact on Single Cell RNA Sequencing Data

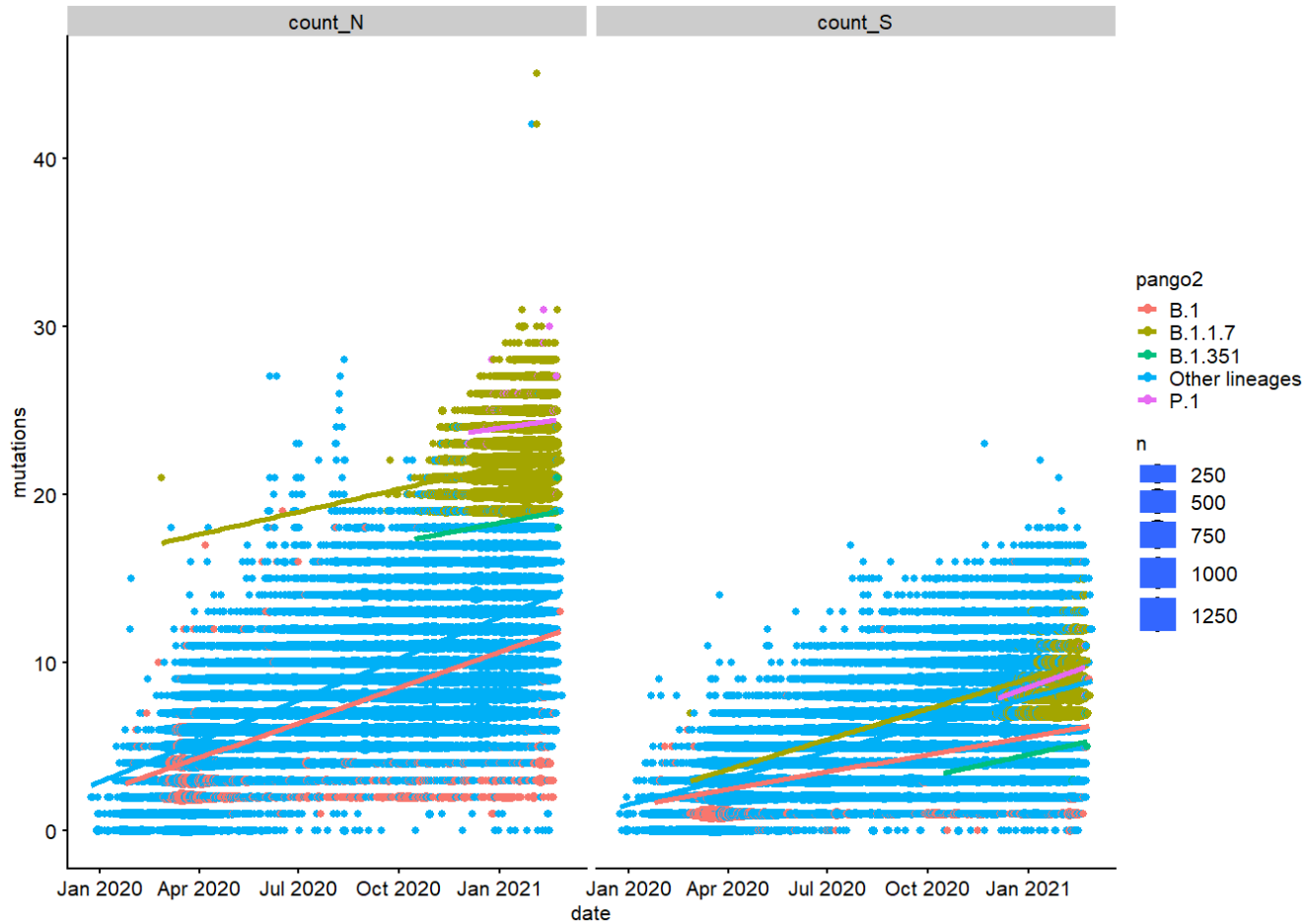
Analysis of the human epigenome using an interpretable deep convolutional neural network

Analysis of patterns of selection and shared polymorphism in *Thymus vulgaris*

Estimating the effect of BMI and smoking on self-reported Health-Related Quality of Life

Sars-cov-2 evolution during the pandemic

Sars-cov-2 genomer



Master's program in bioinformatics

- Aimed at students with a Bachelor's degree containing **basic mathematical, biological, or computational topics**.
- A natural extension of a Bachelor's degree in **biology, molecular biology, molecular medicine, mathematics, or computer science**.
- Currently **~40 students are enrolled**. About half with a Bachelor's degree from AU. **The majority (~30) have a Bachelor's degree within the biological area.**



MSc classes (10 ECTS) at BiRC

Area	Class	
Algorithms and Programming	Computational Thinking in Bioinformatics	CTiB
	Algorithms in Bioinformatics	AiB
	Genome-Scale Algorithms	GSA
Statistics and Data	Data Science in Bioinformatics	DSiB
	Statistical & Machine Learning in Bioinformatics	SMLiB
	Machine Learning (CS)	ML
Biology and Genomes	Tree of Life	ToL
	Population Genomics	PG
	Advanced Topics in Genomics	ATiG

The bioinformatics program also includes the classes:

Class		Comments
Projects in Bioinformatics	PiB	Individual 5 or 10 ECTS project.
Next-Generation Sequencing	NGS	5 ECTS class offered via AU Summer University.

Study Environment



Job Opportunities

Software developer in the bioinformatics domain, e.g. at QIAGEN, or Biomatters



Bioinformatician and data scientist with focus on biomedical data, e.g. at Novo Nordisk, Danish National Genome Center, University Hospitals, or Biotech companies



PhD student / researcher at Aarhus University or else where



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