

Standards,  
Precautions &  
Advances in  
Ancient  
Metagenomics

# Welcome and Organisational Details

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SPAAM Summer School: Introduction to Ancient Metagenomics  
(2022)



# Welcome!

- In this summer school (block praktikum) we will go through the **main steps** of ancient metagenomic bioinformatic workflows
- Focusing on **host-associated ancient metagenomics**, the course consists of a combination of **lectures** and **hands-on exercises**
- Aimed at M.Sc. / Ph.D. students (ideally already with data)



# By the end

...of the course, participants will have an understanding of how to effectively carry out the major bioinformatic components of an ancient metagenomic project in an open and transparent manner.



# About



We are a community of researchers focusing on ancient metagenomics.

We aim to openly **share** knowledge and experience to find on solutions to common challenges and obstacles that the field faces. We run various collaborative **projects** for the benefit of the whole community and to progress the field. We have various **events and a yearly workshop** with cycling organisation committees to improve networking.

Please join us on our:

- **slack channel** for day-to-day advice, help, brainstorming, news, networking, and socialising.
- **mailing list** for announcements, calls, and notices.
- **twitter** for latest news, polls, and publications.

to keep get involved and keep up-to-date!

**Join us!**

<https://spaam-community.github.io>

# Support

## Funding

**WSS**

WERNER SIEMENS-STIFTUNG

## Infrastructure



## Institutional



MAX-PLANCK-INSTITUT  
FÜR EVOLUTIONÄRE ANTHROPOLOGIE

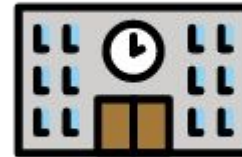


# You!

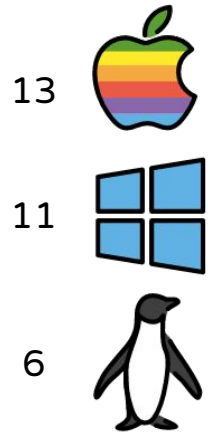
112 Applicants → ~~25~~ 30 places



57%/40%/3%\*



M.Sc.: 3  
Ph.D.: 27



\*Reported, third: not in M/W

# Your Instructors



James Fellows  
Yates



Aida Andrades  
Valtueña



Alexander Herbig



Alex Hübner



Irina Velsko



Maxime Borry



Megan Michr



Prof. Christina  
Warinner



Alina Hiß



Arthur Kocher



Clemens Schmid



Nikolay Oskolkov



Theseas C. Lamnidis



Sebastian Duchene



# Organisational





# Code of Conduct

Attendance requires and assumes agreement to follow code of conduct!

<https://spaam-community.github.io/code-of-conduct/>

- All attendees and members of SPAAM are expected to be respectful towards all members regardless of background, and actively participate in creating a welcoming and friendly community.
- Unacceptable or illegal behaviour will not be tolerated and the organisers reserve the right to remove anyone violating the Code of Conduct from both in-person or online channels.
- If at any point you feel unsafe or the code of conduct is violated, please contact any of the following SPAAM members who will deal with any issues respectfully and anonymously, as required.

Issues: contact James or Tina. Issues with organisers? Contact SPAAM conduct officers (Betsy, Shreya)



# Gather.Town

## ~~Nostalgia for GameBoy Pokemon/Zelda nerds~~

Gather.Town is a web-conferencing software like Zoom, but with the added component of seeing the virtual “room” you and others are occupying, and with the ability to move around and interact with other participants based on your locations in the room, just like real life. - carleton.edu



<https://gather.town/app/PIXjb0deog0B4JCq/spaam-community>



# Gather.Town

## Movement

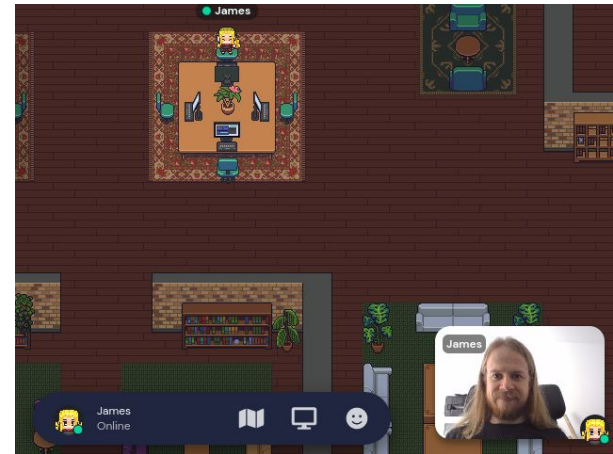
- Arrow keys
- 'G' to become a ghost (if you get stuck)
- 'X' to interact with objects

## Etiquette

- Real name
- Cameras on / Mic off (unless Q)!
- In lectures use pedestal to ask question
- Gather Logo > Settings > Audio/Video > Auto Idle Muting: OFF

## Tips:

- If on OSX, use desktop app (browser causes fans to go crazy)
- Make sure you [allow screen sharing](#) (makes it easier for support from TAs)



# Schedule

Time	Session Type	Day 1	Day 2	Day 3	Day 4	Day 5
09:00-10:15	Theoretical	1A: Introduction to NGS data	2A: Introduction to ancient DNA	3A: Introduction to Metagenomics	4A: Introduction to microbial genomics	5A: Evolutionary Biology
10:15-10:30		Break	Break	Break	Break	Break
10:30-12:30	Practical	1B: BareBonesBash 1	2B: Introduction to Git(Hub) & 2C: Introduction to AncientMetagenomeDir	3B-1: Introduction to R and the tidyverse & 3B-2: - Introduction to Python and Pandas	4B: Genome mapping	5B: Phylogenomics
12:30-13:30		Lunch	Lunch	Lunch	Lunch	Lunch
13:30-15:30	Practical	1C: BareBonesBash 2	2D: Introduction to nf-core/eager	3C: Taxonomic Profiling, OTU Tables and Visualisation	4C: Genome assembly	5C: Functional Genomics
15:30-15:45		Break	Break	Break	Break	Break
15:45-17:00	Roundtable	Introductions	Project Organization	Taxonomic Classifiers	Databases	Dinner (Leipzig)

All times CEST (Berlin Time)



# Material

All on the website: <https://spaam-community.github.io/wss-summer-school/>

- Slides
- Recordings
- Walkthroughs (under construction)

Please share!



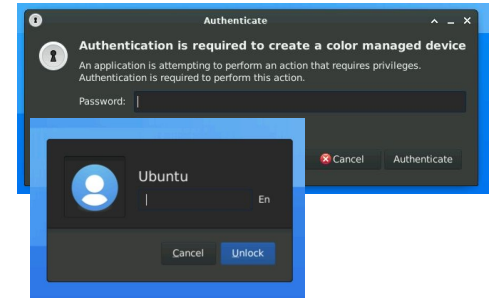
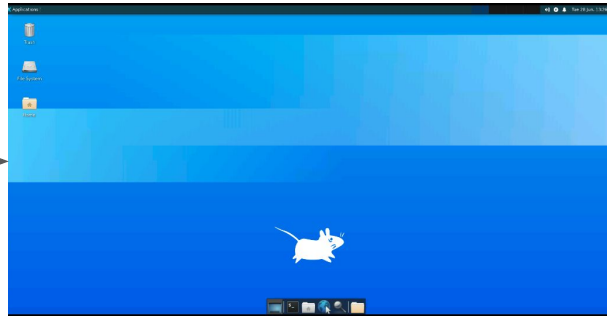
# Compute Nodes

Access via the link sent to you via email:

From de.NBI Cloud <cloud@denbi.de> ★  
Subject: **Workshop SPAAM22 VM Info**

[https://simplevm.bi.denbi.de/SPAAM22<Surname><FirstName>\\_<Number>](https://simplevm.bi.denbi.de/SPAAM22<Surname><FirstName>_<Number>)

Login using LifeSciencesRI account (e.g. ORCID, Google etc) as in preparation email!

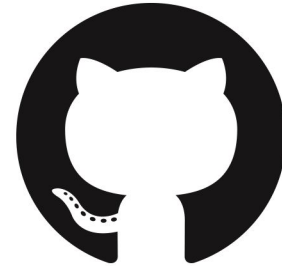


Password: ogvkyf  
*Write this down!*

# GitHub Account

Make sure you have a GitHub account!

<https://github.com>



*Note: student? Free pro account! <https://education.github.com/students>*



# Attendance, ECTS, & Certificates

Attendance can be included in requirements for graduate programs:

- ECTS points by JSMC Graduate School (Friedrich-Schiller-Universität Jena)
- Certificate of Participation by MHAAM (Harvard University)

Attendance will be recorded, only awarded for with full attendance!

[ECTS generally for EU / Certificate of Participation, rest of world]





# Today



# Day 1

- Lecture Introduction to NGS data: *James Fellows Yates*
  - What is NGS sequencing and what does its data look like?
- Practical BareBonesBash 1: *Aida Andrades Valtueña and Theseas Lamnidis*
  - Introduction to the UNIX command line.
- Practical BareBonesBash 2: *Aida Andrades Valtueña and Theseas Lamnidis*
  - How to navigate and batch-manipulate files.
- Round table Introductions
  - Welcome - let's get to know each other



# Questions?

