

workshop on comparative genomics

europe
2011



objectives of this presentation

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- provide some information about the setting and logistics
- provide some background information about the Workshop
- help you establish an appropriate set of expectations

frequently asked questions

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 - Workshop Google Map

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- Where is the computer laboratory?
 - walk after this session

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- Where is the pub (bar, tavern, watering hole)?
- Where is the computer laboratory?
 - walk after this session
- How long will the materials on the web site be available?

who

you

you

- proportions (n = 65)
 - 0.42 postdoctoral scholars
 - 0.32 graduate students
 - 0.18 faculty/principal investigators
 - 0.08 other
 - 43% Female / 57% Male

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 - 0.42 postdoctoral scholars
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 - 43% Female / 57% Male
- broad international representation (n=28)
 - Austria, Azerbaijan, Brazil, Canada, Colombia, Czech Republic, Denmark, Egypt, Ethiopia, Finland, France, Great Britain, India, Italy, Korea, Lithuania, Mexico, Netherlands, Norway, Poland, Portugal, Puerto Rico, Romania, Russia, Spain, Sweden, Switzerland, United States of America

teaching assistants and staff



Matt Conte



Lionel Guy



Suparna Mitra



Daniel Ayres



Adam Bazinet

faculty



what

basis

basis

- Workshop on Molecular Evolution
 - focused on molecular phylogenetics and population genetics
 - Woods Hole, Marine Biological Laboratory
 - Centers for Disease Control and Prevention
 - Smithsonian Institution
 - Cesky Krumlov, Czech Republic

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- Lessons
 - immersive and intensive
 - isolation
 - broad range of topics, but focused on 1-2 central concepts
 - expense

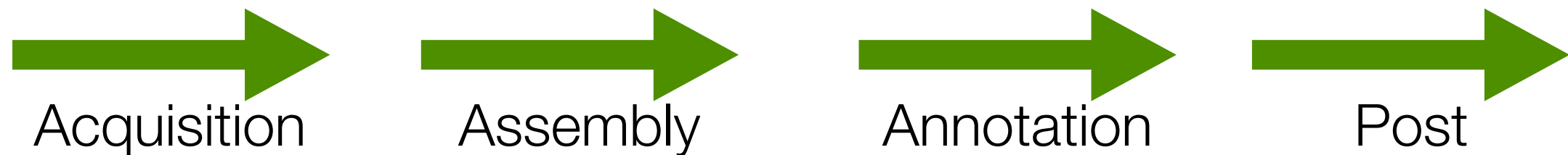
schedule

schedule

- developed around simple case genome sequencing projects with recognition of various end points

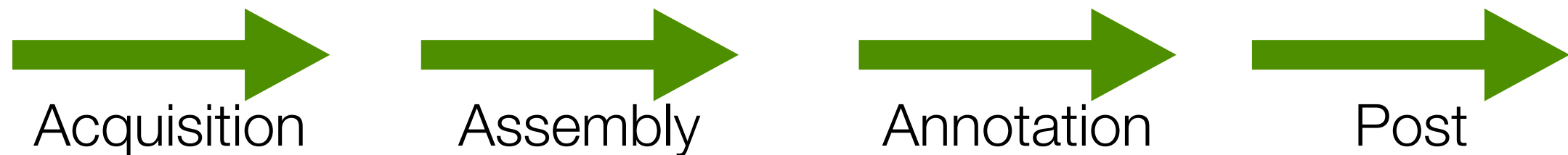
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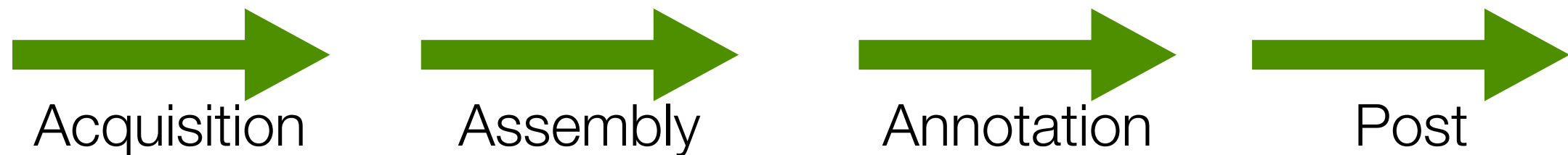
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- broad range of biological disciplines and levels of experience

schedule

- developed around simple case genome sequencing projects with recognition of various end points



- broad range of biological disciplines and levels of experience
- weighted towards the beginner, with some advanced material

need

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Instrument	Run Time	Millions of reads/run	Reagent cost per run	Reagent cost/ MB	Data file Sizes (GB)
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bioinformatic landscape



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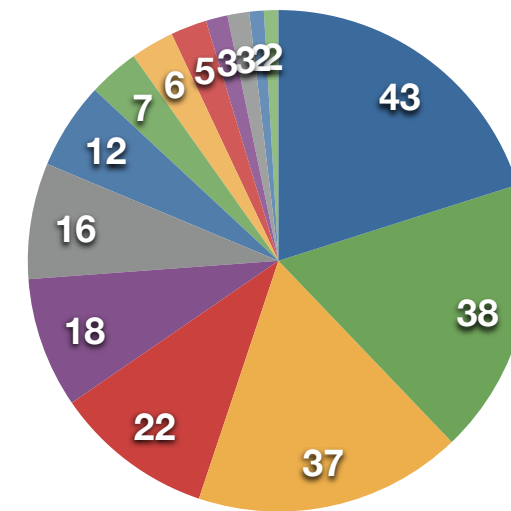
As of 8 January 2011 SEQwiki
contains pages for 373
bioinformatics applications related
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bioinformatic landscape



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- RNA-Seq
- SNP discovery
- ChIP-Seq
- Metagenomics
- Copy number estimation
- DNA Methylation
- Whole Genome Resequencing
- Genomics
- De-novo assembly
- Structural variants
- Epigenomics
- InDel discovery
- Alignment
- Mapping



rapid advancement

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- Technologies

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 - ion-torrent, pacific biosciences

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 - future: starlight system from life-technologies

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rapid advancement

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 - future: starlight system from life-technologies
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 - new methods every week/month

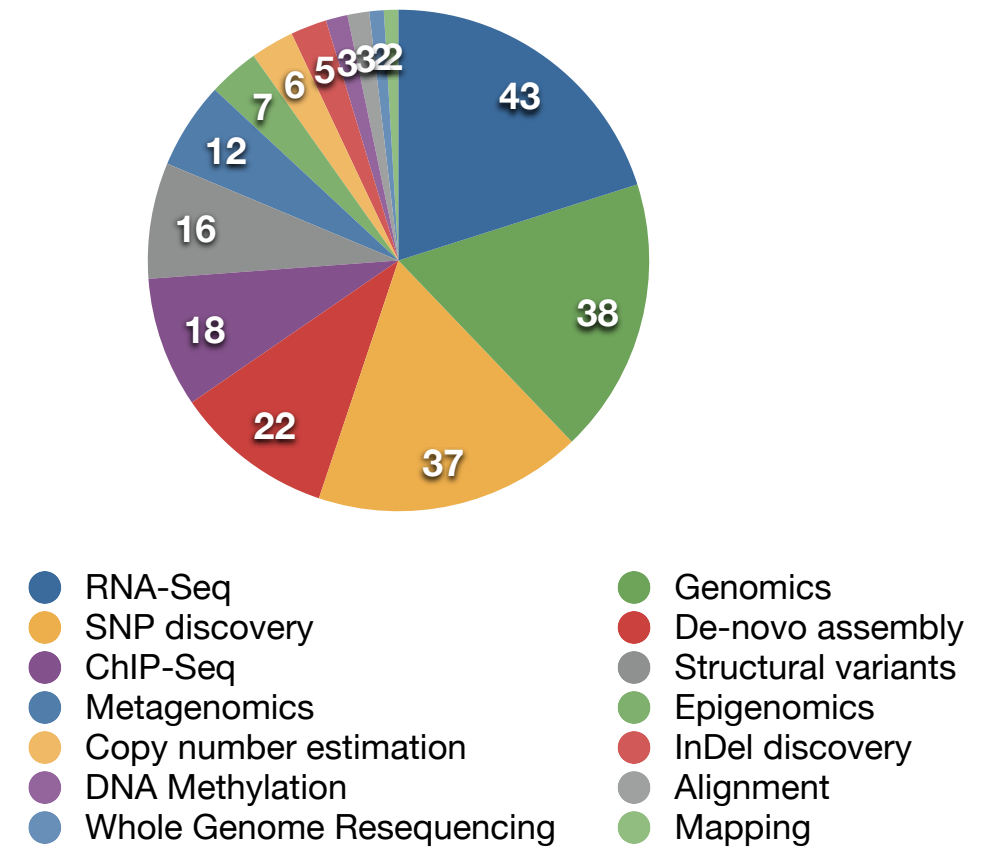
current challenge



current challenge



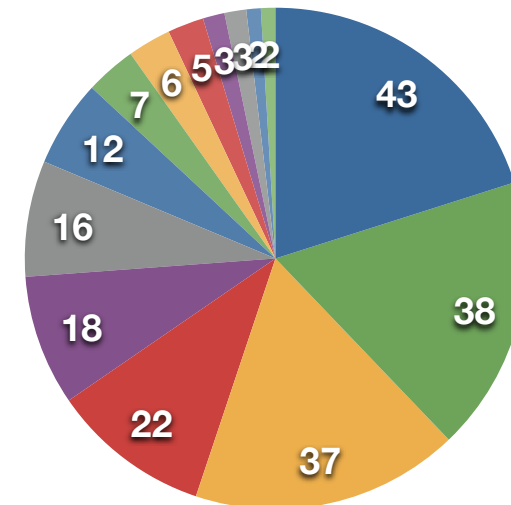
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current challenge



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workshop goals



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realistic expectations

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 - please try to relax and drink responsibly

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- computing environment
 - there will be blips, bugs and unexplained phenomena
 - multiple solutions for multiple OS's
 - you may not get everything installed on the first pass
 - anything that needs to access the internet could go slow
 - best solution: work in pairs, small groups
 - patience and flexibility

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- little time to analyze your own data

feedback

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- please provide feedback

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 - topics covered

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 - topics covered
 - constructive. how to improve in future years

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 - topics covered
 - constructive. how to improve in future years
 - this is your Workshop!

funding

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- look around you

funding

- look around you
- flexibility, focused

funding

- look around you
- flexibility, focused
- thank you for your patience

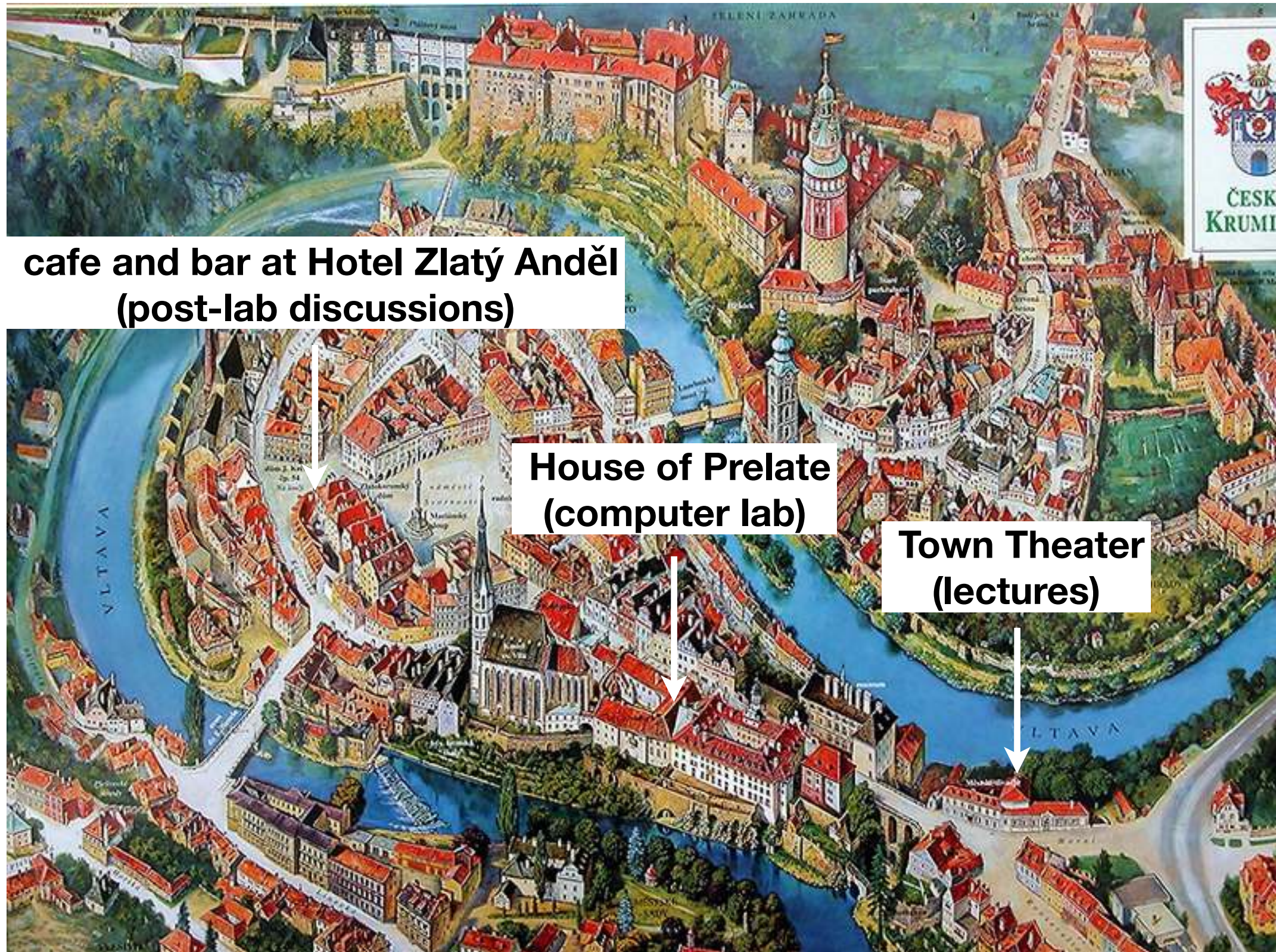
breaks

breaks

- approximately midway through each period there will be a break of 15-30 minutes
- lecture breaks will be in the foyer and cafe adjacent the theater
 - beverages available for purchase
- laboratory breaks will be wherever you want to go

where

here



why Český Krumlov

important considerations

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- conveniently and centrally located in Europe

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- appropriate infrastructure

web site

discussion opportunities

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 - with faculty
 - with teaching assistants
 - with other participants

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 - meals
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- faculty arrival and departure dates are on the web site

computer lab

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- power distribution

general lab policy issues

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- wipe feet before entering
- coats in coat room
- do not touch walls
 - the painter is unavailable for repainting (he died in 1791)
- remove your things at end of each lab session

post-lab discussions

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- Music Bar behind Hotel Zlatý Anděl (closed Sunday and Monday)

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- ask a teaching assistant for directions

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- ask a teaching assistant for directions
- it is not about the drinking, it is about the discussions

thanks



Matt Conte



Lionel Guy



Suparna Mitra



Daniel Ayres



Adam Bazinet



Dag Ahrén



Michael Cummings



Naiara Rodríguez-Ezpeleta



**Graduate Research School in
Genomic Ecology
Lund, Sweden**