



ZiF

Zentrum für interdisziplinäre Forschung
Center for Interdisciplinary Research
Universität Bielefeld

PROGRAMME

ZiF WORKSHOP

Computational Pan-Genomics

Convenors: Prof. Dr. Jens Stoye (Bielefeld, GER)
Prof. Dr. Alexander Schönhuth (Amsterdam, NED)

30 September – 2 October 2019

MONDAY – 30 SEPTEMBER

09:30	Welcome Address by the organisers	
09:45	Rayan Chikhi & Paul Medvedev	Data structures for representing k -mer datasets
10:45	– <i>Coffee & tea break</i> –	
11:15	Veli Mäkinen Guillaume Holley	Sparse dynamic programming on variation graphs Bifrost – Highly parallel construction and indexing of colored and compacted de Bruijn graphs
12:45	– <i>Lunch</i> –	
14:30	Adam Novak	Graph genomics in the vg ecosystem
15:15	– <i>Coffee, tea & cake break</i> –	
15:45	Erik Garrison	Using linear projections and sparse matrix factorization to make sense of graphical pan-genomes
16:30	Round table discussion	
17:30	– <i>Break</i> –	
19:00	– <i>Dinner / Social Event</i> –	

TUESDAY – 1 OCTOBER

09:00 Zamin Iqbal Bacterial pan-genome graphs: discovering cryptic genetic variation
Tizian Schulz Efficient querying of a pan-genome

10:30 – *Coffee & tea break* –

11:00 Nadia Pisanti Mapping reads on a pan-genome – Matching on degenerate texts
Sven Rahmann Analysis of min-hashing for variant tolerant DNA read mapping in pan-genomes

12:30 – *Lunch* –

14:00 Jan Holub Efficient elastic-degenerate string matching
Tobias Marschall Rapid bit parallel sequence to graph alignment

15:30 – *Coffee, tea & cake break* –

16:00 Roland Wittler Alignment-free phylogenomics with colored de Bruijn graphs
Laurent Jacob Pan-genome wide association studies

17:30 Conclusions

18:00 – *Dinner at ZiF* –

WEDNESDAY – 2 OCTOBER

09:45 Alexander Schönhuth Solving the viral quasispecies assembly problem using variation graphs

10:30 – *Coffee & tea break* –

11:00 Tomáš Vinař Methods for analysing MinION raw signal
Nina Luhmann Searching in Bifrost graphs of thousands of related bacterial genomes

12:30 – *Lunch* –

14:00 Eric Rivals Searching for probabilistic motifs in a pan genome graph
Linda Sundermann Characterizing ambiguity in cancer evolutionary histories

15:30 – *Coffee, tea & cake break* –

16:00 Conclusions

- End of the workshop -