

Monday, 9 September 2019, University of Basel		
09.00 - 16.00	Tutorials & Workshops	<p>T1: Using the Ensembl REST APIs to programmatically access genomic data.</p> <p>T2: Genomic epidemiology and phylodynamics with Nextstrain.</p> <p>T3: Introduction to Machine Learning: opportunities for advancing omics data analysis.</p> <p>T4: Interpretability for deep learning models in computational biology.</p> <p>T5: Bioinformatics Pipelines for the Analysis of Viral NGS Data.</p> <p>T7: Analysis of multi-sample multi-condition scRNA-seq datasets.</p> <p>WS1: EMBO Young Investigator Workshop on Evolutionary and Computational Biology.</p> <p>WS2: Annotation and curation of computational models in biology.</p>
16.45 - 18:00	Opening Ceremony (*Townhall Basel, registration required for ceremony & apéro)	<p>Lukas Engelberger, Basel Stadt, CH <i>Welcome words</i></p> <p>Thomas Stocker, University of Bern, CH <i>"Climate Crisis: How much can we bear?"</i></p>
18:00 - 19:00	Welcome Apéro	BASEL LIFE Welcome Apéro

Tuesday, 10 September 2019, Congress Center Basel					
10.00 - 11.45	Single-cell Data	<p>KEYNOTE LECTURE, 10.00 - 10.45</p> <p>Peter Kharchenko Harvard Medical School, US</p> <p><i>"Joint analysis of heterogeneous single-cell dataset collections"</i></p>	<p>selected presentation, 10.45 - 11.05</p> <p>Christof Seiler Maastricht University, NL</p> <p><i>"Uncertainty Quantification in Multivariate Mixed Models for Mass Cytometry Data"</i></p>	<p>selected presentation, 11.05 - 11.25</p> <p>Will Mcnair University of Zurich & SIB, CH</p> <p><i>"psupertime: supervised pseudotime inference for single cell RNA-seq data with sequential labels"</i></p>	<p>selected presentation, 11.25 - 11.45</p> <p>Anna Klimovskaia Facebook AI Research, FR</p> <p><i>"Hyperbolic geometry as a tool for analysis of complex hierarchies from single-cell data"</i></p>
11.45 - 13.15		Lunch Break			
13.15 - 15.00	Evolutionary Medicine	<p>KEYNOTE LECTURE, 13.15 - 14.00</p> <p>Roy Kishony Israel Institute of Technology, IL</p> <p><i>"Predicting antibiotic resistance"</i></p>	<p>selected presentation, 14.00 - 14.20</p> <p>Emma Hodcroft University of Basel & SIB, CH</p> <p><i>"The Next Step for Nextstrain: Tracking Pathogen Evolution and Transmission"</i></p>	<p>selected presentation, 14.20 - 14.40</p> <p>Yuval Tabach The Hebrew University, IL</p> <p><i>"Comparative genomics of 1600 species reveals new insights regarding 'superpowers', breast cancer, and genetic diseases"</i></p>	<p>selected presentation, 14.40 - 15.00</p> <p>Pierre Barrat-Charlaix University of Basel & SIB, CH</p> <p><i>"How Pairwise Coevolutionary Models Capture the Collective Residue Variability in Proteins"</i></p>
15.00 - 15.30		Coffee break			
15.30 - 16.30	[BC]2 & EMBO Flash Talks	<p>[BC]2 & EMBO Flash Talks</p> <p>Presenters and presentation titles:</p> <p>https://www.sib.swiss/images/sib/5-events/BC2_2019_flashtalks.pdf</p>			
16.30 - 17.45	SIB Bioinformatics Awards Ceremony	<p>Laureates of the:</p> <p>SIB Best Swiss Bioinformatics Graduate Paper Award</p> <p>SIB Early Career Bioinformatician Award</p> <p>SIB Bioinformatics Resource Innovation Award</p>			
17.45 - 19.30	Poster Session and Networking Apéro	Poster Session and Networking Apéro			

Wednesday, 11 September 2019, Congress Center Basel					
09.00 - 09.45	[BC]2 Keynote Lecture	<p>Susan Holmes, Stanford School of Medicine, US <i>"Hidden Variables: quantifying our uncertainties in the analyses of human microbiome data"</i></p>			
10.00 - 11.45	Clinical Population Genomics	<p>KEYNOTE LECTURE, 10.00 - 10.45 Danielle Posthuma Vrije Universiteit Amsterdam, NL <i>"From GWAS to Function: interpreting GWAS results in biological context"</i></p>	<p>selected presentation, 10.45 - 11.05 Olivier Delaneau University of Lausanne & SIB, CH <i>"Integrative haplotype estimation with sub-linear complexity"</i></p>	<p>selected presentation, 11.05 - 11.25 Liza Darrous University Center for Primary Care and Public Health Lausanne & SIB, CH <i>"Simultaneous Estimation of Heritability, Genetic Confounding, and Bi-directional Causal Effect from GWAS Summary Statistics"</i></p>	<p>selected presentation, 11.25 - 11.45 Daniel Trejo-Bañós University of Lausanne & SIB, CH <i>"Bayesian inference for large human medical genetic datasets"</i></p>
11.45 - 13.15		Lunch Break			
13.15 - 15.00	Systems Biology of Disease	<p>KEYNOTE LECTURE, 13.15 - 14.00 Thomas Kepler Boston University School of Medicine, US <i>"Cellular and clonal dynamics in humoral immunity"</i></p>	<p>selected presentation, 14.00 - 14.20 Gasper Tkacik IST Austria, AT <i>"An ab-initio derivation of the Drosophila gap gene system from an optimization principle"</i></p>	<p>selected presentation, 14.20 - 14.40 David Gfeller University of Lausanne & SIB, CH <i>"Deciphering HLA-I motifs across HLA peptidomes improves epitope predictions and reveals novel properties of HLA-I molecules"</i></p>	<p>selected presentation, 14.40 - 15.00 Anna Niarakis Université Evry Val-d'Essonne & Université Paris-Saclay, FR <i>"Automated inference of Boolean dynamics from molecular interaction maps. Application on Rheumatoid Arthritis."</i></p>
15.00 - 15.30		Coffee Break			
15.30 - 17.15	Multi-level Data Integration	<p>KEYNOTE LECTURE, 15.30 - 16.15 Yves Moreau KU Leuven, BE <i>"Bayesian matrix factorization and deep learning data fusion for drug-target interaction prediction"</i></p>	<p>selected presentation, 16.15 - 16.35 Monique Zahn SIB Swiss Institute of Bioinformatics, CH <i>"Exploring nextProt data and beyond: a SPARQLin solution"</i></p>	<p>selected presentation, 16.35 - 16.55 Diogo M. Reibeiro University of Lausanne & SIB, CH <i>"The molecular basis and genetic control of local gene co-expression"</i></p>	<p>selected presentation, 16.55 - 17.15 Bitra Khalili University of Lausanne & SIB, CH <i>"Automated analysis of large-scale NMR data generates metabolomic signatures and links them to candidate metabolites"</i></p>
17.15 - 17.30	[BC]2 Closing Remarks	[BC]2 Closing Remarks			

Thursday, 12 September 2019, Conference Center Basel		
09.00 - 10.15	<p>Computational Biology, Artificial Intelligence and Machine Learning in Precision Medicine (joint by [BC]2 and EMBO)</p>	<p>Oliver Stegle, European Bioinformatics Institute, GB Amos Tanay, Weizmann Institute of Science, IL <i>"Understanding chronic blood diseases using millions of electronic health records and single cell genomics"</i> Julien Gagneur, Technical University of Munich, DE <i>"Pinpointing disease-causing regulatory genetic variants by multi-omics and machine learning"</i></p>
10.15 - 16.00	EMBO Sessions and Parallel Events	EMBO Sessions and Parallel Events
16.00 - 16.45	Joint Keynote Lecture	<p>Vasant Narasimhan, Novartis, CH <i>"Reimagining medicine: The power of data science and digital technologies"</i></p>
16.45 - 17.00	BASEL LIFE Closing Remarks	BASEL LIFE Closing Remarks