

Day	Date	Time	Topic	Computer Exercise	Instructor(s)	
	August 19, 2018 Sunday	12:00 - 5:00 PM	Students Arrive - Pick up from Dulles Washington Airport			
		6:00 - 7:00 PM	DINNER			
		7:00 - 9:00 PM	Introductions			
1	August 20, 2018 Monday	8:00 - 9:00 AM	BREAKFAST			
					4-H staff Steve O'Brien, PhD Theodosius Dobzhansky Center for Genome Bioinformatics, Russia Klaus Koepfli, PhD Smithsonian Conservation Biology Institute, USA Taras Oleksyk, PhD University, USA Oakland	
		9:00 - 9:30 AM	Welcome and Housekeeping			Confirmed
		9:30 - 9:45 AM	Group Photo			
		10:00 - 10:55 AM	Lecture: Study Design for Conservation Genomics Projects		Klaus Koepfli, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
		11:00 AM - 11:55 AM	Lecture: "Overview of Next- Generation Sequencing Methods"		Taras Oleksyk, PhD Oakland University, USA	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Lecture: "Genome-wide SNP analysis of ancestry: Concepts and a case study of Canada"		Bridgett vonHoldt, PhD Princeton University	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: -PLINK formatting/pruning -Scatter for FST -Clustering ADMIXTURE, STRUCTURE, DAPC) -Phasing with fastPHASE -Ancestry (SABER and Galaxy)	Computer Lab	Bridgett vonHoldt, PhD Princeton University	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: "Wildlife Conservation Genetics: The Greatest Hits"		Steve O'Brien, PhD Theodosius Dobzhansky Center for Genome Bioinformatics, Russia	Confirmed
2	August 21, 2018 Tuesday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 9:55 AM	Lecture: "Conservation Genomics of American Felids and Camelids"		Warren Johnson, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
		10:00 AM - 10:55 AM	Lecture: "Lion tales and lentivirus: how far are from humankind?"		Agostinho Antunes, PhD University of Porto, Portugal	Confirmed
		11:00 AM - 11:55 AM	Lecture: "The Earth BioGenome Project"		Warren Johnson, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 3:00 PM	Tutorial: Introduction to Python and Unix	Computer Lab	Pavel Dobrynin, PhD Smithsonian Conservation Biology Institute, USA Gaik Tamazian, MS Theodosius Dobzhansky Center for Genome Bioinformatics, Russia	Confirmed
		3:00 - 4:00 PM	Tutorial: "Data Formatting: How to Wow (and Woo!) your Bioinformatician"	Computer Lab	Joan Pontius, PhD SRA International, USA	Confirmed
		4:00 - 5:00 PM	Tutorial: Project Management	Computer Lab	Joan Pontius, PhD SRA International, USA	Confirmed
		6:00 - 7:00 PM				
		7:30 - 8:30 PM	genomics can inform management of <i>ex situ</i> populations of endangered species"		Klaus Koepfli, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
3	August 22, 2018 Wednesday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 9:55 AM	Lecture: "Parrots of the Caribbean"		Taras Oleksyk, PhD Oakland University, USA	
		10:00 AM - 10:55 AM	Lecture: "Avoiding potential pitfalls in conservation genetics research"		Al Roca, PhD University of Illinois Urbana-Champaign, USA	Confirmed
		11:00 AM - 11:55 AM	Lecture: "The gene novelty and gene enhancement game: adapting to life"		Agostinho Antunes, PhD University of Porto, Portugal	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Tutorial: Variant Discovery	Computer Lab	Juan Rodriguez-Flores, PhD Weill Cornell Medical College, USA	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: Deleterious Variant Analysis	Computer Lab	Juan Rodriguez-Flores, PhD Weill Cornell Medical College, USA	Confirmed
		6:00 - 7:00 PM	DINNER			

4	August 23, 2018 Thursday	7:30 - 8:30 PM	Evening Lecture: "Elephant Conservation Genomics"		Al Roca, PhD University of Illinois Urbana-Champaign, USA	Confirmed
		8:00 - 9:00 AM	BREAKFAST			
		10:00 AM - 1:00 PM	TOUR: Visit to Smithsonian National Zoological Park-Conservation Biology Institute, Front Royal		David Wildt, PhD Marinari, MS (black-footed ferrets) Adrienne Crosier, PhD (cheetahs) Nucharin Songsasen, PhD (canids) Budhan Pukazhenthi, PhD (ungulates) Megan Brown, PhD (cranes)	Confirmed
		6:00 - 9:00 PM	Mid-Course Barbeque and Party			
5	August 24, 2018 Friday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 10:30 AM	Lecture: "SMRT Sequencing Technology and Application Overview"		Matthew Boitano, PhD Sr. Field Applications Scientist, PacBio, USA	Confirmed
		10:30 AM - 12:00 PM	Tutorial: "PacBio SMRT Analysis Workshop"		Kristina Weber, PhD Bioinformatics Field Application Scientist, PacBio, USA	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Lecture/tutorial: "GWAS in the Wild-From Traits to Genes"		Sher Hendrickson, PhD Shepherd University, USA	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: "Genome annotation and identification of potential regulatory elements"	Computer Lab	Adelaide Rhodes, PhD University of Vermont, USA	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: "Genetic rescue using cellular technologies: the northern white rhinoceros project"		Oliver Ryder, PhD San Diego Zoo Institute for Conservation Research, USA	Confirmed
6	August 25, 2018 Saturday	8:00 - 9:00 AM	BREAKFAST			
		9:00 AM - 11:55 AM	Group Discussion Exercise		Carlos Driscoll, PhD National Institute for Alcohol Abuse and Alcoholism, USA Eduardo Eizirik, PhD Pontificia Universidade Católica do Rio Grande do Sul, Brazil	
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Tutorial: Estimating Genetic Structure	Computer Lab	Walter Wolfsberger, MS Uzhhorod National University, Ukraine	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: Estimating Admixture and Gene Flow	Computer Lab	Walter Wolfsberger, MS Uzhhorod National University, Ukraine	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: "Conservation genetics and the struggle to save the rhinoceros – why being horny is still killing the rhino"		Cindy Harper, PhD University of Pretoria, South Africa	Confirmed
7	August 26, 2018 Sunday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 9:55 AM	Lecture: "Conservation Genomics of Neotropical Carnivores"		Eduardo Eizirik, PhD Pontificia Universidade Católica do Rio Grande do Sul, Brazil	Confirmed
		10:00 AM - 10:55 AM	Lecture: "Emerging trends in conservation genomics: case studies and hopeful intentions"		Oliver Ryder, PhD San Diego Zoo Institute for Conservation Research, USA	Confirmed
		11:00 AM - 11:55 AM	Lecture: "Non-invasive sampling and microsatellite analysis"		Anne Schmidt-Kuntzel, PhD Cheetah Conservation Fund, Namibia	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Tutorial: Estimating Historical Demography and Effective Population Size and	Computer Lab	Pavel Dobrynin, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: Natural Selection Analysis	Computer Lab	Henrique Figueiró, PhD Pontificia Universidade Católica do Rio Grande do Sul, Brazil	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: "How To Save an Endangered Species"		David Wildt, PhD Smithsonian Conservation Biology Institute, USA	Confirmed
8	August 27, 2018 Monday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 9:55 AM	Lecture: "Publishing: Practice and Pitfalls"		Laurie Goodman, PhD Editor-in-Chief, <i>GigaScience</i>	Confirmed

9	August 28, 2018 Tuesday	10:00 AM - 10:55 AM	Lecture: "NHGRI and Funding Opportunities"		Jennifer Troyer, PhD Program Director, National Human Genome Research Institute, USA	Confirmed
		11:00 AM - 11:55 AM	Lecture: Forensics		Cindy Harper, PhD University of Pretoria, South Africa	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Tutorial: Phylogenetics and Introgression	Computer Lab	Henrique Figueiró, PhD Pontificia Universidade Católica do Rio Grande do Sul, Brazil	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: Estimating kinship and relatedness	Computer Lab	Gaik Tamazian, MS Theodosius Dobzhansky Center for Genome Bioinformatics, Russia	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: "From 'The Cove' to the market - tracking illegal, unreported or unregulated trade in whales and dolphins with DNA"		Scott Baker, PhD Marine Mammal Institute, Oregon State University, USA	Confirmed
		8:00 - 9:00 AM	BREAKFAST			
		9:00 - 9:55 AM	Lecture: "Conservation genomics of tigers"		Steve O'Brien, PhD Theodosius Dobzhansky Center for Genome Bioinformatics, Russia	Confirmed
		10:00 AM - 10:55 AM	Lecture: "30 years of cheetah conservation genetics"		Anne Schmidt-Kuntzel, PhD Cheetah Conservation Fund, Namibia	Confirmed
		11:00 AM - 11:55 AM	from the wake of the whales: droplet digital PCR for quantification and meta-barcoding of rare species"		Scott Baker, PhD Marine Mammal Institute, Oregon State University, USA	Confirmed
		12:00 - 1:00 PM	LUNCH			
		1:00 - 2:30 PM	Tutorial: "Environmental DNA for bioassessments and monitoring"	Computer Lab	Rachel Meyer, PhD University of California, Los Angeles, USA	Confirmed
		2:30 - 3:00 PM	BREAK			
		3:00 - 5:00 PM	Tutorial: "eDNA multilocus metabarcode analysis"	Computer Lab	Rachel Meyer, PhD University of California, Los Angeles, USA	Confirmed
		6:00 - 7:00 PM	DINNER			
		7:30 - 8:30 PM	Evening Lecture: TBD		Eduardo Eizirik, PhD Pontificia Universidade Católica do Rio Grande do Sul, Brazil	Confirmed
		8:30 - 10:00 PM	Closing Party			
	August 29, 2018 Wednesday	8:00 - 9:00 AM	BREAKFAST			
		9:00 - 10:30 AM	Group Discussion: Career paths		Course Faculty	
		10:30 AM - 11:00 AM	Course evaluation			
		11:00 - 11:30 AM	Pack up and clean up rooms			
		12:00 PM	Check out and departure - Drop off at Dulles Washington Airport			