

May 2nd, 2022

Monday

Hour	Start	End	Area	Topic	Content	Lecturers	Modality	
1	09:30	10:30	Welcome	Intro	An introduction to the course; roundtable and presentation of lecturers; general structure of the course; modes of interaction; schedule	Matteo Dell'Acqua (Sant'Anna)	Lecture	
2	10:30	11:30	Climate	Climate dynamics	The role of the atmosphere, the oceans, the cryosphere and the land surface in determining the Earth climate.	Roberto Buizza (Italian embassy in London)	Lecture	
3	11:30	12:30	Climate	Climate change, Climate predictions	How the Earth climate has changed in the past, what is an Earth-system model, most recent sets of climate predictions.	Roberto Buizza (Italian embassy in London)	Lecture	
4	12:30	13:30	Climate	IPCC report	Group work: a critical reading of the IPCC	Roberto Buizza (Italian embassy in London)	Discussion	
	13:30	14:30	Lunch break					
5	14:30	15:30	Climate & ABD	CGIAR perspective on climate change and cropping	Strategies of the Alliance of Bioversity and CIAT (ABC)	Carlo Fadda (One CGIAR Tanzania)	Lecture	
6	15:30	16:30	Climate & ABD	Roundtable and discussion	Climate change and agriculture	Day one lecturers	Discussion	
7	16:30	17:30	Climate & ABD	Debate: cornucopians vs environmentalists	Mitigation of climate change with a focus on agriculture	Guided discussion with lecturers	Discussion	
8	17:30	18:30	Climate & ABD	Debate: cornucopians vs environmentalists	Mitigation of climate change with a focus on agriculture	Guided discussion with lecturers	Discussion	
9	18:30	19:30	Social activity	Welcome aperitivo				
10	19:30	20:30						

May 3rd, 2022

Tuesday

Hour	Start	End	Area	Topic	Content	Lecturers	Modality
1	09:30	10:30	Agrobiodiversity	Principles of Agrobiodiversity	Agrobiodiversity (ABD), its components, and their interactions across spatial and temporal scales. Planned vs associated ABD. Introduction to functional agrobiodiversity. Associated genetic ABD: services and disservices.	Paolo Barberi (Sant'Anna)	Lecture
2	10:30	11:30	Agrobiodiversity	Principles of Agrobiodiversity	The importance of species ABD. Planned species ABD for the provision of ecosystem services: crop rotation, cover crops/mulches, intercropping, mixed systems and agroforestry.	Paolo Barberi (Sant'Anna)	Lecture
3	11:30	12:30	Agrobiodiversity	Principles of Agrobiodiversity	Planned habitat ABD for the provision of ecosystem services: hedgerows, vegetated field margins, flower strips, windbreaks, other semi-natural areas, push-pull strategies for pest control.	Paolo Barberi (Sant'Anna)	Lecture
4	12:30	13:30	Agrobiodiversity	Group reading of relevant literature	A critical reading of key literature on the topic	Paolo Barberi and Camilla Moonen (Sant'Anna)	Discussion
	13:30	14:30					
5	14:30	15:30	Agrobiodiversity	Interactive role game on ecosystem services	Interactive discussion	Camilla Moonen (Sant'Anna)	Discussion
6	15:30	16:30	Agrobiodiversity	Debate: cornucopians vs environmentalists	Agroecology Vs conventional agriculture	Guided discussion with lecturers	Discussion
7	16:30	17:30	Agrobiodiversity	Debate: cornucopians vs environmentalists	Agroecology Vs conventional agriculture	Guided discussion with lecturers	Discussion
8	17:30	18:30	Social activity	Presentation from participants	Course participants make a short presentation about their background and research interests	Guided discussion with lecturers	Discussion
9	18:30	19:30					
10	19:30	20:30					

May 4th, 2022

Wednesday

Hour	Start	End	Area	Topic	Content	Lecturers	Modality
1	09:30	10:30	Elements of genetics	Introduction to genetics	A birdview discussion on DNA, molecular biology and mechanisms for inheritance	Mario Enrico Pè (Sant'Anna)	Lecture
2	10:30	11:30	Elements of genetics	Introduction to genetics	From crop domestication to modern breeding. Outline of the breeding cycle and considerations on associated diversity	Mario Enrico Pè (Sant'Anna)	Lecture
3	11:30	12:30	Elements of genetics	Introduction to genetics	GMOs and new breeding technologies	Mario Enrico Pè (Sant'Anna)	Lecture
4	12:30	13:30	Genetic methods for breeding	Group reading of relevant literature	A critical reading of key literature on the topic	Mario Enrico Pè and Matteo Dell'Acqua (Sant'Anna)	Discussion
	13:30	14:30					
5	14:30	15:30	Genetic methods for breeding	Genomics-driven breeding	The use of molecular markers to unravel the genetic mechanisms underlying complex traits in an agronomic setting, including genomic selection methods	Matteo Dell'Acqua (Sant'Anna)	Lecture
6	15:30	16:30	Genetic methods for breeding	Genomics-driven breeding	GWAS, QTL mapping and association studies Putting climate and traditional knowledge in GWAS	Matteo Dell'Acqua (Sant'Anna)	Lecture
7	16:30	17:30	Genetic methods for breeding	Debate: cornucopians vs environmentalists	GMO vs natural variation	Guided discussion with lecturers	Discussion
8	17:30	18:30	Genetic methods for breeding	Debate: cornucopians vs environmentalists	GMO vs natural variation	Guided discussion with lecturers	Discussion
9	18:30	19:30	Social activity	Visit to the Piazza dei Miracoli			
10	19:30	20:30					

May 5th, 2022

Thursday

Hour	Start	End	Area	Topic	Content	Lecturers	Modality
1	09:30	10:30	Enhancing of farmers involvement	Real case diversity-based breeding	Genomics-based breeding in challenging farming environments. Limits and opportunities	Matteo Dell'Acqua (Sant'Anna)	Lecture
2	10:30	11:30	Enhancing of farmers involvement	Fully data-driven breeding: the tricot approach	The tricot design and 3D-breeding - real world usage	Kaue de Sousa (INN University, Norway)	Lecture
3	11:30	12:30	Enhancing of farmers involvement	Fully data-driven breeding: the tricot approach	The tricot design and 3D-breeding - real world usage	Kaue de Sousa (INN University, Norway)	Lecture
4	12:30	13:30	Enhancing of farmers involvement	Group reading of relevant literature	A critical reading of key literature on the topic	Matteo Dell'Acqua (Sant'Anna) and Kaue de Sousa (INN University, Norway)	Discussion
	13:30	14:30					
5	14:30	15:30	Enhancing of farmers involvement	Crop variety testing and farmers' engagement	Case Study in Trifinio	Martina Occelli (Cornell University)	Online Lecture
6	15:30	16:30	Enhancing of farmers involvement	Crop variety testing and farmers' engagement	Ongoing research at Cornell	Martina Occelli (Cornell University)	Online Lecture
7	16:30	17:30	Enhancing of farmers involvement	Improving the connection with national agricultural research and extension systems	Seminar	Hale Ann Tufan (Cornell University)	Online Lecture
8	17:30	18:30	Enhancing of farmers involvement	Improving the connection with national agricultural research and extension systems	A critical reading of key literature on the topic	Matteo Dell'Acqua (Sant'Anna)	Discussion
9	18:30	19:30					
10	19:30	20:30					

May 6th, 2022

Friday

Hour	Start	End	Area	Topic	Content	Lecturers	Modality
1	09:30	10:30	Crop improvement and property rights	Intellectual property rights and agricultural development	Intellectual property rights and agricultural development: Evidence from a worldwide index of IPRs in agriculture (1961-2018)	Alessandro Nuvolari and Mercedes Campi (Sant'Anna)	Lecture
2	10:30	11:30	Crop improvement and property rights	IPR, global food specialization and agricultural development	Building a worldwide index of IPR for agriculture and the link to food specialization. How specialization in food production affects global food security and food systems sustainability?	Alessandro Nuvolari and Mercedes Campi (Sant'Anna)	Lecture
3	11:30	12:30	MACROeconomics applied to agricultural issues	Economics for Agriculture and Climate Change: a small theoretical and empirical intro to the topic	Brief intro on the role of economics for global agricultural development and climate change: empirics (IPR and part. research) and modelling (agent-based models and IAMs)	Francesco Lamperti and Matteo Coronese (Sant'Anna)	Lecture
4	12:30	13:30	MACROeconomics applied to agricultural issues	Introduction to economic modelling for agriculture: the case of agent-based models	The agriLOVE model and other socio-ecological computational models	Francesco Lamperti and Matteo Coronese (Sant'Anna)	Lecture
	13:30	14:30					
5	14:30	15:30	Wrap up and roundtable	Debate: cornucopians vs environmentalists	Restitution	All trainers	Discussion
6	15:30	16:30	Wrap up and roundtable	Debate: cornucopians vs environmentalists	Restitution	All trainers	Discussion
7	16:30	17:30	Exam	End of course exam	Written test	Matteo Dell'Acqua	Exam
8	17:30	18:30	Exam	End of course exam	Written test	Matteo Dell'Acqua	Exam
9	18:30	19:30					
10	19:30	20:30					