2017 MEETING ISHPSSB & ABFHIB

JÃO PAULO, BRAZIL 16 TO 21 JULY, 2017



PROGRAM



PROGRAM OF THE 2017 MEETING

INTERNATIONAL SOCIETY FOR THE HISTORY, PHILOSOPHY AND SOCIAL STUDIES OF BIOLOGY (ISHPSSB)

&

ASSOCIAÇÃO BRASILEIRA DE FILOSOFIA E HISTÓRIA DA BIOLOGIA (ABFHIB)



JÃO PAULO, BRAZIL 16 TO 21 JULY, 2017

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Conference Schedule

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	JULY 16	JULY 17	JULY 18	JULY 19	JULY 20	JULY 21
07:00	302.120	302727		3027 23	3021 20	7021 22
07.00			Birdwatching at Butantan*			
08:00		Registration / secretariat	Registration / secretariat			
				secretariat	secretariat	secretariat
09:00		Parallel Sessions	Parallel Sessions 4	Parallel Sessions 8	Parallel Sessions 11	Parallel Sessions 14
10:00		coffee break	coffee break	coffee break	coffee break	coffee break
11:00		conce break	conce break	conce break	conce break	conce break
11:00		Parallel Sessions	Parallel Sessions 5	Parallel Sessions 9	Parallel Sessions 12	Parallel Sessions 15
12:00						
		lunch break	lunch break	lunch break	lunch break	lunch break
13:00	Registration			Grad. Student		
		ISHPSSB	Early career scholar mentoring	general meeting / Membership	ISHPSSB	ISHPSSB
14:00	Visit to Butantan's museums	Council meeting	lunch / ABFHiB Council meeting	diversity meeting/ Butantan's Lab visit*	Council meeting	Council meeting
15:00	Brazilian					
15.00	music					
	concert	Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions	
16:00	Butantan park visit	3	6	10	13	
17:00	President's	coffee break	coffee break	coffee break	coffee break	Excursions in São Paulo/ USP/
	welcome	transfer to CDI		transfer to CDI	transfer to CDI	Butantan
18:00	Cinema		Parallel Sessions 7		Awards ceremony	
18:40		Plenary conference	'	Plenary conference	and ISHPSSB	
19:00		conterence		conterence	general meeting	
	Welcome to São				transfer to dinner	
20:00	Paulo cocktail	Poster session and				
20.00		refreshments				
21:00					Conference dinner	
22:00						

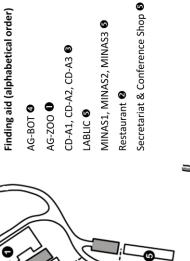
Most activities will be held at the Biosciences Institute of the University of São Paulo, in several rooms (see map on the next page). The plenary sessions, however, will occur at the auditorium of the International Diffusion Center (CDI, in Portuguese), inside the campus of the University of São Paulo (transfer buses will be available).

Biosciences Institute University of São Paulo

- **0** AG-ZOO
- (General Auditorium, Zoology)
- Restaurant
- © CD-A1, CD-A2, CD-A3 (Didactic Center, Auditoriums 1, 2, 3)
- ♣ AG-BOT
- (General Auditorium, Botanic)
- MINAS1, MINAS2, MINAS3, LABLIC and Secretariat & Conference Shop
- Bus stop: "Biociências"
- Bus stop: "Rua do Lago"
- Parking lots
 ---- Walking paths



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Conference Program

Sunday, July 16

(On Sunday, all activities will occur at the Butantan Institute)

13:00-17:00 Registration, at Butantan Institute

13:30-15:00 Visit to the museums of Butantan

15:00-16:00 Brazilian music concert

16:00-17:00 Butantan park visit

17:00-18:00 President's welcome speech

18:00-18:40 Cinema

18:40-21:00 Welcome to São Paulo cocktail

Monday, July 17

(All activities will be held at the Biosciences Institute, up to 17:00 o'clock; then, the participants will be taken by bus to CDI*)

08:00-09:00 Registration, secretariat (LABLIC)

09:00-10:30 Parallel Sessions 1 – see page 8

10:30-11:00 Coffee break

11:00-12:30 Parallel Sessions 2 – see page 9

12:30-15:30 Lunch break; meeting of the ISHPSSB Council

15:30-17:00 Parallel Sessions 3 – see page 12

17:00-17:30 Coffee break

17:30-18:00 Transportation to CDI*

18:00-19:30 Plenary conference 1, CDI*

Naomi Oreskes (Harvard University)

"Can science be viewed as ex ante authoritative in a post-factual world?"

19:30-21:00 Poster session and refreshments – see page 14

* CDI = Auditorium of the International Broadcasting Center ("Centro de Difusão Internacional" in Portuguese). There will be transportation by bus for all participants and visitors. Boarding on the buses will take place at

Rua do Matão, in front of the aisle 14, starting at 17:30 o'clock.

Tuesday, July 18

(All activities will be held at the Biosciences Institute, except for birdwatching)

07:00-08:30 Birdwatching at Butantan Institute (limited vacancies, requires advance registration)

08:00-09:00 Registration, secretariat (LABLIC)

09:00-10:30 Parallel Sessions 4 – see page 17

10:30-11:00 Coffee break

11:00-12:30 Parallel Sessions 5 – see page 19

12:30-15:30 Lunch break; early career mentoring lunch; ABFHiB Council meeting

15:30-17:00 Parallel Sessions 6 – see page 21

17:00-17:30 Coffee break

17:30-19:00 Parallel Sessions 7 – see page 24

Wednesday, July 19

(All activities will be held at the Biosciences Institute, up to 17:00 o'clock; then, the participants will be taken by bus to CDI*)

08:00-09:00 Registration, secretariat (LABLIC)

09:00-10:30 Parallel Sessions 8 – see page 27

10:30-11:00 Coffee break

11:00-12:30 Parallel Sessions 9 – see page 29

12:30-15:30 Lunch break; Grad. students general meeting; Membership diversity meeting; visit to Butantan lab (registration required)

15:30-17:00 Parallel Sessions 10 – see page 32

17:00-17:30 Coffee break

17:30-18:00 Transportation to CDI*

18:00-19:30 Plenary conference 2, CDI*

Kevin N. Laland (Center for Biological Diversity, School of Biology, University of St. Andrews, UK)

"What use is an extended evolutionary synthesis?"

* CDI = Auditorium of the International Broadcasting Center ("Centro de Difusão Internacional" in Portuguese). There will be transportation by bus for all participants and visitors. Boarding on the buses will take place at

Thursday, July 20

(All activities will be held at the Biosciences Institute, up to 17:00 o'clock; then, the participants will be taken by bus to CDI*)

08:00-09:00 Registration, secretariat (LABLIC)

09:00-10:30 Parallel Sessions 11 – see page 35

10:30-11:00 Coffee break

11:00-12:30 Parallel Sessions 12 – see page 37

12:30-15:30 Lunch break; ISHPSSB Council meeting

15:30-17:00 Parallel Sessions 13 – see page 40

17:00-17:30 Coffee break

17:30-18:00 Transportation to CDI*

18:00-19:30 Awards ceremony and ISHPSSB general meeting, at CDI

19:30-20:00 Transportation to conference dinner

20:00-22:30 Conference dinner

Friday, July 21

(All activities will be held at the Biosciences Institute)

08:00-09:00 Registration, secretariat (LABLIC)

09:00-10:30 Parallel Sessions 14 – see page 43

10:30-11:00 Coffee break

11:00-12:30 Parallel Sessions 15 – see page 45

12:30-15:30 Lunch break; ISHPSSB Council meeting

15:30-19:00 Excursions in São Paulo, University of São Paulo and Butantan Institute

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^{*} CDI = Auditorium of the International Broadcasting Center ("Centro de Difusão Internacional" in Portuguese). There will be transportation by bus for all participants and visitors. Boarding on the buses will take place at Rua do Matão, in front of the aisle 14, starting at 17:30 o'clock.

Monday, July 17 09:00-10:30 Parallel Sessions 1

ORGANIZED SESSION STANDARD TALKS - AG-ZOO

Heredity and Evolution in an Ibero-American Context

Orgs. Marsha Richmond and Ana Barahona

Chair of the session: Ana Barahona

Adriana Novoa – (001) The biology of masculinity: The evolution of gender in nineteenth century Argentina

Lilian Al-Chueyr Pereira Martins & José Franco Monte Sião – (002) The introduction of population genetics studies in Brazil (1943-1960): a bibliometric study

Marsha Richmond – (003) Central-American species/North-American knowledge: The cytogenetic research program of Sally Hughes-Schrader and Franz Schrader

ORGANIZED SESSION STANDARD TALKS - CD-A1

The Enduring Relevance of Organicism for Philosophy of Biology

Orgs.: Jan Baedke and Daniel J. Nicholson

Chair of the session: Jan Baedke

Daniel J. Nicholson – (004) Organicist Philosophy of Biology: Then and now

Jan Baedke - (005) Locating the organism in the environment: Old and new challenges

Daniel Brooks – (006) Joseph Needham's contributions to the development of the levels concept in Biology (1929-1945)

ORGANIZED SESSION STANDARD TALKS - CD-A2

The Resituation of Scientific Knowledge

Org. and chair of the session: James Griesemer

Carlos Andrés Barragán – (007) Substantiating genetic and cultural continuity: Partial connections between genomic, archaeological and linguistic datasets

L. Scott Cole – (008) Resituating scientific knowledge using commercial platforms

James Griesemer – (009) Situating the resituation of knowledge

INDIVIDUAL PAPERS SESSION - CD-A3

History of Medicine

Chair of the session: Michel Morange

Ruy Jose Henriquez Garrido – (015) Optics and analogy in Fracastoro's definition of "seeds of contagion at a distance"

Kelly Regina Silva Campos, Luiz Felipe Reversi, Ana Maria de Andrade Caldeira & João José Caluzi – (016) The sociality network of Albert Calmette's studies about the development process of the bacillus BCG

Michel Morange – (017) Bacteriophage in the Pasteurian tradition

INDIVIDUAL PAPERS SESSION – MINAS1

Neurosciences: Philosophical Perspectives Chair of the session: Osvaldo Frota Pessoa Jr.

Matthew Smithdeal – (138) Situating the individual: An expanded

account of psychological mechanisms

Osvaldo Frota Pessoa Jr. – (020) On the coming revolution in Brain Science

INDIVIDUAL PAPERS SESSION – MINAS2

Life and organisms: Philosophical Perspectives

Chair of the session: Susie Fisher

Susie Fisher -(021) "Life created" – for the love of science?

Thomas Heams - (022) Why life cannot be engineered but can be defined

Flavio D'Abramo – (023) Epigenetics and the molecularization of the social

Monday, July 17 11:00-12:30 Parallel Sessions 2

ORGANIZED SESSION STANDARD TALKS - AG-ZOO

Heredity and Evolution in an Ibero-American Context

Orgs. Marsha Richmond and Ana Barahona

Chair of the session: Marsha Richmond

Marta Velasco Martín – (024) Women geneticists, families and *Drosophila* populations

Ana Barahona – (025) Women and the workplace: The work of Leonor Buentello at the first Unit of Human Genetics in Mexico Panel discussion

ORGANIZED SESSION STANDARD TALKS - CD-A1

Teleology and Organization in Biological Systems

Orgs.: Matteo Mossio and Andrea Gambarotto

Chair of the session: Kepa Ruiz-Mirazo

Matteo Mossio – (027) What makes biological organization teleological?

Andrea Gambarotto – (028) Kant and beyond: natural purposiveness from an organizational perspective

Cristian Saborido – (029) Organizational teleology and functional normativity

ORGANIZED SESSION STANDARD TALKS – CD-A2

The Resituation of Scientific Knowledge

Org. and chair of the session: James Griesemer

Jason Oakes – (030) Versioning as a means to track resituation

Alok Srivastava - (031) The work of metabolism of anomalies at sites of scientific communities drives recruitment and re-situation of knowledge from other communities

Panel discussion

INDIVIDUAL PAPERS SESSION - CD-A3

Biological Education I

Chair of the session: Sarah M. Roe

Martin Joseph Bremer – (032) Why science education needs Philosophy

Sarah M. Roe – (033) The Citizen Science Movement according to Feyerabend: Taking advice from a madman

Eduardo Cortez – (034) Applying technology and history of science to develop an innovative teaching-learning sequence about natural selection and nature of science

INDIVIDUAL PAPERS SESSION - MINAS1

Phylogenetics: Philosophical Perspectives

Chair of the session: Celso Neto

Celso Neto – (035) Species cohesion in the age of discordance

Yuichi Amitani & Tetsuji Iseda – (036) What can species theorists

learn from Parfit?

Nina Kranke – (160) The molecularization of phylogenetics – preconditions and consequences

INDIVIDUAL PAPERS SESSION – MINAS2

Systems Biology and Big Data: Philosophical Perspectives

Chair of the session: Constantinos Mekios

David Montminy - (038) Is biology once again setting a new agenda for philosophy of science?

Constantinos Mekios – (040) Can organizing principles continue to transform the research program of systems biology in a productive manner?

INDIVIDUAL PAPERS SESSION – MINAS3

Scientific Explorations

Chair of the session: Eleonore Zulnara Freire Setz

Denise de Alemar Gaspar, Marcos Almir Polettini, **Eleonore Zulnara Freire Setz** & Suzana Barretto Ribeiro – (042) Fauna in Campinas, São Paulo, in the era of sugarcane and coffee cultivation: From 19th century naturalists to 20th century popular and scientific chronicles

Alexandre Kannebley de Oliveira & Julio Cesar Garavello – (043) Systematics, history and biodiversity conservation relationships from the assembly of a freshwater fish species topotypes collection

INDIVIDUAL PAPERS SESSION – AG-BOT

Philosophy of Ecology I

Chair of the session: Michael Goldsby

Michael Goldsby – (044) Conflicting baselines: A crisis in Ecology

Georgia Rae Rainer – (045) Law & Order: Ecology

Bruno Travassos-de-Britto, Renata Pardini & Paulo Inácio de Knegt López de Prado – (046) From models to theories: A bottom-up approach to organize propositions into constitutive theories in Ecology

Monday, July 17 15:30-17:00 Parallel Sessions 3

ORGANIZED SESSIONS DIVERSE FORMAT – AG-ZOO

Mini-workshop

(047) Historical, Philosophical, and Interdisciplinary Writing and Publishing

Org.: ISHPSSB Education Committee

Chair of the session: Isabella Sarto-Jackson

Discussants:

Gregory Radick Michael Dietrich Staffan Müller-Wille

ORGANIZED SESSION STANDARD TALKS – CD-A1

The Multiple Guises of Value in Biological Science

Orgs. and Chair of the session: Adrian Currie

Joyce Havstad – (049) Taxonomic discovery, epistemic standards, and ecological aims in Ornithology

Adrian Currie - (050) Extrinsic values, the paradox of material evidence, and crocodiles

Panel discussion

ORGANIZED SESSION STANDARD TALKS – CD-A2

Teleology and Organization in Biological Systems

Orgs.: Matteo Mossio and Andrea Gambarotto

Chair of the session: Andrea Gambarotto

Gaëlle Pontarotti – (051) Connecting biological inheritance with purposiveness: A new insight into evolutionary theory

Kepa Ruiz-Mirazo – (052) The teleological debate at the interface between chemistry and biology

Nei Nunes-Neto – (053) The organizational approach of ecological functions and ecocentrism

ORGANIZED SESSION STANDARD TALKS – CD-A3

Models and Theories in Biology

Org. and chair of the session: Pablo Lorenzano

Karina Alleva, José Díez & Lucía Federico – (054) Models, theory structure and mechanism in Biochemistry: The case of allosterism

Pablo Lorenzano & Martín Díaz – (055) Models, laws and theories in population dynamics

Federico Nahuel Bernabé & Leandro Ariel Giri – (056) Neither one-sex nor two-sex Models: Rethinking the general conceptualization of sexual differences and differentiation in Biology

ORGANIZED SESSION DIVERSE FORMAT - MINAS1

Panel: Between Plants and Snakes: 100 Years of Botanical Studies at Instituto Butantan

Org.: Luiza Teixeira-Costa and Erika Hingst-Zaher

Chair of the session: Luiza Teixeira-Costa

Paulo Henrique Nico Monteiro – (057) Horto Oswaldo Cruz, medicinal plants and health in the XIX Century São Paulo

Adriano Dias de Oliveira – (058) Horto Oswaldo Cruz and the birth of botany in São Paulo

Luiza Teixeira-Costa – (059) Social and medicinal use of the botanical collections at the Horto Oswaldo Cruz

Yasmin Vidal Hirao – (060) Hoehne's collection of orchids

Erika Hingst-Zaher – (061) Public participation and the research at the Horto Oswaldo Cruz

INDIVIDUAL PAPERS SESSION – MINAS2

Evolution Education

Chair of the session: Nelio Bizzo

Gonzalo Peñaloza – (062) The relation between science and religion in the circulation of Darwinism in the school biology in Colombia

Jing Zhu, Mingjun Zhang & Michael Weisberg – (063) Why does the Chinese public accept evolution?

Nelio Bizzo – (285) Understanding evidence of biological evolution in a Darwinian perspective: The power of philosophy

Monday, July 17 19:30-21:00 Poster session

Posters on Biological Education

Ana Carolina Biscalquini Talamoni – (068) Mondino de Luzzi, Alfonso Bovero and the birth of a tradition for the Anatomy teaching

Antônio Fernando Gouvêa Silva, Paulo Newton Tonolli & **Fernando Faria Franco** – (070) The historical construction of enzymes concept and its use in the Biology teaching

Gregory Alves Dionor, Liziane Martins & Neima Alice Menezes Evangelista – (071) Approach to History and Philosophy of Science in Brazilian Science Textbooks of Middle and High School

Ítalo Nascimento de Carvalho – (072) Structuring concepts in biology: contributions from the philosophy of biology to the high school curriculum

Leticia Paola Alabi, Tamires Michelle Gallo, Fabio Rodrigues, Charles Morphy Dias Santos, Douglas Galante & Verônica de Carvalho Teixeira – (073) Astrobiology as transdisciplinary tool for biology teaching: Searching for structuring concepts in life sciences

Luis Felipe Delsin, Giselle Alves Martins & Fernanda da Rocha Brando – (075) Teleology and pollination: A proposal for a didactic intervention

Matheus Luciano Duarte Cardoso & Thaís Cyrino de Mello Forato – (076) Contributions of the History of Biology in the teaching of Photosynthesis: A perspective for classroom

Nathalia Helena Azevedo & Daniela Lopes Scarpa – (077) "What are legume root nodules?" An example of history of science use for designing and evaluating inquiry-based-learning activities

Neima Alice Menezes Evangelista & Vanessa Carvalho dos Santos – (078) The gene concept in Cellular and Molecular Biology Higher Education textbooks

Rafael Luccas & Fernando Santiago dos Santos – (079) Teaching and learning Botany with a democratic and collaborative teaching approach: A report with undergraduate students

Renata de Paula Orofino & Daniela Lopes Scarpa – (080) Contributions from logic to research on science education

Posters on History of Biology

Christine Janczur – (083) Commented translation from an original source in the history of science: Claude Bernard's *Introduction à l'Étude de la Médecine Expérimental* (1865)

Leonardo Augusto Luvison Araújo – (085) The cleavage between heredity and development in the early XX century: The importance of scientific practices

Marina Clasen Baumann – (086) Scientific illustration in early Modern Science and its Impact on the Investigation of the natural world

Pedrita Fernanda Donda & Lilian Al-Chueyr Pereira Martins – (087) Louis Agassiz's conceptions on the origin of species and his criticisms on Charles Darwin's proposal (1859-1874)

Posters on Philosophy of Biology

Andrea Soledad Olmos – (088) The functional language of Neuroethology

Breno Pascal de Lacerda Brito – (089) The role of non-epistemic values in accepting ecological theories

Claudio Ricardo Martins dos Reis & Leonardo Augusto Luvison Araújo – (090) The Nature of Change in Evolutionary Biology: Extended Evolutionary Synthesis?

Felipe Rebelo Gomes Lima & Nei Nunes-Neto – (092) A critique of Norton's anthropocentric approach to sustainability: Linking intrinsic value to an organizational approach to functional ascriptions

Lívia Maria Santos Assunção, Mark Borrello & Juanma Sánchez Arteaga – (093) Edward O. Wilson and human social behavior: A comparative review between *On Human Nature* and *The Social Conquest of Earth*

Lucia Carvalho Neco, Nicolas Chaline & Hilton Ferreira Japyassu – (094) An integrative and quantitative concept of complexity as a measure of sociality

Luiz Felipe Reversi, Kelly Regina Silva & João José Caluzi – (095) An organicist perspective to the Philosophy of Science

Marcelo Silva de Carvalho Delfino & Breno Pascal Lacerda Brito — (096) Photomicrography as a method of visual representation in science: A discussion about objectivity in photomicrography from the standpoint of Robert Koch's contribution

Simon Lohse & Thomas Reydon – (097) Why ELSI research would benefit from (more) philosophy of science

Vanessa Carvalho dos Santos & Jonei Cerqueira Barbosa – (098) What Biology is all about: Expanding the commognitive approach by examining Biology as a discourse

Victor Hugo Oliveira – (099) Occupational therapy and alternative treatment in relation to disorders of the psyche

Tuesday, July 18 09:00-10:30 Parallel Sessions 4

ORGANIZED SESSION STANDARD TALKS – AG-ZOO

Weldon's Legacy Revisited: From an Integrated Historical and Philosophical Perspective

Org. and chair of the session: Yafeng Shan

Charles H. Pence – (100) Syntheses that weren't: W.F.R. Weldon's abandoned 'synthesis' of Biometry and Mendelism

Gregory Radick – (101) Biometry without Positivism: The means and ends of Weldon's mathematized Biology

Yafeng Shan – (102) Choice in the Mendelian-Biometrician controversy: Why Weldon was not a Mendelian

ORGANIZED SESSION STANDARD TALKS - CD-A1

From Biological Practice to Scientific Metaphysics: Prospects and Challenges

Org. and chair of the session: Alan C. Love

Janella Baxter – (103) Changing the degree of fine-grained influence with biological technologies

Katherine Liu - (104) Uncovering the complex "real" world through simple models?

Max Dresow – (105) Communities and ecosystems: The view from scientific practice

ORGANIZED SESSION STANDARD TALKS - CD-A2

On the Evolutionary Debunking of Reasons and Morality

Org. and chair of the session: Alejandro Rosas

Jorge Oseguera Gamba – (106) Can metaethical constructivism overcome the evolutionary debunking?

Maximiliano Martínez – (107) Evolutionary explanations and the Darwinian dilemma

Alejandro Rosas & Juan P. Bermúdez – (108) Shared intentionality co-evolves with a sense of fairness

ORGANIZED SESSION STANDARD TALKS – CD-A3

Contraceptive Controversies: Perspectives on Birth Control

Org.: Kate Grauvogel

Chair of the session: Sophia Efstathiou

Christopher ChoGlueck – (109) Why 'how It works' has mattered: The values of knowing the morning-after pill's mechanism

Kate Grauvogel – (110) Controversial contraceptives: Uncoupling the pill and social progress to assess risk

Panel discussion

ORGANIZED SESSION STANDARD TALKS – MINAS1

The Power of One: The Individual in Neuropsychology, Psychology, and Psychiatry

Org. and chair of the session: Rob Wilson

Carl F. Craver – (111) Mr. B as science in amber: Some historical perplexities of Neuropsychiatry

Şerife Tekin – (112) First person perspectives in Psychiatry **Natalia Washington** – (113) Diagnostic kinds as human kinds

INDIVIDUAL PAPERS SESSION – MINAS2

Visual Representation and Science

Chair of the session: Erica Torrens

Erica Torrens – (114) Pictures in Biology: Representing human evolution in Mexican visual culture

Gemma Anderson and **John Dupré** – (115) Representing biology as process

Laura Perini – Beyond depiction: Aesthetics & images in the Life Sciences

INDIVIDUAL PAPERS SESSION – AG-BOT

Social, Historical and Philosophical Studies of Ecology

Chair of the session: Thomas Michael Lewinsohn

Thomas Michael Lewinsohn – (116) The onset of Brazilian ecological science in the 20^{th} century

Diana Bertuol Garcia, Carla Morsello & Renata Pardini – (117) A conceptual framework for understanding the causes of the science-practice gap in Ecology

Guilherme Sanches de Oliveira – (118) Ecological Psychology and the environmentalist promise of "affordances"

Tuesday, July 18 11:00-12:30 Parallel Sessions 5

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Innovative Proposals to Introduce History and Philosophy of Biology in Biology Education

Org.: Maria Elice Brzezinski Prestes and Paulo T. Sano

Chair of the Session: Paulo T. Sano

Thaís Cyrino de Mello Forato & Maria Elice Brzezinski Prestes – (121) Students' perceptions about relevant elements to prepare teachers to deal with history and nature of science

Filipe Faria Berçot & Maria Elice Brzezinski Prestes – (122) Where do they come from? The 18th century puzzle of aphids in a virtual historical narrative

Panel discussion

ORGANIZED SESSION STANDARD TALKS - CD-A1

Thinking the Organic in German Idealism: Life, Time, and History Org. and chair of the session: Juan Felipe Guevara-Aristizabal

Juan Felipe Guevara-Aristizabal – (123) Epigenesis and the rupture of Kantian time

Violeta Aréchiga-Córdova – (124) Schelling: Epigenesis and Philosophy

Joan Steigerwald – (125) Schelling's Natural History of the World Soul

ORGANIZED SESSION STANDARD TALKS - CD-A2

Modeling Individuality: Organisms, Stem Cells, and Cancer Org. and chair of the session: Melinda Bonnie Fagan

Melinda Bonnie Fagan – (126) Stem cells and lineage models of development

Anne Siebels Peterson – (128) Individuality, generality, and change in Metaphysics and Philosophy of Biology Panel discussion

ORGANIZED SESSION STANDARD TALKS - CD-A3

Science and Ethics on the Application of Biogenetic and Chemical Technologies to Large-scale Agriculture in Argentina and Brazil Orgs.: Luciana Zaterka, Pablo Rubén Mariconda and Guillermo Folguera

Chair of the session: Pablo Rubén Mariconda

Pablo Rubén Mariconda – (129) Epistemology and Ethics in large-scale biotechnological applications

Luciana Zaterka – (130) Genetically modified organisms: The scientific inadequacy of the principle of substantial equivalence

Guillhermo Folguera & Christian Francese – (131) Biotechnology, technoscience and theoretical simplification. The case of genetically modified organisms (GMOs)

ORGANIZED SESSION STANDARD TALKS – MINAS1

Population Genetics and Mechanics Orgs.: Jean Gayon and Maël Montévil

Chair of the session: Matteo Mossio

Jean Gayon – (132) Invariance and reversibility in theoretical Population Genetics

Maël Montévil - (133) What counterpart to the principle of inertia in Population Genetics?

Panel discussion

INDIVIDUAL PAPERS SESSION – MINAS2

Scientific Practices: Philosophical Perspectives I Chair of the session: Bettina Bock von Wülfingen

Dominic Berry – (135) The history of DNA synthesis: Ways of knowing and making in biology

Rick Shang – (136) Evaluating scientific detection instruments: The case of Positron Emission Tomography

Bettina Bock von Wülfingen – (137) Annotating, retrieving and reactivating: the epistemic role of labels on micro-preparations within bioscience recovery systems (using the example of Alzheimer's disease preparations)

INDIVIDUAL PAPERS SESSION – MINAS3

Biology, Philosophy and Anthropology Chair of the session: Elliot Hollingsworth

Pedro Henrique Pereira, **Victor Ximenes Marques** & Amanda Soares de Melo – (140) Towards a naturalist philosophical Anthropology

Elliot Hollingsworth – (141) Helmuth Plessner's excentric positionality and schizophrenia

Tuesday, July 18 15:30-17:00 Parallel Sessions 6

ORGANIZED SESSION STANDARD TALKS - AG-ZOO

Dreamers, Visionaries, and Revolutionaries in the Life Sciences Org. Michael Dietrich

Chair: Oren Harman

Oren Harman – (146) Perchance to dream: Fostering novelty in the Life Sciences

Mark Borrello – (171) David Sloan Wilson: Visionary, idealist, ideologue

Luis Campos – (148) Neanderthals in space: George Church's modest steps toward possible futures

ORGANIZED SESSION STANDARD TALKS - CD-A1

Teaching Brazilian Biology: Historical Case Studies for Nature of Science Education

Orgs.: Nathália Helena Azevedo and Thiago Marinho Del Corso Chair of the session: Nathália Helena Azevedo Nathália Helena Azevedo & Thiago Marinho Del Corso – (149)

Carlos Chagas (1879 - 1934) and the triple discovery: A teaching-learning sequence with historical inquiry case and nature of science **Rodrigo Ponce** & **Ursula Simonetti Lovaglio** - (150) Case study:

Johanna Döbereiner and the nitrogen biological fixation

Adriano Dias Oliveira & Fernanda Pardini Ricci – (151) Case study: Different aspects of the nature of science present in a historical case study about Vital Brazil

ORGANIZED SESSION DIVERSE FORMAT – CD-A2

Dialogue and informal roundtable

Toward a Theory of Organisms: Two Proposals and Three Aims: Using the Theory to Construct Objectivity, Provide Intelligibility and Frame Observations and Experiments

Org.: Carlos Sonnenschein Chair: Charbel El-Hani

Ana M. Soto -(152) Principles for a theory of organisms **Samuel M. Scheiner** -(153) A general theory of organisms Dialogue and extended roundtable

ORGANIZED SESSION STANDARD TALKS – CD-A3

Collaboration in Contemporary Bioscience: Sociological and Philosophical Approaches

Org.: Phillip Honenberger

Chair of the session: Sabina Leonelli

Niccolò Tempini – (154) Collaborative science and the epistemic consequences of project management (or its lack thereof): Insights from an interdisciplinary research collaboration and data infrastructure development project

Phillip Honenberger – (156) On the dynamics of collaborations in contemporary Biosciences, with lessons drawn from *Nature* Panel discussion

INDIVIDUAL PAPERS SESSION – MINAS1

Reductionism: Philosophical Perspectives Chair of the session: Daniel C. Burnston **Daniel C. Burnston** – (066) Getting over atomism

Nahuel Pallitto – (158) Human behaviour, reduction and the lack of lower-level warrants

Nicolás José Lavagnino, Marta Bertolaso & Guillermo Folguera – (159) Omics in cancer research: Winds of change or same old story?

INDIVIDUAL PAPERS SESSION – MINAS2

Primate Evolution: Theoretical and Philosophical Perspectives

Chair of the session: Oren Bader

Michael Dale – (162) The sexual selection of Hominin bipedalism **Alba Leticia Pérez-Ruiz** – (207) Cognitive complexity in primates: The social mind

Oren Bader – (164) 'Being in a group' – The emotional scaffolding of the evolution of collective intentionality

INDIVIDUAL PAPERS SESSION – MINAS3

Gender and Race: Historical and Philosophical Studies

Chair of the session: Donald Luke Opitz

Donald Luke Opitz – (165) Victoria domesticates Amazonia: Gender and Botany in nineteenth century British surveys of Guiana **Benjamin Rylie Palmer** – (166) A fruitful field for women: Oral histories of 20th century women biochemists

Leyla Mariane Joaquim – (167) Race, racism and science: Contemporary perspectives

INDIVIDUAL PAPERS SESSION - AG-BOT

Biological Education II

Chair of the session: Agustín Adúriz-Bravo

Agustín Adúriz-Bravo & Andrea Revel Chion - (168) On the construction of "biology stories": The value of historical narratives for biology education

Ítalo Nascimento de Carvalho & Dália Melissa Conrado – (169) Modeling socioscientific issues with laws for high school biology teaching

Frederik Moreira-dos-Santos – (170) Evolutionary explanation and religious beliefs: Where the conflict really lies

Tuesday, July 18 17:30-19:00 Parallel Sessions 7

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Dreamers, Visionaries, and Revolutionaries in the Life Sciences

Org. Michael Dietrich Chair: Oren Harman

Panel discussion:

Oren Harman

Mark Borrello

Luis Campos

ORGANIZED SESSION STANDARD TALKS - CD-A1

Toward a Theory of Organisms: Two Proposals and Three Aims: Using the Theory to Construct Objectivity, Provide Intelligibility and Frame Observations and Experiments

Orgs.: Ana M. Soto and Matteo Mossio

Chair: Samuel M. Scheiner

Maël Montévil – (173) Modeling mammary organogenesis from biological first principles

Carlos Sonnenschein – (174) Carcinogenesis explained within the context of a theory of organisms

Samuel M. Scheiner - (175) A theory of ecoimmunology and its relationship to a general theory of organisms

INDIVIDUAL PAPERS SESSION – CD-A2

Cultural Evolution

Chair of the session: Lorenzo Baravalle

Lorenzo Baravalle – (176) Invariance and unification in the theory of cultural evolution

Carlos Gray Santana – (177) Cultural evolution: Is language a special case?

INDIVIDUAL PAPERS SESSION – CD-A3

General Epistemology and Biology I

Chair of the session: Octavio Valadez-Blanco

Daniel C. Baiardi – (178) The concept of semantic fitness inside a semiotic account of natural kind terms

Octavio Valadez-Blanco – (234) Cancer in the civilizing process: An epistemological and educational approach to historical and socio-environmental roots

INDIVIDUAL PAPERS SESSION - MINAS1

Identity and Individuality

Chair of the session: Anne Sophie Meincke

Denise Regina Percequillo Hossom – (181) From personhood to neighborhood: Biotic communities and personal identity

Anne Sophie Meincke - (182) Processual animalism: Towards a scientifically informed account of biological identity through time

INDIVIDUAL PAPERS SESSION – MINAS2

Scientific Practices: Philosophical Perspectives II

Chair of the session: Maria Strecht Almeida

Robert Meunier – (183) Perspective and practice: A comparative view on Walther Vogt's and Alfred Sturtevant's approaches to development

Luciana Sarmento Garbayo – (184) Coordinating measurement and world in Medicine: A model-based approach to the introduction of the metric system standardization in the XIXth and XXth centuries

Maria Strecht Almeida – (185) Beyond multiplicity: Exploring narratives around the life span of the mammalian erythrocyte

INDIVIDUAL PAPERS SESSION – MINAS3

Philosophy of Evolution I

Chair of the session: Makmiller Pedroso

Brandon Allen Conley – (186) Disentangling and integrating Mayr and Tinbergen

Mingjun Zhang - (187) Is methodological adaptationism really so dangerous?

Makmiller Pedroso – (188) Coping with stress: How microbes respond to bottleneck events

INDIVIDUAL PAPERS SESSION – AG-BOT

Race and Ethnicity: Historical Perspectives Chair of the session: Michael Osborne

trade

Anita Guerrini – (189) Joseph Banks, John Hunter, and the skull

Joe Lunn – (190) Martial Race Theory in Africa: Herbert Spencer's institutional influence on European colonial armies during the First World War

Wednesday, July 19 9:00-10:30 Parallel Sessions 8

ORGANIZED SESSION STANDARD TALKS – AG-ZOO

Conceptual and Political Challenges in Postgenomics: Organisms,

Niches, and Plasticity Org.: Maurizio Meloni

Chair of the session: Maurizio Meloni

Eva Jablonka – (191) The challenges of the Extended Evolution

Synthesis (EES) research framework

Jan Baedke – (192) No return of the organism? Postgenomic trends in biological theory and society

Tatjana Buklijas – (193) Uses of epigenetics

ORGANIZED SESSION STANDARD TALKS - CD-A1

Philosophy of Neuroscience: Broader Implications for Philosophy of Science

Org.: Marshall Abrams

Chair of the session: Carl Craver

Marshall Abrams – (194) Evolutionarily distributed prediction error minimization: R-strategies and selection for misperception **Lena Kästner** & Henrik Walter – (195) Predictive processing: A theory of everything?

Matteo Colombo – (196) The free-energy principle as a first principle of neuroscience?

ORGANIZED SESSION DIVERSE FORMAT - CD-A2

Type of session: Graduate student workshop

(197) Decoding science papers (tools for non-scientists)

Org. and chair of the session: Jessica A. Bolker

Discussants:
Ana M. Soto
Laura Perini
Dan Burnston

ORGANIZED SESSION STANDARD TALKS – CD-A3

Multidisciplinary Perspectives on Evolutionary Biology, Religion and Society

Org.: James Riley

Chair of the session: Fern Elsdon-Baker

Fern Elsdon-Baker – (198) Creating creationists: Conceptual and methodological issues in social studies of the perceived relationship between evolutionary science and religious belief

Carissa Sharp, Carola Leicht, Karisha George & Fern Elsdon-Baker – (199) The projection of belief in the conflict between science and religion

Stephen Jones, Rebecca Catto & Tom Kaden – (200) Doubt, uncertainty and salience in public perceptions of biological evolution: Results from a qualitative study of the UK and Canada

INDIVIDUAL PAPERS SESSION – MINAS1

Social Studies of Genetics

Chair of the session: Antonello La Vergata

Antonello La Vergata – (201) From biology to utopia: Charles Richet's mankind in the future

Evan Arnet – (202) Our mutational load and the politics of the human breeding population

Tito Brige Carvalho – (203) Modeling nature, modeling society: *Drosophila* Genetics in post World War Two Brazil

INDIVIDUAL PAPERS SESSION – MINAS2

Philosophy of Ecology II

Chair of the session: Victor Lefèvre

Victor Lefèvre – (204) Explaining the dynamics of ecosystems: A plea for organicism

Leila C. Cruz & John Collier – (205) Hierarchy Theory as epistemological framework in conservation biology research

Guilherme Sanches de Oliveira – (206) Go big AND go home? The Biome problem and its metaphysical and epistemological roots

INDIVIDUAL PAPERS SESSION – MINAS3

Modeling and Mechanisms: Historical and Philosophical Perspectives

Chair of the session: Jens Harbecke

Jens Harbecke – (210) Two challenges for a Boolean approach to constitutive inference

Luana Poliseli & Jeferson Gabriel da Encarnação Coutinho – (211) Explaining ecological phenomena by means of mechanistic models: Is it possible?

Tobias Cheung – (212) Processual orders of organized living systems: The agent models of Cuvier, Hufeland and Cabanis

Wednesday, July 19 11:00-12:30 Parallel Sessions 9

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Panel with four speakers

(213) Reflections on the Past 50 Years of the History of Biology Org. and chair of the session: Michael Dietrich

Discussants:

Garland Allen Ana Barahona Karen Rader Marsha Richmond

ORGANIZED SESSION STANDARD TALKS - CD-A1

Conceptual and Political Challenges in Postgenomics: Organisms,

Niches, and Plasticity

Org.: Maurizio Meloni

Chair of the session: Tatjana Buklijas

Maurizio Meloni - (214) The politics of nature-nurture: What it was, how it is changing in postgenomic times

Stephen Engelmann – (215) From the evolution of cooperation to the political physiology laboratory: The adventures of biopolitical science

Benjamin Gregg – (216) Epigenetics as a political theory of genetically influenced social inequalities

ORGANIZED SESSION STANDARD TALKS – CD-A2

Philosophy of Neuroscience: Broader Implications for Philosophy of Science

Org.: Marshall Abrams

Chair of the session: Marshall Abrams

The History of Neuroimaging Laboratory (WUSTL): **Carl F. Craver**, Rick Shang, Dave Gruskin, Ronny Bass, Alex DeChristofino, Louis Goicouria, Douglas Knox, Stephen Pentecost, Joseph McCaffrey – (217) The invention of functional neuroimaging: A window on technique-drive scientific change

Nina Atanasova – (218) Virtual Morris water maze: The independent life of an experimental system

Philipp Haueis – (219) Mesoscale concepts and cortical function

ORGANIZED SESSION STANDARD TALKS – CD-A3

Biodiversity Patterns and their Ecological and Evolutionary Origin Org. and chair of the session: Davide Vecchi

Silvia Di Marco – (220) Eco-evolutionary feedback theory: Bridging the gap between ecological and evolutionary processes Elena Casetta & Jorge Marques da Silva – (221) Are species the main units of biodiversity? A lesson from multispecies biofilms Davide Vecchi – (223) The instability of the homogeneous and the stability of the heterogeneous as causes of biodiversity

ORGANIZED SESSION STANDARD TALKS - MINAS1

Multidisciplinary Perspectives on Evolutionary Biology, Religion and Society

Org.: James Riley

Chair of the session: Bernard Lightman

Bernard Lightman – (224) Oliver Lodge, evolution, and religion **James Riley** – (225) Popes and evolution in the press: A media content analysis of UK newspapers

Glen Moran – (226) British Muslim perceptions of biological evolution

ORGANIZED SESSION STANDARD TALKS – MINAS2

The Cell Theory Reconsidered: From Cell to Organism

Organizer and chair of the session: Sherrie L. Lyons

Maurizio Esposito – (227) Within and beyond the cell: William Emerson Ritter between cytology and politics

Sherrie L. Lyons - (228) "Something is missing": Daniel Mazia and the concept of the cell body

Gabriel Vallejos – (229) Cell biology and the choice of a fundamental unit of analysis

INDIVIDUAL PAPERS SESSION – MINAS3

Gender and Sexual Orientation: Philosophical Perspectives

Chair of the session: Ingo Brigandt

Ingo Brigandt & Esther Rosario – (230) Three concepts of gender for different social aims

Fabrizzio Mc Manus – (231) Queering explanations of human sexual diversity

Jaroslava Varella Valentova & Marco Antonio Correa Varella – (232) Adaptiveness of the sexual orientation spectrum: Resolving the seeming evolutionary puzzle of homosexuality

INDIVIDUAL PAPERS SESSION – AG-BOT

Philosophy of Evolution II

Chair of the session: Giorgio Airoldi

Giorgio Airoldi – (235) A proposal of Design Space to classify and explain evolutionary changes

Alejandro Fábregas-Tejeda – (236) The emerging structure of the Extended Evolutionary Synthesis: Epistemic turmoil and alternative interpretations

Wellington Bittencourt-dos-Santos – (237) Conceptual networks analysis of the integration between internalist and externalist views in Evo-devo

Wednesday, July 19 15:30-17:00 Parallel Sessions 10

ORGANIZED SESSION DIVERSE FORMAT – CD-A1

Panel

Organisms, Membranes and Boundaries: A Process Perspective

Org. and chair of the session: John Dupré

Daniel Nicholson – (238) Mechanisms and the fluidity of life

Stephan Guttinger – (239) Vagueness and the processual nature of membranes

Anne Sophie Meincke – (240) On the metaphysics of living boundaries

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Panel

Agriculture and the Biological Sciences: Heredity, Productivity, Organisms, and the Farmer

Orgs.: Gregory Radick, Berris Charnley and Dominic Berry

Chair of session: Gregory Radick

Barbara Kimmelman – (241) Making Mendelians: Agricultural breeding programs and the early careers of Edward Murray East and Rollins Adams Emerson

Garland Allen – (242) Genetics and the penetration of capital into United States agriculture, 1890-1940: A Marxist analysis

Tiago Saraiva – (243) California cloning: Oranges in circulation and the writing of transnational history

Berris Charnley – (244) "Dedicated to all Miss Ormerod's correspondents in economic entomology": The Injurious Insects Movement and the social purpose of science, 1870-1901

ORGANIZED SESSION STANDARD TALKS - CD-A2

Rethinking the Explanatory Role of Neuroscience in Psychopathology Research

Org.: Isabella Sarto-Jackson

Chair of the session: Nina Atanasova

Isabella Sarto-Jackson – (245) Revisiting conceptual frameworks of psychopathologies: The 'drug-centered' versus the 'disease-centered' model

Paola Hernández Chávez – (246) The logic of dysfunctions in Cognitive Neuroscience: Five methodological principles

Nina Atanasova – (247) ADHD across cultures: A case study in the biopsychosocial model of mental illness

INDIVIDUAL PAPERS SESSION - CD-A3

Experiments and Models: Philosophical Perspectives

Chair of the session: Lena Kästner

Lena Kästner – (248) Experiments in a 2 x 2 table

Jessica A. Bolker – (249) Animal models in translational research: Rosetta Stone or stumbling block?

Sophia Efstathiou - (250) Personalising RCTs: What is the right target?

INDIVIDUAL PAPERS SESSION – MINAS1

Continental Philosophical Perspectives on Biology and Medicine Chair of the session: Sandra Caponi

Sandra Caponi – (251) Psychiatry and the construction of subjectivity in modern society

Olivier Perru – (252) Canguilhem: A philosophy of life and a philosophical history of life sciences

INDIVIDUAL PAPERS SESSION – MINAS2

Function and teleology

Chair of the session: Amanda Thorell

Amanda Thorell – (256) Physiological function, health and medical theory

Marcela D'Ambrosio, Nelio Bizzo, Marco Solinas & Fernando Santiago dos Santos – (258) The influence of Teleology on the comprehension of evolution and its consequences to education: An analysis from Aristotle to Mayr's teleological categories

INDIVIDUAL PAPERS SESSION – MINAS3

Philosophy of Evolution III

Chair of the session: Gustavo Caponi

Gustavo Caponi – (259) The physiological and ecological correlate of the phylogenetic exemplar

Matheus Henrique da Mota Ferreira – (261) There in evolution and back again: Evolutionary dialectics of ontogeny and phylogeny through Developmental Psychology and Biology of Cognition

INDIVIDUAL PAPERS SESSION - AG-BOT

History of Evolution I

Chair of the session: Gonzalo Peñaloza

Jairo Robles-Piñeros & Gonzalo Peñaloza – (262) The reception of Darwinism in Colombia in the late 19th century

Douglas Rogério Anfra – (263) Evolution theory and the German social democracy

Luis Felipe Eguiarte Souza – (264) Haldane between scientific facts and a hard place: The Lysenko affair and his conviction to the public understanding of science

Thursday, July 20 9:00-10:30 Parallel Sessions 11

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Multiple speakers session

Philosophical Issues in Astrobiology

Orgs. Kelly C. Smith and Carlos Mariscal

Chair of the session: Kelly C. Smith

Erik Persson – (266) Some philosophical thoughts about planetary protection

Leonore Fleming - (267) To serve Man: Eating meat, eating people, and eating aliens

Carlos Mariscal – (268) When astrobiologists write humanities & when humanists write astrobiology

Kelly C. Smith – (269) Pinning down "Life"

ORGANIZED SESSION STANDARD TALKS - CD-A1

Generic and Genetic Perspectives on Evolvability

Org.: Alan C. Love

Chair of the session: Thomas A. Stewart

Thomas A. Stewart – (270) RNA sequencing as a predictive tool for analyzing evolvability

Alan C. Love – (272) Temporal scale and extrinsic contributions to evolvability

ORGANIZED SESSION DIVERSE FORMAT - CD-A2

How is the Human Possible? The Hybrid Hominin, the Hybrid Mind, and Unique Relation of Embodiment to Sociality

Type of session: Roundtable

Orgs.: Lenny Moss and Victor Ximenes Marques

Chair of the session: Victor Ximenes Marques

Lenny Moss – (273) The hybrid Hominin and its evolved hybrid mind: Groundwork for a renewed Philosophical Anthropology?

Discussants:

Victor Ximenes Marques (274)

Elliot Hollingsworth (275)

Phillip Honenberger (276)

ORGANIZED SESSION STANDARD TALKS – CD-A3

The History and Philosophy of Taxonomy as an Information Science

Orgs.: Joeri Witteveen and Staffan Müller-Wille

Chair of the session: Staffan Müller-Wille

Bettina Dietz – (277) Co-authoring taxonomy in eighteenth-century botany

Joeri Witteveen – (278) Anchoring taxonomic names in a deluge of data

Staffan Müller-Wille – (279) "Good and bad species" – Anton Kerner von Marilaun, Charles Darwin, and Gregor Mendel on the ranking of species

ORGANIZED SESSION STANDARD TALKS – MINAS1

Ethnobiology: Historical, Philosophical, and Sociological Issues

Orgs.: David Ludwig and Charbel El-Hani

Chair of the session: David Ludwig

David Ludwig – (280) Revamping the metaphysics of ethnobiological classification

Natalia Hanazaki – (281) Contributions and pitfalls of current Ethnobiology

Fabio Pedro S. F. Bandeira – (282) Integrating communities values of biodiversity and traditional knowledge with scientific knowledge to environmental management: Epistemological limits and challenges

ORGANIZED SESSION STANDARD TALKS – MINAS2

Global Perspectives on Human Genetics: Past and Present

Orgs.: Edna Suárez-Díaz, Rosanna Dent and Vivette García-Deister

Chair of the session: Vivette García-Deister

Soraya De Chadarevian – (286) Human chromosomes in the atomic age

Rosanna Dent – (287) "Men of exuberant health": Indigenous subjects and the gendered study of human microevolution in midcentury Brazil

Edna Suárez-Díaz – (288) Not-so-distant neighbors: Blood diseases across the US-Mexico border in the 1960s

INDIVIDUAL PAPERS SESSION – AG-BOT

Philosophy of Evolution IV

Chair of the session: Ciprian Jeler

Ciprian Jeler – (289) Group selection and how not to define a group's fitness

François Papale – (290) The distinction between populations and individuals in the context of Darwinian explanations: A matter of integration

Tamar Schneider – (120) Ecological Interactions within the Holobiont: On the Holobiont's interactions of its microorganisms

Thursday, July 20 11:00-12:30 Parallel Sessions 12

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Roundtable

Manipulation and Causation in Biology: Genetics, Evolution and Experimental Intervention

Orgs.: Maurizio Esposito, Davide Vecchi, Gabriel Vallejos and Lorenzo Baravalle

Chair of session: Maurizio Esposito

Maurizio Esposito – (291) Handling life: Intervention and causation in Biology

Davide Vecchi – (292) Prokaryotic transcription as a test case for manipulationist accounts of developmental causation

Gabriel Vallejos – (293) Extrapolating reliable knowledge through different experimental systems

Lorenzo Baravalle – (294) Is genetic drift a force of evolution?

ORGANIZED SESSION STANDARD TALKS – CD-A1

Doing and Undoing Race

Org.: Ageliki Lefkaditou

Chair of the session: Dominic Berry

Tracy Teslow – (295) Two takes on race: Exhibitions in mid-20th century United States museums

Abigail Nieves Delgado – (296) Ways of seeing faces: Race as visible difference in facial reconstruction

Ageliki Lefkaditou – (297) Blood, bone, and DNA: Undoing race at the museum

ORGANIZED SESSION STANDARD TALKS – CD-A2

The History and Philosophy of Taxonomy as an Information Science

Orgs.: Joeri Witteveen and Staffan Müller-Wille

Chair of the session: Joeri Witteveen

Gordon McOuat – (298) The threat of sub-species: The intrusion of a taxonomic category and what it might say about meanings in taxonomic practice

Catherine Kendig – (299) Individuation, identity, and sortals in biological taxonomy

Thomas Reydon – (300) Taxa and systems as holders of information about organisms

ORGANIZED SESSION STANDARD TALKS - CD-A3

Ethnobiology: Historical, Philosophical, and Sociological Issues

Orgs.: David Ludwig and Charbel El-Hani

Chair of the session: David Ludwig

Charbel El-Hani – (301) Ethnobiological and ethnoecological research as key contributors to culturally responsive science education: Epistemological grounds and educational studies

Diego F. Valderrama-Pérez – (302) Integrating different accounts for interpreting traditional communities' knowledge in the science classroom: Contributions for dialogue, increase of students' self-esteem and sense of community belonging

Panel discussion on the relevance of ethnobiology for ISHPSSB

ORGANIZED SESSION STANDARD TALKS - MINAS1

Nuclear Environments: Geography and Locality in Atomic Age Ecology and Environmental Research

Org. and chair of the session: Judy Johns Schloegel

Joshua McGuffie – (303) Hidden atomic loci: Cooperation in radioecology at the UCLA Atomic Energy Project and the University of Washington Applied Fisheries Laboratory in the 1940s and 1950s

Alistair Sponsel – (304) The symbiosis between studies of nuclear weapons and studies of coral reefs, 1946-1977

Toshihiro Higuchi – (305) Cold War, hot spots: Global fallout, regional variations, and the question of scale in the U.S. Worldwide Radiostrontium Sampling Program

ORGANIZED SESSION STANDARD TALKS – MINAS2

Global Perspectives on Human Genetics: Past and Present

Orgs.: Edna Suárez-Díaz, Rosanna Dent and Vivette García-Deister

Chair of the session: Rosanna Dent

Elise Burton – (306) The politics of scientific collaboration and the International Biological Program in the Middle East

Vivette García-Deister & Lindsay Smith – (307) "Los migrantes desaparecidos" as a population of cognition: Crisis, unknowability, and the making of the missing

Vitor Richter – (308) Accessing prisoners' bodies: Ethical and administrative challenges in making Brazil's national DNA database

INDIVIDUAL PAPERS SESSION – MINAS3

Medicine and Health Sciences: Philosophical Perspectives

Chair of the session: Megan Delehanty

Sara Kolmes – (309) They tried to make me go to rehab

Shane N. Glackin – (310) Supervenient disease: The biological and the social in Medicine

Megan Delehanty – (311) Illness or identity?

INDIVIDUAL PAPERS SESSION – AG-BOT

Philosophy of Evolution V

Chair of the session: Ariel Jonathan Roffé

Marshall Abrams – (312) Imprecise probability in evolution and mechanism

Ariel Jonathan Roffé & Santiago Ginnobili – (314) Optimality models and the propensity interpretation of fitness

Thursday, July 20 15:30-17:00 Parallel Sessions 13

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Roundtable

History, Philosophy and Sociology of Ethnobiology: A Latin American Perspective

Orgs.: Francisco Vergara-Silva, Radamés Villagómez-Reséndiz and Tania González-Rivadeneyra

Chair of the session: Francisco Vergara-Silva

Radamés Villagómez-Reséndiz – (315) Mapping styles of ethnobiological thinking in Latin America: Two kinds of integration between biology and anthropology

Tania González-Rivadeneyra & Arturo Argueta-Villamar – (316) The meaning and use of 'biocultural' in Latin American ethnobiology

Alfredo Sáynes-Vásquez – (317) Centers, peripheries, and the historiography of ethnobiology: Eugene Hunn's periodization as a case study

Panel discussion

ORGANIZED SESSION STANDARD TALKS - CD-A1

Nuclear Environments: Geography and Locality in Atomic Age Ecology and Environmental Research

Org.: Judy Johns Schloegel

Chair of the session: Toshihiro Higuchi

E. Jerry Jessee – (318) The nuclear sacrifice zone: Fallout, science information, and the American West

Judy Johns Schloegel – (319) A classical AEC boundary dispute: Thermal studies and the Great Lakes Research Program at Argonne National Laboratory in the 1970s

Final panel discussion

ORGANIZED SESSION DIVERSE FORMAT – CD-A2

Multiple speakers session (four talks and one brief commentary)

Challenges and Opportunities of Data Integration

Org.: Sabina Leonelli

Chair of the session: James R Griesemer

Sabina Leonelli – (320) Studying plant traits across cultures: Data integration strategies in plant phenomics

David J. Colaço – (321) The interaction of technique and data: Insights from neural microscopy

Stefano Canali – (322) Integrating data in Molecular Epidemiology: The case of exposome research

Niccolò Tempini – (323) Where health and environment meet: Geolocation as invariance mechanism for integrating diverse data sources

INDIVIDUAL PAPERS SESSION - CD-A3

Philosophy of Evolution VI

Chair of the session: Roger Sansom

Rick Morris – (324) Stranger in a strange land: A forecasting account of evolutionary mismatch

Roger Sansom – (326) Why LaPlaceanism is no threat to evolutionary theory

INDIVIDUAL PAPERS SESSION – MINAS1

Cell and Molecular Biology: Philosophical Issues

Chair of the session: Stephan Guttinger

Ravi Gomatam – (328) The Central Dogma, Quantum Theory and objective semantic information

Stephan Guttinger - (012) When size matters: Lithium and what it means to be part of a cell

INDIVIDUAL PAPERS SESSION – MINAS2

Teleology, Autonomy and Agency Chair of the session: Bernard Feltz

Bernard Feltz – (330) From self-organization to autonomy

Sérgio Izidoro de Souza - (331) Reproduction and auto-

production: Kant's idea of organism

Daniel Sander Hoffmann – (332) Non-mental agency and life

INDIVIDUAL PAPERS SESSION - MINAS3

History of Biology I

Chair of the session: Olivier Perru

Marion Constance Thomas – (333) Biological and social new orders: Charles Robin (1821-1885) and Comteanism in the Third Republic

Johannes Mattes – (334) Travelling olms: Local and global perspectives on the research on *Proteus anguinus* (1700-1930)

Olivier Perru – (335) The Brothers of the Christian Schools and the botanical research at the beginning of the 20th century: Some examples of their works

INDIVIDUAL PAPERS SESSION – AG-BOT

Evolutionary Psychology and Ethics Chair of the session: Douglas Allchin

Douglas Allchin – (013) The naturalizing error

Jonatan Garcia-Campos & Saul Sarabia-Lopez – (336) What is a context in the cognitive psychology of reasoning?

Marco Antonio Correa Varella – (337) The multiple embedded functions model: A conciliatory approach to functional/adaptive understanding based on multi-layered spatio-temporal structure

Friday, July 21 9:00-10:30 Parallel Sessions 14

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Author Meets Critics

The Eugenic Mind Project

Organizer and chair of the session: Rob Wilson

Discussants

Katie Kendig (338)

Alan Love (339)

Judy Johns Schloegel (340)

Respondent

Rob Wilson

ORGANIZED SESSION DIVERSE FORMAT - CD-A1

Four-papers session – Talks and discussion (two interrelated sessions)

Organisms and Us: Part I: Conceptual, Institutional, and Social Forces Shaping Organism Choice and Use

Org. and chair of the session: Rachel A. Ankeny

Lijing Jiang – (341) From Michurin fish to transgenic carp: Material legacies of socialist science in Chinese biotech

Dook Shepherd - (342) Of windows and worlds: Foundational concepts and their roles in the study of honeybee (A.M.) cognition

Michael Dietrich – (343) Why study sex by the sea? Marine organisms and the problem of fertilization and cell cleavage

Mark Tsun On Wong – (344) Mapping institutional networks in Human and Animal Genomics: A bibliometric and 'Big Data' study, 1980–2015

ORGANIZED SESSION STANDARD TALKS - CD-A2

Species in the Age of Discordance

Org. and chair of the session: Matt Haber

Jerzy Brzozowski – (345) An anti-realist theory of reference for species names

Aleta Quinn – (346) Model reductions and competing paradigms in phylogenetic inference

Dan Molter – (347) Individual essence and species form: a lesson from polymorphic rust fungi

ORGANIZED SESSION STANDARD TALKS - CD-A3

Methodology in Non-primate Cognition

Org.: Shereen Chang

Chair of the session: Joyce Havstad

Shereen Chang – (348) Reasoning by analogy from the cognition of humans to parrots

Sidney Diamante – (349) The octopus and Cognitive Science Panel discussion

INDIVIDUAL PAPERS SESSION - MINAS1

History of Biology II

Chair of the session: João Felipe Ginefra Toni

Gustavo Barreto Vilhena de Paiva – (351) Henry of Ghent and the two-headed monster: A casuistry of the extremes of life

João Felipe Ginefra Toni & Ruth Richter – (352) Evolving morphology: 200 years of Goethe's *Zur Morphologie*

Pablo Lorenzano – (353) A structuralist analysis of Mendel's two hybridist theories and of their intertheoretical relationships

INDIVIDUAL PAPERS SESSION – MINAS2

General Epistemology and Biology II

Chair of the session: Gustavo Caponi

Yoshinari Yoshida – (354) Characterizing and evaluating a rationalist approach to biology

Rafael Ventura – (355) The logic of simulation

Paulo Jeferson Pilar Araújo – (356) The Biolinguistic enterprise: A case in epistemological anarchism?

INDIVIDUAL PAPERS SESSION - MINAS3

Genetic Drift: Theoretical and Philosophical Perspectives

Chair of the session: Cristian Saborido

Pierrick Bourrat – (357) Interpreting drift physically

Ariel Jonathan Roffé – (358) On genetic drift as an evolutionary force

Cristian Saborido, Victor Luque & Giorgio Airoldi – (359) What is the place of genetic drift in Price equation?

INDIVIDUAL PAPERS SESSION – AG-BOT

Genetics: Philosophical Perspectives

Chair of the session: Brandon Allen Conley

Qiaoying Lu – (360) Revisiting the notion of interaction in the nature-nurture debate

Brandon Allen Conley – (362) Taking genetic representation seriously

Friday, July 21 11:00-12:30 Parallel Sessions 15

ORGANIZED SESSION DIVERSE FORMAT – AG-ZOO

Four-papers session – Talks and discussion (two interrelated sessions)

Organisms and Us: Part II: Using Typical and Atypical Organisms to Represent

Org. and chair of the session: Rachel A. Ankeny

Laura Bottrill – (363) Plant blindness and model organism selection in the Cognitive Sciences

Karina Burns – (364) How much can a Koala 'bear'? A history of the development of Australian marsupial models in psychological research

Sara Green – (365) Choosing the right organism: On the role and reliability of the August Krogh Principle

Rachel A. Ankeny and **Sabina Leonelli** – (366) Using organisms as representations

ORGANIZED SESSION STANDARD TALKS - CD-A1

The Evolutionary and Psychological Bases of Mindreading, Metacognition, and Folk Epistemology

Orgs.: Ximena Gonzalez-Grandon and Edouard Machery

Chair of the session: Ximena Gonzalez-Grandon

Edouard Machery – (367) The evolution of epistemology

Ximena Gonzalez-Grandon – (368) Practical metacognition and

feeling of knowledge

Panel discussion

INDIVIDUAL PAPERS SESSION - CD-A2

Genes and Information

Chair of the session: María Cerezo

Charbel N. El-Hani – (373) Recent developments in the debates about the gene concept: The dynamic, systemic gene

María José Ferreira Ruiz & Jon Umerez – (374) Conflations in the parity thesis: Causation and information

María Cerezo – (375) Pros and cons of a causal dispositionalist theory of genes: Parity, complexity and simultaneity

INDIVIDUAL PAPERS SESSION – CD-A3

History of Biology III

Chair of the session: Gregory J. Morgan

Koen B. Tanghe & Mike Kestemont – (371) The birth of Evolutionary Biology in Great-Britain: A stylometric peek behind a 19th century veil of anonymity

Jennifer Bernard – (376) Lynn Margulis, architect of the endosymbiotic theory

Gregory J. Morgan – (377) The rise of Tumor Virology at Cold Spring Harbor Laboratory, 1968-1980

INDIVIDUAL PAPERS SESSION - MINAS1

History/Philosophy of Biology and Anthropology

Chair of the session: Susanne Lettow

Susana Gisela Lamas, Marta Crivos & Vicente Dressino – (379) Niche construction as a tool to understand parasitism: The case of a Mbyá Guaraní community

Susanne Lettow – (380) Life, Earth, human diversity. Henrik Steffen's *Anthropology* and the invention of race

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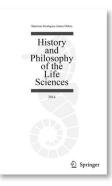
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