

## Full Program

### Sunday, 12 July

Conference registration

16:00-20:00

President's Plenary: Honoring Marjorie Grene

18:30-20:00

Dining Hall

Chair: James Griesemer

Richard Burian, Jean Gayon, Betty Smocovitis

BBQ

20:30

Wickham Terrace

### Monday, 13 July

Monday Session I

#### I.1. Ecological Language Games and Concepts for Innovation

Monday/9:00-10:30

Boatsheds

Chair: Astrid E. Schwartz

The language game "ecosystem" in ecology and beyond

[Astrid Schwarz](#)

Systems of governance and innovation: A political history of synthetic biology

[Matthew Kearnes](#)

Theories of design

[Alfred Nordmann](#)

#### I.2. Contested Objects: X, Y and Other Chromosomes

Monday/9:00-10:30

Riverview

Chair: and Commentator Marsha Richmond

How the X and Y became the Sex Chromosomes

[Sarah Richardson](#)

'More exciting than the back of the moon': Human chromosome images, 1950s-1960s

[Soraya de Chadarevian](#)

Understanding Clinical Care out of Laboratory Research: Arthur Robinson's calling to bring genetics into medicine

[Daniella Perry](#)

#### I.3. The Relevance of Psychological (Cognitive) Perspectives to Biology, I.

Monday/9:00-10:30

Kyle

Chair: Shunkichi Matsumoto

Information and meaning assignment in living systems

[Toshiyuki Nakajima](#)

Evolutionary Functional Analysis and Its Methodological Pitfall

[Shunkichi Matsumoto](#)

Implicit and Explicit Reasoning on Species

[Yuichi Amitani](#)

#### I.4. Altruism

Monday/9:00-10:30

Seminar 1

Chair: Grant Ramsey

Revisiting Comte to Understand Altruism better

[Glenn Ewan](#)

Altruism and the Levels of Selection  
Grant Ramsey

### I.5. Training and the Development of Specialty Cultures

Monday/9:00-10:30

Seminar 2

Chair: Mary Sunderland

Teaching Field Research at the Museum of Vertebrate Zoology  
Mary Sunderland

Training to Collaborate: Model Systems as Multi-Specialty Research Cultures  
Christopher DiTeresi

Education in an intersection: organizational contingencies shape careers and specialties  
Elihu Gerson

### I.6. Epistemological Integration

Monday/9:00-10:30

Kings College Chapel

Chair: Ingo Brigandt

Toward an Epistemology of Explanatory Integration in Biology  
Ingo Brigandt

Unacceptable Explanations in Biology  
Greg Frost-Arnold

A causal reformulation of statisticalist pluralism  
Marshall Abrams

Coffee break

10:30-11:00

Wickham Terrace

Monday Session II

### II.1. Emergence, Essentialism, and Natural Kinds

Monday/11:00-12:30

Boatsheds

Chair: Sandra Mitchell

Emergence: Logical, Functional and Dynamical Accounts  
Sandra Mitchell

Emergence, Levels and Distributed Causal Explanations  
Jonathan Davies

Essentialism and natural kinds in biology  
John S. Wilkins

### II.2. History of Biology from a Long Durée Perspective

Monday/11:00-12:30

Riverview

Chair: Richard Creath

The Role of History in Science  
Richard Creath

One Long Argument is Taking One Long Time: Lessons from Thomas Huxley in the Current Debates Over the Teaching of Evolution  
Sherrie Lyons

From Darwin to Davidson: Episodes in the History of a Mechanistic Theory of Evolution and Development  
Manfred Laublicher

### II.3. The Relevance of Psychological (Cognitive) Perspectives to Biology, II

Monday/11:00-12:30

Kyle

Chair: Shunkichi Matsumoto

Where is evolutionary psychology heading?  
Hisashi Nakao

Bounds of Agential Systems  
Sean Keating

Philosophical Interpretations of Mirror Neuron Research  
Laura Landen

#### II.4. Realist and Functionalist Issues in Biology, I

Monday/11:00-12:30

Seminar 1

Chair: Matt Bateman

The Role of Predictive Techniques in Functional Neuroimaging  
Matt Bateman

Landscapes in theoretical biology: how to say mathematics with images  
Sara Franceschelli

Making Meaning of Mathematics: Computer Technology in Systematics and Taxonomy  
Beckett Sterner

#### II.5. Information and Function

Monday/11:00-12:30

Seminar 2

Chair: Alan Love

Investigating Biological Information With Noise  
Alan Love

Choosing an Account of Teleofunctions: A Look at Recent Arguments From the Systematic Account  
Nicolas Frank

Mechanism, computation, and explanation in cognitive neuroscience  
David Kaplan

#### II.6. The Sociality of Biology

Monday/11:00-12:30

Kings College Chapel

Chair: Michelle Jamieson

Inheriting Epigenetics  
Noela Davis

Tolerance: On the origin of the immunological self  
Michelle Jamieson

Plastic perceptions: 'If the brain is like Play-Doh, how is it that we remain ourselves?''\*  
Florence Chiew

Lunch break

12:30-15:30

Dining Hall

Graduate Student Meeting

13:30-14:30

Riverview

Chair: Don Goodman-Wilson

All graduate students are welcome and strongly encouraged to attend. The agenda includes the election of a new student representative, having a conversation about future student-led off-year workshops, and providing a forum for students to raise issues or concerns.

Monday Session III

#### III.1. Human Embodiment and Cultural Evolution

Monday/15:30-17:30

Boatsheds

Chair: Linnda R. Caporael

Towards an Embodied-Developmental Account of Cultural Evolution  
William Wimsatt

Human Embodiment: Individuals and Groups  
Linnda R. Caporael

How Not to Get Your Knickers in a Knot: Cultural Enskilment beyond the Brain  
Emily Schultz

Earthrise, or the Globalization of the World Picture  
Benjamin Lazier

### III.2. Extending the Boundaries of Development

Monday/15:30-17:30

Riverview

Chair: Thomas Pradeu

A Mixed Self. The Role of Symbiosis in Development.

Thomas Pradeu

On Compound Individuality as a Norm for Biological Organisms

Richard Burian

How Heredity was Severed from Development, and How the Wound may Heal

Roy Amundson

Development, ageing, and stem cells

Michel Morange

### III.3. Mechanisms of Cognitive Neurobiology

Monday/15:30-17:30

Kyle

Chair: Sarah Robins

Rats! The Endless Debate over Cooper and Zubek's (1958) Maze-Learning Study

James Tabery

Two Ways to Break it Down: The Relation Between Functional and Constitutive Decomposition in the Search for Neurocognitive Mechanisms

Sarah Robins

Face recognition: neural mechanisms and the ontogeny of expertise from a philosophical point of view

Denis Forest

Are the Levels of Cognitive Neurobiology Continuous?

Carl Craver

### III.4. Fitness and Heritability

Monday/15:30-17:30

Seminar 1

Chair: Peter Takacs

From Heritability to Probability

Omri Tal

Does the propensity interpretation of fitness need propensities?

Isabelle Drouet, Francesca Merlin

"Can Biological Fitness Be Etiologically Inert and Explanatorily Efficacious?"

Peter Takacs

### III.5. Critical Issues in 20th Century Genetics

Monday/15:30-17:30

Seminar 2

Chair: Karen Frost-Arnold

The Epistemic Value of Trust in the Drosophilist Community

Karen Frost-Arnold

Biometry and Mendelism: A Philosophical Controversy

Charles Pence

Rogues and Purity in British Genetics, 1890-1914

Berris Charnley

Isolation in integration: Retracing McClintock's genealogy in the History of Genetics.

Jung Sung Uk

### III.6. The Challenges of Scientific Biography

Monday/15:30-17:30

Kings College Chapel

Chair: Michael Dietrich

The Helical Biography

Oren Harman

Who would "qualify" to write a scientific biography?

Tomoko Steen

Is this a biography? The history of ideas and the history of individuals

Mark Borrello

Scientific Biography and the Question of Vindication

Michael Dietrich

## Monday Session IV

### Roundtable: Quo Vadis ISH?

Monday/18:00-19:30

Riverview

Chair: Manfred Laubichler

The discussion in this roundtable will consider future directions for ISHPSSB.

### Dinner

19:30

Dining Hall

## Tuesday, 14 July

### Tuesday Session V

#### V.1. Aimless Models: Biologists' Use of Non-Target-Directed Models in Theorizing

Tuesday/9:00-10:30

Boatsheds

Chair: Michael Weisberg

Models, Metaphors, and Fitness Landscapes

[Brett Calcott](#)

From Non-comittal Models to Explanatory ones: Skyrms et al on the Evolution of Justice

[Amon Levy](#)

Three-Sex Mating (and other biological models without targets)

[Michael Weisberg](#)

#### V.2. Darwinian Sociocultural Evolution, I: Beyond the Modern Synthesis

Tuesday/9:00-10:30

Riverview

Chair: Marion Blute

Darwinian Sociocultural Evolution: Evolutionary Solutions to Theoretical Dilemmas in Cultural and Social Theory

[Marion Blute](#)

Reproduction, development, and modes of cultural evolution

[Joeri Witteveen](#)

The Pleasures and Perils of Darwinizing Culture (with phylogenies)

[Russell Gray](#)

#### V.3. The Manipulated Mechanism and its Discontents: Problems of Discovery, Modularity, Causation and Explanation

Tuesday/9:00-10:30

Kyle

Chair: Don Goodman-Wilson

Modularity and Mechanism and Hodgkin and Huxley: Philosophical Insights from the Voltage Clamp

[Don Goodman-Wilson](#)

Break the Toaster: Manipulationist Descriptions of Mechanisms

[Juan Montaña](#)

Mechanisms and Downward Causation

[Max Kistler](#)

#### V.4. Issues in Explanation, Models, and Data Collection in Biology

Tuesday/9:00-10:30

Seminar 1

Chair: Marta Halina

Formalism and Functionalism in Darwin's Theory of Descent with Modification

[Juan Carlos Zamora](#)

Research through the modification of false models: Discovering aflatoxin toxicity

[Marta Halina](#)

Re-Using Data, Re-Thinking Organisms: The Epistemic Impact of Databases on Model Organism Biology  
*Sabina Leonelli, [Rachel Ankeny](#)*

#### V.5. Darwin and Philosophy

Tuesday/9:00-10:30

Seminar 2

Chair: Martin Black

Karl Popper, Charles Darwin and the Most Impressive 19th century Evolutionary Philosopher  
*[Michael Bradie](#)*

Merleau-Ponty and Darwin: Retrospective Teleology in Art and Nature  
*[Susan O'Shaughnessy](#)*

Teleology in Plato, Aristotle, and Darwin  
*[Martin Black](#)*

#### V.6. Naturalizing the Normative in Nature, I: The Place of Teleology and Normativity in Biology

Tuesday/9:00-10:30

Kings College Chapel

Chair: Dan Nicholson

It's the Teleology, Stupid! How to Get Started with Biology  
*[Georg Toepfer](#)*

The Normative Nexus and the Nature of Functional Stability  
*[James Barham](#)*

Natural Sources of Normativity  
*[Wayne Christensen](#)*

Coffee break

10:30-11:00

Wickham Terrace

Tuesday Session VI

#### VI.1. Trends in the History of 20th Century Genetics

Tuesday/11:00-12:30

Boatsheds

Chair: Luis Campos

Life by Design: 'Genetic Engineering' From the Experimental Garden to Synthetic Biology  
*[Luis Campos](#)*

Genetic drift is not a fiction  
*[Ryota Morimoto](#)*

Sewall Wright's analysis of the distribution of flower color in *Linanthus parryae*, 1941–1978  
*[Yoichi Ishida](#)*

#### VI.2. Darwinian Sociocultural Evolution, II: Beyond the Modern Synthesis

Tuesday/11:00-12:30

Riverview

Chair: Maria Kronfeldner

The evolution of social learning by imitation  
*[Paulo Abrantes](#)*

The Role of Organic Selection in Social and Cultural Evolution  
*[Thomas Johnson](#)*

Won't you please unite? On Darwinism, grand theory and the disciplinary structure of science  
*[Maria Kronfeldner](#)*

#### VI.3. Digital Dissemination Roundtable

Tuesday/11:00-12:30

Kyle

Chair: Jane Maienschein

Digital Dissemination Roundtable  
*[Jane Maienschein](#)*

#### VI.4. Evolution in History

Tuesday/11:00-12:30

Seminar 1

Chair: Margaret Schabas

The Unusual Relationship between Intelligent Design and Evolution; or Are Intelligent Design and Evolutionary Theory Kissing Cousins?

*Daniel Deen*

The Evolutionary Context of Hume's Political Economy

*Margaret Schabas*

First and Last Lamarckians? Erasmus and Charles Darwin

*Christopher Smith*

#### VI.5. Science and the Public

Tuesday/11:00-12:30

Seminar 2

Chair: Alexandra Mareschal

The emergence and narratives of public voices and coastal/landscape guardian groups in the 'industrialisation' of the landscape under the impact of wind farms: towards inclusion or placation?

*Richard Hindmarsh*

The Interaction of Marine Conservation and Human Poverty in the Philippines

*Alexandra Mareschal*

Constructing Citizen Scientists in Seattle: The Pacific Science Center's Effort to Promote the Public Understanding of Science in the 1960s

*Erik Ellis*

#### VI.6. Naturalizing the Normative in Nature, II: Historical Perspectives on the Naturalization of Teleology

Tuesday/11:00-12:30

Kings College Chapel

Chair: Lenny Moss

The Lenoir Thesis Revisited

*John Zammito*

Hegel's Notion of Nature's Purpose

*Francesca Micheli*

Moving Behind Schrödinger: How Was Teleology Eliminated in Early Molecular Biology?

*Phillip R. Sloan*

Lunch break

12:30-15:30

Dining Hall

Council Meeting I

Tuesday/12:30

Davies Room

Tuesday Session VII

#### VII.1. Species and Taxonomy

Tuesday/15:30-17:30

Boatsheds

Chair: Gal Kober

No Classes, No Individuals, No Species: The Dissolution of 'The Species Problem'

*Gal Kober*

The Levels of Lineage Problem

*Matt Haber*

Pattern or Phylogenetic Cladism?: A Reexamination

*Christopher Pearson*

"A statement of taxonomic ignorance": the Burgess Shale and the meaning of phyla

*Keynyn Brysse*

#### VII.2. The Genial Gene: Author Meets Critics

Tuesday/15:30-17:30

Riverview

Chair: Angela Potochnik

Sex, selection, and history

[Erika Milam](#)

Differentiating natural selection, sexual selection, and social selection

[Roberta Millstein](#)

A dispute over the basics of nature

[Angela Potochnik](#)

### **VII.3. Values in Environmental Science and Policy**

**Tuesday/15:30-17:30**

**Kyle**

**Chair: Kevin Elliott and James Justus**

The Status of the Fact-Value Distinction in the Teleological Sciences

[James Justus](#)

The Ethical Significance of Language in the Environmental Sciences

[Kevin Elliott](#)

The Natural Environment is Valuable, But Not Infinitely Valuable

[Mark Colyvan](#)

Discounting, Growth, Uncertainty and Environmental Decisions

[Fabien Medvecky](#)

### **VII.4. History of Developmental Biology and Genetics**

**Tuesday/15:30-17:30**

**Seminar 1**

**Chair: Grant Yamashita**

Integrated physiological, developmental, and genetic concerns in Richard Goldschmidt's macroevolutionary thinking

[Dennis Pozeqa](#)

Beyond Embryology: The Foundations and Evolution of Developmental Biology in the Mid-Twentieth Century

[Nathan Crowe](#)

Richard Owen and a theory of heredity: what happened?

[Grant Yamashita](#)

Edward Stuart Russell's Organismal Philosophy of Biology

[Kelly Hamilton](#)

### **VII.5. New Directions in the Philosophy of Biology**

**Tuesday/15:30-17:30**

**Seminar 2**

**Chair: Corinne Bloch**

Apes at Evensong? Some Scepticism about Kitcher's Plans for *Living with Darwin*

[Dominic Murphy](#)

Biological "Information": A Metaphor Run Amok

[Kent Van Cleave](#)

Classification and Identification in Science: The Roles of Definitions

[Corinne Bloch](#)

What exactly is a theoretical synthesis? Integrating theories in the life sciences.

[Tilmann Massey](#)

### **VII.6. Darwinism, Genetics, and Medicine in Society**

**Tuesday/15:30-17:30**

**Kings College Chapel**

**Chair: Ana Barahona**

Images of Women in Early Genetics

[Marsha Richmond](#)

The introduction of Darwinism in Mexico in the late 19th Century.

[Ana Barahona](#)

The Locus of Culture in the Making Knowledge of Racial Differences: A Case of Ethnopsychopharmacology in Asian-Pacific Region

[Sungwoo Ahn](#)

Sterilization Program in California and its relation with Semen Banks

[Alicia Villela G.](#)

**Coffee break**

17:30-18:00

**Wickham Terrace****Tuesday Session VIII****VIII.1. Biology and Ethics**

Tuesday/18:00-19:30

**Boatsheds****Chair: Elizabeth O'Neill**

Human Dignity and Problematic Bodies – A Return of the Social Darwinism?

Anna M. Tapola

Constructing ethical systems from evolutionary theory during the modern synthesis: An examination of the work of Julian Huxley and C.H. Waddington

Elizabeth O'Neill

Is it time for a relativist turn in ethics?

Katinka Quintelier**VIII.2. How to Really Talk about Cognition across Phyla**

Tuesday/18:00-19:30

**Riverview****Chair: Pamela Lyon**

The great successes in molecular biology of the last half century were enabled in part by the Darwinian assumption of a certain degree of continuity among living things as a result of evolution. Research on model organisms as simple as bacteria and yeast has provided much of what we know about most core biological processes and functions (e.g., inheritance, respiration, signal transduction, development, circadian timing). Genomic comparisons of hundreds of organisms as different as worms and humans suggest that many biological mechanisms, including those underlying information processing, are highly conserved. Yet when it comes to describing cognitive capacities comparison across phyla gets tricky very quickly. Scare quotes and really enter discourse in ways that they don't in discussions of other biological functions. Is bacterial 'memory' really memory? Do amoeba really 'communicate' when they aggregate to form fruiting bodies, or is that just a way of talking? Do male guppies really 'evaluate' the competition when they 'observe' contests before challenging? Do chimps really 'empathize' with injured conspecifics? The roundtable participants are collaborators in a multidisciplinary project (Foundations for a Cognitive Biology, DP0880559) that seeks to develop a basic conceptual toolkit for describing cognitive phenomena across phyla. The issues to be addressed in the session are:

- simple obstacles to recognizing structural similarity
- structure and mechanism (not just function) in cognitive explanation
- integrating explanation across multiple levels
- the importance of 'basic behaviour' to understanding cognition
- developmental plasticity and the cognitive toolkit
- conceptual primitives as an entry point

**VIII.3. Close Analysis of Darwin's Theory**

Tuesday/18:00-19:30

**Kyle****Chair: Leonore Miller**

The Many Interpretations of Darwin's Principle of Divergence: How Darwin Went Wrong

Leonore MillerDarwin the Poststructuralist? A Non-Modern and Intradisciplinary Perspective on Reading/Writing Matter/Meaning in *Origin of Species*Fiona Druitt

Darwin's theory of emotion and the impact of his legacy in neuroscience.

Ximena Gonzalez-Grandón, Carlos Viesca-Treviño**VIII.4. Philosophical Issues in Evolutionary Biology**

Tuesday/18:00-19:30

**Seminar 1****Chair: Joshua Filler**

Newtonian Forces and Evolutionary Biology

Joshua Filler

Extrapolation in biology

Megan Delehanty

### VIII.5. Understanding Evolutionary Patterns and Biological Discovery

Tuesday/18:00-19:30

Seminar 2

Chair: Ralph Schroeder

Macro-Patterns and Micro-theory: What would it take to show an explanatory gap?  
Stefan Linquist

Community-Driven Discovery in Biology  
*Lucy Power, Ralph Schroeder, Eric Meyer*

Survey on Organizational Culture and Innovation  
*Akram Hadizadeh, Marjan Farajian, Rohollah Alikhan Gorgani*

### VIII.6. Naturalizing the Normative in Nature, III: The Relation between Mechanism and Teleology

Tuesday/18:00-19:30

Kings College Chapel

Chair: John Zammito

Mechanism, Emergence and Miscibility  
Denis Walsh

The Concept of Mechanism in Biology  
Dan Nicholson

But What is the Mechanism?: Teleology, Detachment and Explanation Beyond the Confusions of 'The New Mechanistic Philosophy'.  
Lenny Moss, Dan Nicholson

Dinner

19:30

Dining Hall

### Workshop. Future Perspectives for Graduate Students and Post-Docs

Tuesday/20:30

Kyle

Chair: Manfred Laubichler

An open workshop for faculty, graduate students, and post-docs on the status of HPSSB in 2009 and career opportunities in the future.

### Workshop. Heterogeneity and Heritability: Responses from Sociology, Philosophy, and History of Biology

Tuesday/20:45

Riverview

Chair: Peter Taylor

There is long and politically charged history of scientific and policy debates about the heritability of IQ test scores and genetic explanations of the differences between the mean scores for racial groups. In a series of papers, Peter Taylor argues that, despite the attention given to these debates by researchers and other critical commentators, including science studies scholars, significant conceptual and methodological issues in quantitative and behavioral genetics have been overlooked or not well appreciated. In particular, when similar responses of different genetically defined types are observed, it should not be assumed that similar conjunctions of genetic or environmental factors have been involved in producing those responses. Allowing for the possibility of heterogeneity of factors opens up many issues for the different fields in science studies. An overview of the arguments about heritability and heterogeneity and of the issues above is presented in Taylor, P. J. (2008) "The under-recognized implications of heterogeneity: Opportunities for fresh views on scientific, philosophical, and social debates about heritability," *History and Philosophy of the Life Sciences*, 30(3-4), in press. This session takes the form of a dialogue process in which participants respond to the arguments and issues raised in the paper above (available via <http://sicw.wikispaces.com/ISHPSSB09>) and explore their implications for their own inquiries. The dialogue is preceded by a 7-minute presentation by Taylor to sketch the issues and an introduction to the guidelines for a dialogue process. After that, anyone who indicates that they want a turn to contribute has a chance to join the dialogue. The timing allows for input from afar by internet-mediated conference call (see <http://www.talkshoe.com/tc/16934>; 8:45pm Australian EST =10.45am GMT = 6.45am US EST) by phone or Skype. For more details, see: <http://sicw.wikispaces.com/ISHPSSB09>.

**Wednesday, 15 July**

**Wednesday Session IX**

**IX.1. Systems Biology and Artificial Life**

**Wednesday/9:00-10:30 Boatsheds Chair: Pierre-Alain Braillard**

Systems biology: towards a new theoretical biology?  
[Pierre-Alain Braillard](#)

Immersive Worlds and Artificial Life  
[Iliana Hernández](#)

A Husserlian Critique of the Formalization of Nature in Systems Biology  
[Constantinos Mekios](#)

**IX.2. Nurture Goes Molecular, I: Epigenetic Mechanisms and the Innate/Acquired Distinction**

**Wednesday/9:00-10:30 Riverview Chair: Karola Stotz**

Transgenerational Epigenetic Effects  
[Emma Whitelaw](#)

Developmental epigenetics and human health: implications for concepts of innateness, nature and nurture  
[Peter Gluckman](#)

What if the genome is meta-stable?  
[Ehud Lamm](#)

**IX.3. Museum-Based Field Natural History and Biological Phenomena**

**Wednesday/9:00-10:30 Kyle Chair: Kristin Johnson**

Ordering the Diversity of Naturalists: the foundation of the International Congresses of Entomology  
[Kristin Johnson](#)

Are We There Yet? or, the Problem of Locality in Biodiversity Resurveys  
[James Griesemer](#), [Ayelet Shavit](#)

Weird Science: The Platypus as Problem in the History of Biology  
[Joanna Radin](#)

**IX.4. Adaptation, Constraint, and Functional Design**

**Wednesday/9:00-10:30 Seminar 1 Chair: Roger Sansom**

"The lung and the moth": A contextual dissection of functional design in biology  
[Luis Ramírez Trejo](#)

Why Don't Zebras Have Machine Guns? Adaptation, Selection, and Constraints in Evolutionary Theory  
[Timothy Shanahan](#)

Selection and constraint in evolutionary change: a case study on crossbills.  
[Roger Sansom](#), [Pim Edelaar](#)

**IX.5. Human Evolution, Psychology, and Culture**

**Wednesday/9:00-10:30 Seminar 2 Chair: Alkistis Elliott-Graves**

Why early humans did not think deductively.  
[Alkistis Elliott-Graves](#)

Evolutionary Psychologists Don't Practise What They Preach  
[Justine Kingsbury](#)

Tinbergen's Four Questions, Culture, and Evolutionary Human Sciences  
[Tomi Kokkonen](#)

#### **IX.6. Wrangling with the Umwelt: Every Body Has To Do It**

**Wednesday/9:00-10:30 Kings College Chapel Chair: Pamela Lyon**

The Umwelt of a bacterial predator: *Myxococcus xanthus*

*Pamela Lyon*

Representing a world

*Jon Opie*

How *Sphex* broke out of its loop (while some humans are still at it)

*Fred Keijzer*

Commentary

*Colin Allen*

**Coffee break**

**10:30-11:00**

**Wickham Terrace**

**Wednesday Session X**

#### **X.1. Thus From the War of Nature: Caprice, Contingency and the Dreadfulness of It All**

**Wednesday/11:00-12:30 Boatsheds Chair: John Beatty**

Not His Caprice, But Hers: Absolving God, Condemning Nature?

*John Beatty*

The Dark Side of Darwinism: Caprice, Deceit, Degeneration

*Staffan Müller-Wille*

“Monkeys into Men and Men into Monkeys: Caprice and Contingency in Charles Kingsley’s *Water Babies*”

*Piers Hale*

#### **X.2. Nurture Goes Molecular, II: Epigenetic Mechanisms and the Innate/Acquired Distinction**

**Wednesday/11:00-12:30 Riverview Chair: Paul Griffiths**

Bacterial Epigenetics and the Developmental Niche

*John Dupré*

Parental Effects in Development and Evolution

*Tobias Uller, Alexander Badyaev*

Epigenetics, Parental Effects, and Ontogenetic Niche Construction: A Philosophical Analysis of Extended Inheritance

*Karola Stotz*

#### **X.3. Rethinking Vitalism: Case Studies from the History and Philosophy of Medicine**

**Wednesday/11:00-12:30 Kyle Chair: Charles T. Wolfe**

“Accompanied by Psychosomatic Jitters”: Vitalism, History and Psychiatric Disorders

*Sean Dyde*

Old Bones: The vitalist turn in orthopaedic explanations

*Chris Degeling*

The Return of Vitalism: Canguilhem and French Biophilosophy in the 1960s

*Charles Wolfe*

#### **X.4. Developmental Systems and Generative Entrenchment**

**Wednesday/11:00-12:30 Seminar 1 Chair: Jacob Stegenga**

Generative Entrenchment: (Semi-)(Un-)Layered (Inter-)(In-)Dependencies

*Jacob Stegenga*

Developmental Systems Theory and its Discontents: O-E Interaction, Constraints, and Macroevolution

*Trevor Pearce*

**X.5. Theoretical Biology and Artificial Life**

**Wednesday/11:00-12:30 Seminar 2 Chair: Owen Woodberry**

Punctuated Equilibrium in an ALife speciation simulation  
Owen Woodberry, Kevin Korb, Ann Nicholson

Quantum Indeterminism and Microevolution  
Benjamin Jantzen

Prebiotic Chemical Evolution  
Christophe Malaterre

**X.6. Biology of Man: Race, Sex, and the State**

**Wednesday/11:00-12:30 Kings College Chapel Chair: Sheila Weiss**

Otmar Freiherr von Verschuer and the Symbiosis of Human Heredity and Politics  
During the Adenauer Era  
Sheila Weiss

Herbert Spencer's Institutional Influence on French Imperialism: L'Armée Coloniale and  
*La force noire*, 1880-1920  
Joe Lunn

Sciences of Sex in Interwar Europe: Contesting Nature-State Relations and Boundaries  
Jason Byron

Life in Motion: Sex, Truth, and Their Transformations in China  
Howard H. Chiang

**Lunch break**

**12:30-15:30 Dining Hall**

**Wednesday Session XI**

**XI.1. Ecology, Belief and Environmental Policy: Finding Ways Forward in the Atomic Age**

**Wednesday, 15:30-17:30 Boatsheds Chair: Garland Allen**

The Path to the Endangered Species Act  
Johnny Winston

Ecumenism, Ecology, and "Ecological Theology": The Case of the World Council of  
Churches, 1961-1979  
David Steffes

The Phreatophyte Subcommittee: Science, bureaucracy and scapegoating  
Matt Chew

Essentializing Invasion  
Nathan Smith

**XI.2. Representing the History of Life by Trees: Scientific, Historical and Philosophical Issues**

**Wednesday/15:30-17:30 Riverview Chair: Richard Burian**

Trees and networks before and after Darwin  
Mark Ragan

Philosophy of Biology, Ernst Mayr, and the Tree of Life  
Maureen O'Malley

Trees, Trellises, and the Garden of Eden  
Lisa Gannett

On Arguments Over The Tree of Life  
Robert A. Wilson

### **XI.3. Economical Concepts, Evolutionary Biology, and Adaptive Rationality: Exploring the Interplay**

**Wednesday/15:30-17:30 Kyle**

**Chair: Philippe Huneman**

Model pluralism, concepts-pluralism and process-pluralism in the study of cooperation  
[Philippe Huneman](#)

Evolutionary economics: what relationship with evolutionary biology  
[Jean Gayon](#)

Invisible hand and the tragic commons in evolutionary theory  
[Johannes Martens](#)

Adaptive Rationality: An evolutionary perspective on cognitive bias  
[Andreas Wilke](#), [Martie Haselton](#), [Christophe Heintz](#)

### **XI.4. Mechanisms and Mechanistic Explanations**

**Wednesday/15:30-17:30 Seminar 1**

**Chair: Dan Brooks**

Concording mechanisms: Unifying explanations of male homosexuality  
[Fabrizio McManus](#)

The "New Mechanism" as an Interface for Evolutionary and Constitutive Explanation  
[Dan Brooks](#)

Mechanism and Natural Selection  
[Joyce Havstad](#)

Non-explanatory biological mechanisms  
[Ulrich Krohs](#)

### **XI.5. Biological Theory and Conceptual Power: Studies in Scientific Practice**

**Wednesday/15:30-17:30 Seminar 2**

**Chair: Kevin Amidon**

Weismann's Theoretical Biology and the Debate over Legitimate Scientific Practice, 1850-1900  
[Lukas Rieppel](#)

Switches and batteries: two models of gene regulation and historiographical myths  
[Vivette Garcia](#), [Edna Suarez](#)

Styles of Scientific Reasoning in Cybernetics and the Sciences of Brain and Mind  
[Tara Abraham](#)

The biophysics of the developing embryo: a new challenge in theoretical integration.  
[Laura Nuño de la Rosa](#)

### **XI.6. Conceptual Issues in Evo-Devo**

**Wednesday/15:30-17:30 Kings College Chapel**

**Chair: Ellen Clarke**

How different types of modularity affect evolvability during evolutionary transitions in individuality  
[Ellen Clarke](#)

Behavior, a Neglected Component of Evolutionary Transitions.  
[Michael Trestman](#)

Evincing Baupläne: Why Body Plans are Real and Why We Should Care  
[Mark Ulett](#)

Steps towards an ecoevodevo synthesis—and beyond?  
[Peter Taylor](#)

**Coffee break**

**17:30-18:00**

**Wickham Terrace**

**ISHPSSB Members Meeting**

**18:00-19:30**

**Riverview**

All Invited

## Conference Banquet

19:30 **Hillstone Country Club**  
Reservation required.

## Thursday, 16 July

### Thursday Session XII

#### XII.1. Theoretical Biology and Biosemiotics

Thursday/9:00-10:30 **Boatsheds** **Chair: Ruth Emilia Garcia Chico**

"Physical Space in Biological Molecules"

*José Luis González Recio, Ruth García Chico*

Levins' Strategy of Model Building, Loop Analysis and Ecological Mechanisms  
*Viorel Pâslaru*

Mood and tense in the language of the genes  
*Brant Pridmore*

Biosemiotics must be grounded in an organizational approach to functionality  
*John Collier*

#### XII.2. The Evolution of the Capacity of Culture, I

Thursday/9:00-10:30 **Riverview** **Chair: Ben Jeffares**

Apprentice Learning and Human Evolution  
*Kim Sterelny*

The Evolution of Cultural Diversity  
*James Maclaurin*

The Evolution of Technical Competence  
*Ben Jeffares*

#### XII.3. Themes in the History of Molecular Biology and Immunology

Thursday/9:00-10:30 **Kyle** **Chair: Neeraja Sankaran**

Rosalind Franklin and the DNA Double-Helix: Historiographical Interpretations  
*Marcos Rodrigues da Silva*

The Bacteriophage, Its Role in Immunology: The impact of Frank Macfarlane Burnet's Early Research on Phages on the Development of His Scientific Style.  
*Neeraja Sankaran*

Models and the History of the Biological Studies of Aging  
*Maria Strecht Almeida, Miguel Gomes, Susana Lopes*

Peter Brian Medawar and the Making of Immunological Tolerance  
*Hyung Wook Park*

#### XII.4. Topics in Conservation Biology

Thursday/9:00-10:30 **Seminar 1** **Chair: Christopher Eliot**

A Value Free Framework for Conservation Biology.  
*Clement Loo*

Stability and normality in biodiversity conservation  
*Julien Delord*

Do ecological communities need to exist?  
*Christopher Eliot*

#### XII.5. Historical Issues in Twentieth Century Biology

Thursday/9:00-10:30 **Seminar 2** **Chair: Christina Brandt**

When Style Matters: The Controversy between A. Weismann and T. H. Morgan on Regenerative Phenomena

[Maurizio Esposito](#)

The metaphor of "nuclear reprogramming": 1960s and early 1970s cloning research

[Christina Brandt](#)

Imperial Ornithology: Hunting, Natural History, and Japanese Empire Building

[Akihisa Setoguchi](#)

**Coffee break**

10:30-11:00

**Wickham Terrace**

**Thursday Session XIII**

**XIII.1. Realist and Functionalist Issues in Biology, II**

Thursday/11:00-12:30

**Boatsheds**

**Chair: Michael Devitt**

Natural Kinds and Biological Realisms

[Michael Devitt](#)

The Speciation of Species

[Eric Oberheim](#)

Reconsidering individuality

[Senji Tanaka](#)

In Search for a Temporal Ontology for Biology: Philosophical Considerations on Applying Discrete and Continuous Time-Series for Grounding Biological Processes

[Luciana Garbayo](#)

**XIII.2. The Evolution of the Capacity for Culture, II**

Thursday/11:00-12:30

**Riverview**

**Chair: Kim Sterelny**

Pointing the finger. Ostensive definition: the missing link in language evolution.

[Fiona Cowie](#)

Behavioural evolution: The problem of many kinds of minds

[Rachael Brown](#)

The Relevance of Track-ways Reading to the Co-evolution of Human Cognition and Culture

[Kim Shaw-Williams](#)

Culturally-Mediated Social Selection: A Revolutionary Evolutionary Transition?

[William Catton](#)

**XIII.3. Thinking Formally About Evolutionary Change: Detection and Ontology**

Thursday/11:00-12:30

**Kyle**

**Chair: Patrick Forber**

Detecting the signature of selection

[Patrick Forber](#)

Evolutionary nominalism

[Peter Godfrey-Smith](#)

Is it just hype? Measuring and predicting cultural evolution online

[Kenneth Reisman](#)

**XIII.4. Topics in the History of Ecology**

Thursday/11:00-12:30

**Seminar 1**

**Chair: Brad Wilson**

Mechanisms in Evolution and Ecology

[Bradley Wilson](#)

Rousseau's Anthropocentrism versus Evolution

[Jeu Jenq Yuann](#)

**XIII.5. The Developmental Synthesis**

**Thursday/11:00-12:30**

**Seminar 2**

**Chair: Lindsay Craig**

The Structure of the Developmental Synthesis

Lindsay Craig

Neo-Darwinism and sociobiology in the postgenomic era

Laurence Perbal

Developmental Explanations of Evolution: a Challenge to Neo-Darwinism?

Stavros Ioannidis

**Lunch break**

**12:30**

**Dining Hall**

**Council Meeting II**

**Thursday/12:30**

**Davies Room**