

# Sabina Leonelli

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**Senior Lecturer**, Department of Sociology, Philosophy and Anthropology & Egenis, University of Exeter

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Sociology and Philosophy <http://socialsciences.exeter.ac.uk/sociology/staff/leonelli/>  
Global Young Academy <http://www.globalyoungacademy.org/members/s.leonelli>  
GARNet <http://www.garnetcommunity.org.uk/advisers/sabina-leonelli>

## Education

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2009–2010 Postgraduate Certificate of Academic Practice, University of Exeter: **Fellow of the Higher Education Academy.**  
2002–2006 Department of Philosophy, Vrije Universiteit Amsterdam: **PhD in Philosophy of Science.**  
2002–2006 Netherlands Graduate Research School in Science, Technology and Modern Culture (WTMC).  
2000–2001 Department of Philosophy, Logic and Scientific Method, London School of Economics and Political Science (LSE): **MSc Philosophy and History of Science.**  
1997–2000 Department of Science and Technology Studies, University College London: **BSc History, Philosophy and Social Studies of Science** (Hons).

## Previous Appointments

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2008-2011 **Research Fellow.** ESRC Centre for Genomics in Society, University of Exeter.  
2006–2008 **Research Officer.** Leverhulme/ESRC Project 'How Well Do 'Facts' Travel?', Department of Economic History, LSE.  
2002–2006 **Research Assistant.** Project 'Understanding Scientific Understanding', VU Amsterdam.  
2000–2002 **Research Assistant.** Centre for the Philosophy of the Natural and Social Sciences, LSE.

## Professional Service

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**Associate Editor** of *History and Philosophy of the Life Sciences*.

**Board member** of the Society for the Philosophy of Science in Practice (SPSP), the European Advanced Seminar in the Philosophy of Biology (EASPB), the Genomic Arabidopsis Resources Network (GARNet), the Exeter Initiative for Statistics and its Applications (ExIStA) and the journals *The Reasoner* and *Medicina e Storia* (official journal of BIOM, the Italian Society for History, Philosophy and Social Studies of Biology).

**Full Member** of the Global Young Academy (GYA; 2012-2016) and the Konrad Lorenz Institute for Evolution and Cognition Research. Member of the GYA Global Policy Group.

**Founder** of the UK Network for History, Philosophy and Sociology of Plant Science.

**Core member** of the Knowledge/Value Research Network led by the University of Chicago (<http://knowledge-value.uchicago.edu/index.html>).

**Reviewer** for *Studies in the History and Philosophy of Science (Parts A and C)*, *International Studies in the Philosophy of Science*, *British Journal for the Philosophy of Science*, *Historical Studies in the Natural Sciences*, *Synthese*, *Philosophy of Science*, *Erkenntnis*, *Social Studies of Science*, *Biology and Philosophy*, *Science, Technology & Human Values*, *BioSocieties*, *Poetics*, *European Journal for Philosophy of Science*, *Palgrave-MacMillan Book Series New Directions in Philosophy of Science*.

**Referee** for national funding bodies, including BBSRC, NSF (National Science Foundation), FWO (Belgian Fund for Scientific Research), NWO (Netherlands Organisation for Scientific Research), ESRC, Social Science and Humanities Research Council (Canada), Italian Research and University Evaluation Agency (ANVUR).

**Chair** of the Foundation for Interdisciplinary Research Methodology (2005–2008).

**Founder** and **Editor-in-Chief** of the Graduate Journal of Social Science (2003–2007).

**Journal articles**

- Leonelli, S., Ramsden, E., Nelson, N. and Ankeny, R.A. (accepted pending revisions) Making Organisms Model Humans: Situated Models in Alcohol Research. *Science in Context*.
- Ankeny, R.A. and Leonelli, S. (accepted pending revisions) Credit attribution and knowledge production in post-genomic biology: who is an author and does it matter? For inclusion in: Hallam, S. and Richardson, S. (eds) *Postgenomics*. Duke University Press.
- Leonelli, S. (forthcoming) Integrating Data to Acquire New Knowledge: Three Modes of Integration in Plant Science. *Studies in the History and Philosophy of the Biological and Biomedical Sciences: Part C*.
- Leonelli, S. (forthcoming) Data Interpretation in the Digital Age. *Perspectives on Science*.
- Sunder Rajan, K. and Leonelli, S. (forthcoming) Biomedical Trans-actions: Translational Research, Post-Genomics and Knowledge/Value. *Public Culture*.
- Leonelli, S. (2012) Classificatory Theory in Biology. *Biological Theory*, 7(1). Online First.
- Leonelli, S., Charnley, B, Webb, A and Bastow, R. (2012) Under One Leaf. A Historical Perspective on the UK Plant Science Federation. *New Phytologist* 195(1): 10-13.
- Leonelli, S. (2012) Classificatory Theory in Data-Intensive Science: The Case of Open Biomedical Ontologies. *International Studies in the Philosophy of Science* 26(1): 47-65.
- Leonelli, S. (2012) When Humans Are the Exception: Cross-Species Databases at the Interface of Clinical and Biological Research. *Social Studies of Science* 42(2): 214-236.
- Leonelli, S. (2012) Making Sense of Data-Driven Research in the Biological and the Biomedical Sciences. *Studies in the History and Philosophy of the Biological and Biomedical Sciences* 43(1): 1-3.
- Leonelli, S. and Ankeny, R.A. (2012) Re-Thinking Organisms: The Epistemic Impact of Databases on Model Organism Biology. *Studies in the History and Philosophy of the Biological and Biomedical Sciences* 43(1): 29-36.
- Leonelli, S., Diehl, A.D., Christie, K.R., Harris, M.A. and Lomax, J. (2011) How the Gene Ontology Evolves. *BMC Bioinformatics*, 12:325 (tagged 'highly accessed').
- Ankeny, R.A. and Leonelli, S. (2011) Bioethics Authorship in Context: How Trends in Biomedicine Challenge Bioethics. *The American Journal of Bioethics*, 11(10): 22-24.
- Ankeny, R.A. and Leonelli, S. (2011) What is so special about model organisms? *Studies in the History and the Philosophy of Science: Part A*, 42 (2): 313-323.
- O'Malley, M.A. and Leonelli, S. (2011) The scientific importance of asking questions at meetings: Why virtual debate is not enough, *BioEssays*, 33 (1): 35-37.
- Bastow, R. and Leonelli, S. (2010) Sustainable digital infrastructure. *EMBO Reports*, 11(10): 730-735. Reports on this article have appeared in several news outlets, including *Science Daily*, *Science Business*, *Medical News Today*, *Science News Daily*, and *E-Science News*.
- Leonelli, S. (2010) Machine Science: The Human Side. *Science*, 330 (6002): 317.
- Leonelli, S. (2010) Documenting the Emergence of Bio-Ontologies: Or, Why Researching Bioinformatics Requires HPSSB. *History and Philosophy of the Life Sciences*, 32, 1: 105-126.
- Leonelli, S. and Howlett, P. (2009) How Well Do 'Facts' Travel? (editorial to special issue) *Graduate Journal of Social Science*, 6, 2: 1-2.
- Leonelli, S. (2009) On the Locality of Data and Claims About Phenomena. *Philosophy of Science*, 76, 5: 737-749.
- Leonelli, S. (2008) Bio-Ontologies as Tools for Integration in Biology. *Biological Theory*, 3, 1: 8-11.
- Leonelli, S. (2008) Performing Abstraction. Two Ways of Modelling *Arabidopsis thaliana*. *Biology and Philosophy*, 23, 4: 509-528.
- Leonelli, S. (2007) Growing Weed, Producing Knowledge. An Epistemic History of *Arabidopsis thaliana*. *History and Philosophy of the Life Sciences*, 29, 2: 55-87.
- Leonelli, S. (2007) Naar een Open Dialoog Tussen de Wetenschap en de Wetenschapsstudies. Congresbespreking. *Algemeen Nederlands Tijdschrift Wijsbegeerte*, 99, 3: 237-240.
- Leonelli, S. (2007) *Arabidopsis*, the Botanical Drosophila: From Mouse-Cress to Model Organism. Review Article. *Endeavour*, 31, 1: 34-38.
- Leonelli, S. (2006) Forming Civic Consciousness: A Participant's View on the European Social Forum. *Re-Public: Re-Imagining Democracy*. <http://www.republic.gr/en/?p=22#more-22>
- Leonelli, S. (2005) Pluralism and Normativity in Interdisciplinary Research, *Graduate Journal of Social Science*, Vol. 2, 1:i-vi.

- Leonelli, S. and Reydon, T.A.C. (2005) Philosophy of Biology in Flanders and the Netherlands, *Acta Biotheoretica*, Vol. 53, No. 2:55-56.
- Chang, H. and Leonelli, S. (2005) Infrared Metaphysics: the Elusive Ontology of Radiation (Part 1), *Studies in the History and Philosophy of Science: Part A*, 36, 3:477-508.
- Chang H. and Leonelli, S. (2005) Infrared Metaphysics: Theory-Choice and the Ontology of Radiation (Part 2), *Studies in the History and Philosophy of Science: Part A*, 36, 4:687-706.
- Ortmann, S. and Leonelli, S. (2005) Unity in Social Science? *Graduate Journal of Social Science*, Vol.2,2:i-v.
- Leonelli, S. (2004) Introducing the GJSS: Why a Graduate Journal on Interdisciplinary Methodology?, *Graduate Journal of Social Science* Vol. 1, 1:i-vii.

### **Book**

- de Regt, H., Leonelli, S. and Eigner, K. (eds.) (2009) *Scientific Understanding: A Philosophical Perspective*. Pittsburgh University Press.

### **Edited Special Issues**

- 'Translational Research in the Life Sciences' (with K. Sunder Rajan, forthcoming 2013) Folio section, *Public Culture*.
- 'Bigger, Faster, Better? Rhetorics and Practices of Large-Scale Research in Contemporary Bioscience' (with G. Davies and E. Frow, under review) *BioSocieties*.
- 'Data-driven research in the biological and biomedical sciences' (2012) *Studies in the History and the Philosophy of the Biological and Biomedical Sciences: Part C* 43(1).
- 'How Well Do Facts Travel?' (2009) *Graduate Journal of Social Science*.
- 'The Philosophy of Biology in the Netherlands and Flanders' (with T.A.C. Reydon, 2005) *Acta Biotheoretica*.
- 'Unity in Social Science' (with S. Ortmann, 2005) *Graduate Journal of Social Science*.

### **Book Chapters**

- Leonelli, S. (2010) Packaging Data for Re-Use: Databases in Model Organism Biology. In Howlett, P. and Morgan, M.S. (eds) *How Well Do Facts Travel? The Dissemination of Reliable Knowledge*. Cambridge University Press, pp.325-348.
- Leonelli, S. (2010) The Commodification of Knowledge Exchange: Governing the Circulation of Biological Data. In: Radder, H. (ed) *The Commodification of Academic Research: Science and the Modern University*. Pittsburgh University Press, pp.132-157.
- Leonelli, S. (2009) Centralising Labels to Distribute Data: The Regulatory Role of Genomic Consortia. In Atkinson, P., Glasner, P. and Lock, M. (eds) *The Handbook for Genetics and Society: Mapping the New Genomic Era*. London: Routledge, pp. 469-485.
- de Regt, H., Leonelli, S. and Eigner, K. (2009) Focusing on Scientific Understanding. In de Regt, H, Leonelli, S. and Eigner, K. (eds) *Scientific Understanding: Philosophical Perspectives*. Pittsburgh University Press.
- Leonelli, S. (2009) The Impure Nature of Biological Knowledge. In de Regt, H. et al (eds), pp. 189-209.
- Leonelli, S (2007) What is in a Model? Using Theoretical and Material Models to Develop Intelligible Theories. In Laubichler, M. and Muller, G.B. (eds) *Modeling Biology. Structures, Behaviour, Evolution*. Vienna Series: MIT Press, pp. 15-36.
- Leonelli, S. (2007) Cultivando Hierba, Produciendo conocimiento. Una historia epistemologica de *Arabidopsis thaliana*. In Suarez, E. (Ed) *Variedad Sin Limites. Las Rapresentaciones en la Ciencia*. Universidad Autonoma de Mexico y Editor Limusa.

### **Book Reviews**

- Leonelli, S. (forthcoming) Joseph November, *Biomedical Computing: Digitizing Life in the United States*. *Social Studies of Medicine*.
- Leonelli, S. (2012) Book Review: *Ordinary Genomes: Science, Citizenship, and Genetic Identities* by Karen Sue-Taussig. *Acta Biotheoretica*.
- Leonelli, S. (2011) Book Review: *An Epistemology of the Concrete: Twentieth-Century Histories of Life* by Hans-Jörg Rheinberger. *International Studies in the Philosophy of Science* 25 (4): 421– 423.

### **Other Contributions and Encyclopaedia Entries**

- Leonelli, S. (2013) 'Data-Intensive Research'. In: Dubitzky, W., Wolkenhauer, O., Cho K-H., Yokota, H. (Eds.) *Encyclopaedia of Systems Biology*. Springer.
- Leonelli, S. (2013) 'Model Organism'. In: Dubitzky, W., Wolkenhauer, O., Cho K-H., Yokota, H. (Eds.) *Encyclopaedia of Systems Biology*. Springer.

- Leonelli, S. (2013) 'Bio-Ontologies'. In: Dubitzky, W., Wolkenhauer, O., Cho K-H., Yokota, H. (Eds.) *Encyclopedia of Systems Biology*. Springer.
- Leonelli, S. (2013) Short entries for 'curation', 'stock centres', 'community databases' and 'metadata' in Dubitzky, W et al (Eds.) *Encyclopedia of Systems Biology*. Springer.
- Leonelli, S. (November 2012) Open Data and Privacy Concerns in Biomedical Research. *Open Knowledge Foundation blog* (<http://blog.okfn.org/2012/11/26/open-data-and-privacy-concerns-in-biomedical-research/>) and *Open Science blog* (<http://science.okfn.org/2012/11/19/open-data-and-privacy-concerns-in-biomedical-research-guest-post/>).
- Leonelli, S. (2012) The Brain Drain. *Britain in 2013*, p.88.
- Leonelli, S and Barwich, A (2012) Editorial: Philosophy and Experiments. *The Reasoner*.
- Donaghy, J and Leonelli, S (2012) Interview with Giovanna Colombetti. *The Reasoner*.
- Leonelli, S. (2011) The Human Face of Data-Intensive Biology. *The Newsletter of the ESRC Genomics Network*, issue 13, pp. 10-12.
- Leonelli, S. (2010) Key concerns that should travel between e-social and e-natural science. *E-Research Ethics Website*. <http://eresearch-ethics.org/>
- Leonelli, S. (2008) Circulating Evidence Across Research Contexts: The Locality of Data and Claims in Model Organism Biology. *LSE Working Papers on the Nature of Evidence: How Well Do 'Facts' Travel?*, No. 25/08.
- Leonelli, S. (2008) Regulating Data Travel in the Life Sciences: The Impact of Commodification. *LSE Working Papers on the Nature of Evidence: How Well Do 'Facts' Travel?*, No. 27/08.
- Leonelli, S. (2002) Understanding Infrared Metaphysics: Melloni's Quest for Identity, *Measurement in Physics and Economics Discussion Paper Series*, DP MEAS 22/02, ISSN1465-637X.

### **Consultations and Policy Reports**

- Co-author: Global Young Academy Position Statement on Open Science (11/2012).
- Leonelli, S. and Bastow, R. (2012) Report for GARNet/BBSRC: *Making Data Accessible to All*. Contribution to International Council for Science (ICSU) Advisory Note: Revaluing Science in the digital age. October 2012.
- Contribution to GARNet Response to BBSRC Consultation on Digital Organisms, September 2012.
- Response to Nuffield Foundation Consultation on 'New Approaches to Biofuels'. March 2010. <http://www.genomicsnetwork.ac.uk/media/Nuffield%20Biofuels%20Response.pdf>
- Report for GARNet/BBSRC: 'Business Models for Database Funding'. April 2010.
- Response to OECD Consultation on 'Data Sharing in Genomics'. June 2008.

### **Conference Proceedings**

- Leonelli, S (2009) A HPSSB (History, Philosophy and Social Studies of Biology) Perspective on Biomedical Ontologies. *eScience-2009: Workshop Proceedings*.
- Leonelli, S (2009) The Role of Bio-Ontologies In Data-Driven Research: A Philosophical Perspective. *Nature Proceedings Collection*. <http://proceedings.nature.com/documents/3646/version/1>

### **PhD Dissertation**

- Leonelli, S. (2007) *Weed for Thought. Using Arabidopsis thaliana to Understand Plant Biology*. Vrije Universiteit Amsterdam Open Access:

### **In Preparation**

- Leonelli, S. Open Data and the Political Economies of Bioscience.
- Leonelli, S. Global Data for Local Science. Under review with *BioSocieties*.
- Davies, G., Frow, E. and Leonelli, S. Bigger, Faster, Better? Rhetorics and Practices of Large-Scale Research in Contemporary Bioscience. Under review with *BioSocieties*.
- Ankeny, R. and Leonelli, S. What Makes a Model Organism? Under review with *Endeavour*.
- Leonelli, S, Bastow, R, Smirnoff, N and Moore, J. Open data in data-intensive plant science: Making it work.

### **Grants, Awards, and Scholarships**

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- Co-I in ESRC Cross-Investment Project on Open Innovation, 2013 (£250,568, with D. Castle and J. Dupre).
- Co-I in EPSRC Grant 'Evolving Controllers and Controlling Evolution', 2012-2014 (£416,929, with O.S. Soyer and D. Bates).

Co-I in Bridging the Gap Grant (University of Exeter Research Knowledge Transfer) 'Respecting Complexity: New Methods and Concepts for a More Robust Synthetic Biology', 2012 (£10,000, with K. Haynes and J. Dupré).

GARNet Conference Support for workshop 'Making Data Accessible to All', July 2012 (£2500, with R. Bastow).

Konrad Lorenz Institute Conference Grant in support of conference 'Making Sense of Data', June 2011 (£6000).

EGN Forum Conference Grant for the organisation of 'Making It Big' conference, March 2011 (£5000, with E. Frow and G. Davies).

Conference grants from the British Society for the Philosophy of Science, the British Society for the History of Science and the Mind Association to fund conference 'What is HPS for?', June 2010 (total £1550).

British Academy Small Grant for project 'Data-Driven Research in the Biological and Biomedical Sciences', September 2009–June 2010 (£4700).

Marjorie Grene Prize 2007 [best graduate paper combining history, philosophy and sociology of biology].

VISU Wiener Kreis Scholarship to attend the International Summer School, July 2004.

Konrad Lorentz Institute Visiting Scholarship, Vienna, July 2004.

LSE Award supporting my research studies in London for 2001–2002.

AHRB Competition A grant funding my Masters degree for 2000–2001.

Dean's list (UCL graduation class 2000).

Jackson Lewis Scholarship for best results of Mathematical and Physical Sciences Faculty, UCL 1999.

UCL Departmental Award as best STS student for academic year 1998–1999.

### *Teaching Experience*

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2012-2013 **Director of Postgraduate Teaching.** Convenor of MA degree 'History and Philosophy of Biology'. Lecturer for UG course 'Pragmatism and Its Enemies'. Co-lecturer of MSc module 'Research Skills in Sociology', and BSc second-year module 'Research Skills and Bioethics'.

2010–2012 Convenor of MA degree 'History and Philosophy of Biology'. Co-teacher of MSc module 'Research Skills in Sociology', and BSc second-year module 'Research Skills and Bioethics'.

2009–2010 Co-convenor of MA degree 'History and Philosophy of Biology'. Co-teacher of MSc modules 'Genomics in Society' (module on governance) and 'Research Skills in Sociology'.

2008–2009 Co-teacher of MA modules 'History and Philosophy of Biology' and 'Research Skills in Sociology'. Organiser of the fortnightly Philosophy of Biology Journal Club.

2003–2005 Co-teacher of UG Course 'Earth Sciences: Methodology and Ethics', VU Amsterdam.

### **Postgraduate Supervision**

Mentor for Research Fellow Berris Charnley, 2011-2012; Visiting Scholar Adam Toon, 2013.

First supervisor PhD thesis:

Luca Iori 2011–2013 ('Agricultural Genetics in Italy, 1900-1950'), Pietro Berti 2009– ('Governance of Biofuel Technology in the UK'), Josephine Donaghy 2010– ('Philosophy of evolutionary system biology'); Nicholas Binney 2012- ('History and philosophy of diagnosis: the case of heart failure')

Second supervisor PhD thesis:

Alexandra Sojic 2008–2013 ('Bio-ontologies in Breast Cancer Research'), Tarquin Holmes 2011- ('Reversion in Early Mendelism'), James Lowe 2011- ('Epigenesis in Developmental Biology, 1880-1920')

Mentor PhD thesis:

Kai Wang 2011-2012; James Watson 2011-.

Supervisor MA dissertation:

Josephine Donaghy 2009; James Lowe 2010; James Platt, Tarquin Holmes, Federico Boem 2011; Riccardo Ricci 2012.

Supervision for visiting MA or PhD students:

Ranjit Singh, 2010 (The Netherlands); Miguel Lopez Paleta, 2012 (Mexico; co-examiner for his MA thesis); Sara Green, 2013 (Denmark).

PhD Examiner:

Alexander Powell (2010, Exeter), Pierre-Olivier Methot (2012, Exeter), Sara Green (mid-term review 2012, Aarhus).

## *Language Skills*

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*Italian, English:* Fluent. *French, Spanish, Dutch:* Advanced. *Modern Greek, German:* Intermediate.

## *Professional Associations*

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Society for the Philosophy of Science in Practice [SPSP].  
Philosophy of Science Association [PSA].  
Global Young Academy [GYA].  
Society of Biology.  
British Society for the Philosophy of Science [BSPS].  
European Association for Science and Technology Studies [EASST].  
Society for the Social Studies of Science [4S].  
International Society for the History, Philosophy & Social Studies of Biology [ISHPSSB].  
Nederlandse Vereniging voor Wetenschapsfilosofie [NVWF].

## *Conference and Seminar Organisation*

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### **2013**

(with O. Soyer and M. O'Malley) Philosophical Perspectives on Evolutionary Systems Biology. International Expert Workshop, KLI Altenberg, September 5-8.  
Roundtable 'Plant Science: Its Role in Biology'. Biannual Meeting of the International Society for the History, Philosophy and Social Studies of Biology, July 9-11.  
(with K. Waters) Thematic session 'Towards an Epistemology of Scientific Practice'. Biannual Meeting of the International Society for the History, Philosophy and Social Studies of Biology, July 9-11.  
Member of Programme Committee for Biannual Meeting of the Society for the Philosophy of Science in Practice, University of Toronto, June 26-28.  
(with Orkun Soyer) International Workshop 'Understanding Evolvability and Robustness'. University of Exeter, 18 January.

### **2012**

(with K. Haynes and J. Dupre) Respecting Complexity: New Methods and Concepts for a More Robust Synthetic Biology. International Workshop, Exeter, 13-14 December.  
(with R. Bastow) Conference: Making Data Accessible to All. Exeter, 12-13 July.  
(with B. Charnley) Workshop 'Credit in Science'. Exeter, 29 May.  
Workshop 'On the epistemology of biology'. Exeter, 30 March.  
(with O. S. Soyer) Workshop 'Robustness in Biology and Engineering'. Exeter, 16 March.  
(with B. Charnley) Workshop 'Ethical Issues in Agriculture'. Exeter, 10 February.

### **2011**

Chair of the local organising committee and member of the programme committee for the Biannual Meeting of the Society for the Philosophy of Science in Practice (22-24 June, Exeter).  
International Conference 'Making Sense of Large Databases: Perspectives Across the Sciences' (20-21 June, Exeter).  
Teaching panel in Integrated HPS workshop (18-19 April, Cambridge).  
(with G. Davies and E. Frow) International Workshop 'Making It Big' (17-18 March, Exeter).

### **2010**

Workshop 'Mayr's Legacy' (17 September 2010, Exeter).  
Fifth Integrated HPS Workshop 'What is HPS for?' (28-29 June 2010, Exeter).  
International Conference 'Data-Driven Research in the Biological and Biomedical Sciences' (15-16 April 2010, Exeter).  
Workshop 'The Governance of Data Sharing', Egenis (2 March 2010).

### **2009**

Symposium 'The Epistemic Role of Model Organisms'. Biannual Meeting of the Society for the Philosophy of Science in Practice (June 19 2009, Minneapolis).  
Member of the programme committee for biannual meeting of European Philosophy of Science Association.  
Organiser of weekly Fraenik seminar series | University of Exeter

## **2008**

International Workshop 'Making Small Facts Travel: Labels, Packages and Vehicles' (27-28 March 2008, LSE).

## **2007**

Organiser of weekly 'How Well Do Facts Travel' seminar series, London School of Economics.

(with E. Mattila and E. Ramsden) Symposium 'How Do Practices Move Knowledge Around? Insights from 'Facts' Travelling across Disciplinary Domains' (24 August 2007, Twente, NL).

Thematic session 'Bio-ontologies: A New Type of Theory in Biology?'. Biannual Meeting of the International Society for the History, Philosophy and Social Studies of Biology [ISHPSSB] (25-29 July 2007, Exeter, UK).

## **2006**

Programme committee for International Conference 'Science and Democracy' (Ghent, Belgium, 28-30 September 2006).

Thematic session: 'Scientific Facts: Whose Expertise?' at the International Conference 'Science and Democracy' (Ghent, 28-30 September 2006).

(with Pieter Dehon and Jeroen van Bouwel) Expert Workshop 'Science and Social Movements' (27 September 2006, VU Brussels).

Symposium 'Modeling and Experimentation in Biology' (23 May 2006, VU Amsterdam).

## **2005**

(with H. de Regt and K. Eigner) International Conference 'Philosophical Perspectives on Scientific Understanding' (24-27 August 2005, VU Amsterdam).

## **2004**

(with S. Ortmann) GJSS International Workshop on Interdisciplinarity in the Social Sciences: 'Unity or Pluralism in the Social Sciences?' (24-25 September 2004, LSE).

(with faculty committee) Free University Opening Conference for Academic Year 2004-5 (2-3 September 2004, Mennorode, NL).

(with T.A.C. Reydon) NVWF Symposium 'Philosophy of Biology in the Netherlands and Belgium' (13 Februari 2004, VU Amsterdam; reviewed by Lemmens, P. (2004): 'Biofilosofen bezorgd om de toekomst van hun vak', *Algemeen Nederlands Tijdschrift voor Wijsbegeerte*, 96).

## Presentations and Public Lectures

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## **2013**

Invited Lecture at STS Seminar, University of **Edinburgh**, 18 February: Life in the Digital Age: 'The Impact of Open Science and Digital Technologies on Biological Research'.

Invited Lecture at British Society for the Philosophy of Science ordinary meeting, **London School of Economics**, March 11: Three Modes of Integration in Plant Science.

**Keynote Lecture** at the 5th Workshop in the Philosophy of Information, University of **Hertfordshire**, 26-27 March: 'Data integration and the management of information in contemporary biology'.

Invited participation as UK representative: AHRC/NSF Conference 'Biomedical Humanities'. University of Maryland, **Washington**, April 10-12.

Invited lecture at the Department of Philosophy, **UC Davies**, April 17.

Invited Lecture at Annual Meeting of the Exeter Initiative for Statistics and Its Applications (EXISTA), 25 April: 'A philosophical perspective on data-intensive biology'.

**Keynote Lecture** at Conference 'Crossing the Divides: Exploring Boundaries and Overlaps Between Sociology and Philosophy of Science and Bioethics', **Brunel University**, London, 13-15 May: Reframing the context of scientific inquiry: from Reichenbach to Dewey.

Invited Lecture at workshop 'Bioproperty: Animals', **Oxford University**, 23-24 May.

Invited lecture at workshop 'Quality and accuracy of genetic data and knowledge produced by next-generation sequencing (NGS)', **Institute Curie, Paris**, June 6-7: Understanding the science behind big-data production: epistemological assumptions.

Contributed talk to Biannual Meeting of the Society for the Philosophy of Science in Practice, **Toronto**: 'What counts as knowledge in plant science? Philosophical challenges from green translational research'.

Contributed talk to BSPS, Exeter, July 4-6: 'What Counts as the Context of Scientific Inquiry?'

(with R. Ankeny) Contributed talk to ISH, **Montpellier**, July 7-10: 'The ethos of organism-based communities'

Contributed talk to thematic session 'Data at Work', **Manchester**, July 23-27: 'Putting data to work in plant science, 1990-2012'.

Invited lecture at International Conference 'Historicizing Big Data', Max Plank Institute for the History of Science, **Berlin**, October 30-November 2.

Invited lecture at the Centre for STM, **Manchester** University: Data integration and translational research: the case of plant science, Fall.

## **2012**

(with Ankeny) Invited talk at International Conference 'Modeling Complexity', University of Exeter, 13-14 December: Digital organisms.

(with Ankeny, Nelson and Ramsden) Contributed Talk at HSS meeting in San Diego, November: 'Making Organisms Model Humans: Situated Models in Alcohol Research'.

Invited lecture at STS Seminar, London, November 12: 'Life in the Digital Age: The Impact of Open Science and Digital Technologies on Biological Research'

Contributed talk at EASST/4S meeting in Copenhagen, October: 'Design through displacement: Understanding life in the digital age'.

Invited commentary at International Workshop on Modelling Animals, University of Manchester, September 21-22: 'Epistemology of animal models'.

Invited lecture at European Advanced Seminar in the Philosophy of Biology, theme 'Models in vivo, in vitro, in silico', Brocher Foundation, Geneva, September 10-14: 'Model organisms in vivo and in silico'

Invited lecture at International Conference 'Information, Databases and Archives', Beijing, September 7-9: Data Integration and Knowledge in Plant Science

Invited lecture at Royal Society/International Council for Science Conference 'Revaluing Science in the Digital Age', September 2-4: 'Shifting Scientific Norms in the Digital Age: Insights from the History, Philosophy and Social Studies of Science'

Contributed Talk at British Society for the Philosophy of Science, Stirling, July 5-6: 'Classificatory Theory in Biology'

Invited Lecture at KLI Focal Symposium 'Data-Intensive Science: Why Google Won't Replace Science', June 14-15: 'Promise and Dangers of Data-Intensive Science'

Talk at 4th Biennial ECPR Standing Group for Regulatory Governance Conference: New Perspectives on Learning, Regulation and Governance, Exeter 26 June: 'How Data-Intensive Science Challenges the Regulation of Credit Attribution'

Contributed Talk at Annual Meeting of the Global Young Academy 'Sustainability: Lessons on the Road from Rio to Rio+20', Johannesburg, May 20-23: 'Using digital infrastructures to facilitate governance at the national and international levels'

Invited lecture at International Conference on Integration in Biomedicine, University of Sydney, May 3-4: 'Data integration and community data sharing: Three types of integrative efforts'

Invited seminar at the Department of History and Philosophy of Science, University of Sydney, April 30: 'Understanding life in the digital age: Towards a philosophy of data-intensive biology'

## **2011**

Invited lecture at the Centre for the Philosophy of Science, University of Minnesota (Minneapolis, December 2011): Towards an Epistemology of e-Biology.

Invited lecture at Max Planck Institute (Berlin, November 2011): Respect for Epistemic Diversity: A Guiding Principle for Biological Cyberinfrastructures.

Invited commentaries on Hans-Joerg Rheinberger and Gail Davies at 'Knowledge/Value' Conference at University of Chicago (November 2011).

Invited panellist at public debate 'Frankenstein and the limits of science', ESCR Festival of Social Science, Exeter Phoenix.

Invited lecture at Philosophy Department in Bristol, 14 October 2011: The epistemic impact of data-intensive methods in biology.

Invited as 'group leader' to International Conference 'Synthesis: Interdisciplinary Interconnections in Synthetic Biology', ZIF, University of Bielefeld (30 September-1 October 2011).

Invited lecture at International Workshop on *The Meaning of Theory in Biology*, Konrad Lorenz Institute, Altenberg, Austria, July 2011: Classificatory Theory in Experimental Biology.

Talk at International Conference 'Making Sense of Large Datasets' (Exeter, June 20-21).



- Invited commentary on Mary Morgan at Knowledge/Value Conference at the University of Chicago (3-5 June 2011): 'Chasing Phenomena'.
- Talk at Integrated HPS meeting at University of Cambridge (April 2011): 'When HPS Critiques Science: An Achievement or a Problem?'.
- Invited lecture at Social Studies of Medicine Seminar, McGill University, Montreal, 23 March 2011: 'Towards an Epistemology of e-Biology'.
- Invited lecture at Making It Big Workshop, Exeter (17 March 2011): 'Is e-science necessarily big science?'.

## **2010**

- Invited seminar at the Centre for the History of Science at the University of Bologna (December 17 2010): 'Understanding Data in the Digital Age'.
- Invited talk at European Science Foundation Conference 'Points of Contact between Philosophy of Biology and Philosophy of Physics' (London School of Economics, 13-15 December 2010): 'The Experimental Context in Silico'.
- Invited panellist at ESRC Festival Research Methods, Oxford, July 7 2010: 'The Ethics of e-Science Research'.
- Invited lecture at International Workshop on *Understanding and the Aims of Science*, Lorentz Centre, University of Leiden, June 2010: 'Experimental Biology *In Silico*'.
- Invited Lecture at *2010 Gordon Cain Conference*, titled 'Personalized medicine here and now: Empirical studies of post-genomic medicine' (Philadelphia, Chemical Heritage Foundation, 5-6 May 2010): 'When Humans Are the Exception: Cyberinfrastructure Across Species'.
- Talk at Egenis International Workshop *Data-Driven Research in the Biological and Biomedical Sciences*, Exeter (15-16 April 2010): 'The Role of Theory in Data-Driven Research: The Case of Bio-Ontologies'(with Rachel Ankeny) Talk at Egenis International Workshop *Data-Driven Research in the Biological and Biomedical Sciences*, Exeter (15-16 April 2010): 'Re-Thinking Organisms'.
- Public lecture at Science in the Docks (18 March 2010): 'Model Organisms'.
- Talk at Egenis Workshop *Governance Issues in Data Sharing*, Exeter (2 March 2010): 'Scientific Governance and Cross-Species Databases'.
- Invited lecture at Universidad Complutense, Madrid (4 February 2010): 'Bioinformatics and biology in the 21<sup>st</sup> century'.
- Peer-Reviewed Contribution to the *Biannual Meeting of the European Philosophy of Science Association* (Amsterdam, 23 October 2010): 'On the Role of Theory in Data-Driven Research: The Case of Bio-Ontologies'.

## **2009**

- Peer-reviewed Contribution to Workshop 'Web Semantics in Action: Web 3.0 in e-Science', within *5<sup>th</sup> IEEE International Conference on e-Science*, Oxford (11 December 2009): 'Documenting the Emergence of the Gene Ontology: An HPSS Approach'.
- Invited Lecture at the *History and Philosophy of Science Seminar*, Cambridge (19 November 2009): 'Dynamic (Bio)Ontologies for Good Epistemology'.
- Talk at *EGN conference* (8 October 2009, Cardiff): 'Issue-Based Scientific Governance'.
- Invited Lecture at the *History of Genetics Day*: 'From Humble Weed to Botanical *Drosophila*' (John Innes Centre, Norwich, 9 September 2009).
- Invited Lecture at the Konrad Lorenz Institute/Institute for Theoretical Biology (Vienna, 8 June 2009): 'Bio-Ontologies as Theories'.
- Biannual Meeting of the Society for the Philosophy of Science in Practice* (20 June 2009, Minneapolis, with Rachel Ankeny): 'Re-Using Data, Re-Thinking Organisms: The Epistemic Impact of Databases on Model Organism Biology'. Presented as part of a symposium I organised, titled *The Epistemic Status of Model Organisms*.
- Talk at *Theory and Practice*, Fourth Joint Workshop on Integrated History and Philosophy of Science (1 June 2009, Durham): 'Researching Contemporary Biology'.
- Invited Talk at CRASSH Conference *Policy, groups and populations in a genomic era: philosophical and social scientific perspectives* (Cambridge, 17-18 April 2009): 'When Humans are the Exception: Cross-Species Data Mining'.
- Invited Talk at *Objects and Methods of Reproduction in 20ies Century Life Sciences. 1st Reproduction workshop MPI Berlin – EGENIS* (3 April 2009, Exeter): 'Standardisation of organisms through 'digitalisation' for the purposes of reproduction.
- Public Seminar at Egenis, Exeter (3 February 2009): 'Issue-Based Scientific Governance'

## **2008**

- Contributed Paper at the *Philosophy of Science Association Meeting*, Pittsburgh (6-9 November 2008): On the Locality of Data and Claims About Phenomena.
- Invited Paper to Workshop *Writing Genomics: Historiographical challenges for new historical developments: 'The Emergence of Data Dissemination Policies: Re-Thinking Regulation in Genomics'*. Max Plank Institute for the History of Science, Berlin (28-29 October 2008).
- European Graduate Meeting in Philosophy of Biology: 'Philosophical Issues in Bioinformatics'*, Gorino Sullam, Italy (4 September 2008).
- Joint meeting 4S/EAAS, contributed paper within the session *'Governing and Institutionalizing Genomics: An Interdisciplinary and Interorganizational Perspective. I. Impact on Organizations, Healthcare and Work'*: 'Governing Data Sharing: Bio-Ontologies and the Creation of Labelling Centres', Rotterdam (23 August 2008).
- Joint meeting of the Three History of Science Societies, contributed paper within the session *'Collaboration and Interdisciplinarity in the Life Sciences'*: 'A Happy Marriage? The Introduction of Bioinformatics to Model Organism Biology', Oxford, UK (6 July 2008).
- Invited Lecture at BBSRC Workshop *Data Sharing in the BioMedical Sciences: Data Sharing in Model Organism Research*, Institute for E-Science, Edinburgh, UK (26 June 2008).
- Invited Lecture at SEMM (European School of Molecular Medicine): *'Assessing the Impact of Bio-Ontologies on Biological Research'*, with follow-up seminar for doctoral students in the philosophy of biology. Milan, Italy (9 June 2008).
- Facts Workshop *'Making Small Facts Travel: Databases in Model Organism Biology'* London, UK (27 March 2008).
- Public Seminar in the series *'How Well Do Facts Travel'*, London School of Economics: *'Labels, Vehicles and Packages: Making Facts Travel in Model Organism Biology'* (6 February 2008).

## **2007**

- Invited Lecture at British Academy Conference *'Enquiry, Evidence and Facts'*: *'Circulating Small Facts About Organisms: Biological Databases.'* London, UK (13-14 December 2007).
- Invited Lecture at Egenis Seminar: *'Bio-Ontologies: A New Type of Theory to Make Facts Travel'*. University of Exeter, UK (4 December 2007).
- Invited Lecture at Workshop *'Medical Evidence'*: *'Circulating Evidence About Organisms'* (5 October 2007, Universidad Complutense, Madrid, Spain).
- International Conference of the Society for the Philosophy of Science in Practice: *'Evidence, Facts and the Database Revolution in Biology'* in special thematic session *'How Do Practices Move Knowledge Around?'* (26 August 2007, University of Twente, NL).
- Biannual Meeting of the International Society for the History, Philosophy and Social Studies of Biology: *'Bio-Ontologies: A New Means of Travel for Biological Facts'* in special thematic session *'Bio-Ontologies: A New Type of Theory in Biology?'* (25 July 2007, Exeter, UK).
- Invited lecture at Expert Workshop *'The Commodification of Academic Research'*: *'The Commodification of Knowledge Exchange'* (21 June 2007, Amsterdam).
- Keynote Address at Biannual Congress of the Dutch Society for the Philosophy of Science [Nederlandse Vereniging Wetenschapsfilosofie]: *'Can We Have Integration Without Theoretical Unification?'* (20 May 2007, Leusden, NL).
- Public Defence of the PhD Dissertation: *Weed for Thought. Using Arabidopsis thaliana to Understand Plant Biology* (10 April 2007, Amsterdam).
- 'The Epistemic Status of Model Organisms: A Raging Debate in the Philosophy of Biology?'* (10 April 2007, Amsterdam).

## **2006**

- Invited Lecture at the Department of Philosophy of the Technical University of Delft (20 November 2006): *'Understanding and Integration in the Arabidopsis Research Community'*.
- 4S Meeting 2006, Vancouver (November 2006): *'Understanding Facts Across Scientific Communities'* in special thematic session *'Models as Vehicles for Travelling Facts'*.
- International Conference *'Science and Democracy'*, Ghent (28-30 September 2006): *'Scientific Understanding: A Matter of Which Expertise?'* in special thematic session *'Scientific Facts: Whose Expertise?'*.
- Amsterdam (23 May 2006): *'Modeling to Understand: the Case of Model Organisms'*.
- Symposium *'Modeling and Experimentation in Biology'*, Vrije Universiteit.

## **2005**

- Invited Lecture at Expert Workshop 'A New Form of Experiment? Exploring the Performative Potential of Models and Computer Simulations', Harvey Mudd, California (17-19 October 2005): '*Abstracting to Model, Handling to Understand*'.
- International Conference 'Philosophical Perspectives on Scientific Understanding', Vrije Universiteit Amsterdam (25-27 August 2005): '*Committed to Understand: on Models and Skills in Plant Biology*' (with Hasok Chang) Symposium Paper 'Models and Scientific Reasoning', University of Amsterdam (24 August 2005): '*Intelligibility and the Unified Theory of Radiation*'.
- International Society of the History, Philosophy and Social Studies of Biology, Guelph (13-17 July, 2005): '*Performing Abstraction: two ways to model Arabidopsis thaliana*'.
- Research Colloquium Faculty of Philosophy, Vrije Universiteit Amsterdam (13 May 2005): '*From Representation to Understanding... And Back?*'.

## **2004**

- Invited Lecture at Reunion Internacional sobre Historia y Filosofia de la Biologia, Instituto de Investigaciones Filosoficas, UNAM, Mexico City (17 November 2004): '*What does the materiality of a model have to do with its intelligibility? The Case of Arabidopsis thaliana*'.
- Invited Lecture at Postgraduate Seminar of the Postgraduate Programme in Philosophy of Science, Instituto de Investigaciones Filosoficas, UNAM, Mexico City (12 November 2004): '*Where Critical Contextual Empiricism is Not Enough: Understanding within the Arabidopsis Model Community*'.
- 4S/EASST Meeting 2004, Paris (25-28 August, 2004) - Session Panel 'Assessing Interdisciplinary Methodology': '*Disciplined Publishing vs. Interdisciplinary Research? Peer Review in the Graduate Journal of Social Science*'.
- VISU School, Vienna (26 July 2004): '*The Collective Quest for Epistemic Objectivity: Communicative Understanding in Biology*'.
- Brown Bag Invited Seminar, Konrad Lorenz Institute, Vienna (7 July 2004): '*Arabidopsis thaliana as a material and abstract model*'.
- International Conference 'Knowledge and Imagination', Vrije Universiteit Amsterdam (23-25 June, 2004): '*Scientific Imagination in Practice: Modelling the Material*'.
- WTMC Workshop, Ravenstein (26-28 May, 2004): '*Understanding an Organism in Theory and Practice: Investigations on the Epistemology and Politics of a Model Organism Community*'.
- Third Flanders-Netherlands Congress for Philosophy of Science, Leusden (14-16 May, 2004): '*Model Organisms as Biological Models – Where the Theoretical Meets the Material*'.
- C-SAP Conference 'Looking Back, Taking Stock: Reflecting on five years of learning and teaching', Birmingham (18-19 March, 2004): '*The Graduate Journal of Social Science: Strategies, Plans, Projects*'.
- GDPS Lunchtime Practitioner's Lecture, SOAS, London (March 3rd, 2004): '*European Social Forum and other activism in Europe*'.

## **2003**

- Opening conference Faculty of Philosophy Vrije Universiteit Amsterdam (September 7th, 2003): '*Can truth be a temptation? The Ethics of Experimentation: Research on Human Subjects in Manchuria, 1932-1945*'.
- 2th International Congress of Logic, Methodology and Philosophy of Science, Oviedo (7-13 August 2003): '*Understanding the Usefulness of Biological Models*'.
- International Society for the History, Philosophy and Social Studies of Biology Meeting, Vienna (16-20 July 2003): '*Understanding the Usefulness of Model Organisms*'.

## **2002**

- Expert Workshop 'Measurement in Economics and the Natural Sciences', Tinbergen Institute, Amsterdam (13th of May 2002): '*Understanding Infrared Metaphysics*'.

## **Media Appearances**

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- Interview with *BBC Radio Devon* on the myth of Frankenstein and synthetic biology, 3 November 2011.
- Phonic FM*: Main guest speaker on Open Data, March 2012.

## *Posters*

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- 'Developing the History and Philosophy of Plant Science' UK Plant Science Federation meeting, John Innes Centre, Norwich, April 18-19.
- 'Data-intensive research in the biological and the biomedical sciences' at Launch Event of the Exeter Initiative for Statistics and Its Applications (November 28 2011, Exeter, UK).
- 'What Makes a Model Organism? The Case of Arabidopsis' at the Annual GARNet meeting (September 6/7 2011, Cambridge, UK).
- 'The Epistemic Role of Bio-Ontologies in Data-Driven Research: A Philosophical Perspective' at the International Conference on Biomedical Ontologies (24/26 July 2009, Buffalo, NY).
- 'Bio-Ontologies and Data-Driven Research' at the International Conference of Bio-Medical Ontologies (24/26 July 2009, Buffalo, NY).
- 'The Regulatory Role of Bioinformatics' at the ESRC Genomics Network Conference (26/27 October 2008, London).
- 'Making Small Facts Travel' at the British Academy Conference 'Enquiry, Evidence and Facts' (13/14 December 2007, London).
- 'Bioinformatics and Genomics' at the ESRC Genomics Network Conference 'Genomics and Society: Today's Answers, Tomorrow's Questions' (25/26 October 2007, London).

## *References*

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Available upon request.