

Curriculum Vitae: Dr Charlotte Werndl

Areas of Specialisation: Philosophy of physics, general philosophy of science, philosophy of mathematics

Areas of Competence: Philosophy of biology, logic, philosophy of language, history of philosophy (in particular, history of analytic philosophy, British empiricism)

ACADEMIC APPOINTMENTS

Lecturer (Assistant Professor) (from 09.2010) at the Department of Philosophy, Logic and Scientific Method, London School of Economics and Political Science.

Junior Research Fellow (10.2009-09.2010). The Queen's College and Faculty of Philosophy, Oxford University.

HIGHER EDUCATION

10.2006-09.2009 **Ph.D. programme in philosophy**, Faculty of Philosophy, St John's College, University of Cambridge. Supervisor: Dr Jeremy Butterfield.

09.2000-06.2006 **Master and bachelor programme in philosophy, University of Salzburg**.
Awarded: 26.06.06 Degree with highest honours. Each course and the thesis marked 'Excellent'.

09.2003-03.2006 **Master programme in applied mathematics, University of Salzburg**. Degree
Awarded: 24.03.06 with highest honours. Each course and the thesis marked 'Excellent'.

08.2005-12.2005 **Visiting graduate student, Department of Philosophy, Duke University, US**.
Specialisation in philosophy of biology. Three graduate courses marked 'Excellent'

09.2003-07.2004 **Erasmus student, Diploma in Advanced Study, Oxford Brookes University**,
Awarded: 08.07.04 Oxford, UK. Nine courses in philosophy and mathematics marked 'Excellent'.

09.2000-08.2003 **Bachelor in mathematics, University of Salzburg**. Degree with highest honours.
Awarded: 12.08.03 Each course and the thesis marked 'Excellent'.

PUBLICATIONS

ARTICLES IN PEER-REVIEWED JOURNALS

2011: Explaining Thermodynamic-Like Behaviour in Terms of Epsilon-Ergodicity. Forthcoming in:
Philosophy of Science. [with R. Frigg, fully collaborative]

2011: On Choosing Between Deterministic and Indeterministic Models: Underdetermination and Indirect Evidence'. Forthcoming in: **Synthese**.

2011: On the Observational Equivalence of Continuous-Time Deterministic and Indeterministic Descriptions. **European Journal for the Philosophy of Science** 1, (2), pp. 193–225.

2009: What Are the New Implications of Chaos for Unpredictability? **The British Journal for the Philosophy of Science** 60, 195–220.

2009: Are Deterministic Descriptions and Indeterministic Descriptions Observationally Equivalent? **Studies in History and Philosophy of Modern Physics** 40, 232–242.

2009: Justifying Definitions in Mathematics – Going Beyond Lakatos. **Philosophia Mathematica** 17, 313–340.

2008: The Evolutionary Foundation of Poppers Concepts of Three Worlds: A Neglected Perspective for Human Geography. **Geographische Zeitschrift** 94, 129–141 [with M. Schafranek and F. Huber]

PEER-REVIEWED CONTRIBUTIONS IN BOOKS

2012: Probability, Indeterminism and Biological Processes. Forthcoming in: Dieks, D. Wenceslao, W.C., Hartmann, S. Stoeltzner, M. and Weber, M. (eds), **Probabilities, Laws and Structures**. The Philosophy of Science in a European Perspective, Volume 3. Springer, forthcoming.

2011: Entropy – A Guide for the Perplexed. In: Hartmann, S. and Beisbart, C. (eds) **Probabilities in Physics**. Oxford University Press, forthcoming [with R. Frigg, fully collaborative].

2011: Observational Equivalence of Deterministic and Indeterministic Descriptions and the Role of Different Observations, **Proceedings of the Second Conference of the European Philosophy of Science Association**. Springer, forthcoming.

2011: A New Approach to the Approach to Equilibrium. In: Ben-Menahem, Y. and Hemmo, M. (eds) **Probability in Physics**. Springer, forthcoming [with R. Frigg, fully collaborative work].

2009: On the Formulation and Justification of Mathematical Definitions: the Case of Deterministic Chaos. In: Dorato, M., Rédei, M. and Suárez, M. (eds) **Philosophical Issues in the Sciences: Launch of the European Philosophy of Science Association**. Springer, 279–288.

OTHER CONTRIBUTIONS IN BOOKS

2009: Deterministic Versus Indeterministic Descriptions: Not That Different After All? In: Leitgeb, H. and Hieke, A. (eds) **Reduction, Abstraction, Analysis**. Ontos, 63–78.

REVIEWS IN PEER-REVIEWED JOURNALS

2010: Review: ‘Bigger Than Chaos: Understanding Complexity Through Probability’ (Michael Strevens). **The British Journal for the Philosophy of Science**.

2006: Review: ‘Rationality in Applied Ethics’ (Pavel Fobel et al.). **Kriterion – Journal of Philosophy** 19 [with Angelberger, A.J.J., Armstrong, B., Berger W.F. and Gratzl, N., fully collaborative work].

REFEREE FOR:

Philosophy of Science, The British Journal for the Philosophy of Science, Studies in History and Philosophy of Modern Physics, Synthese, Erkenntnis, Stanford Encyclopaedia of Philosophy, International Studies in Philosophy of Science, Journal for General Philosophy of Science, Oxford University Press.

TEACHING

PRACTICAL EXPERIENCE

Academic year 2010/2011	Lectures and Seminars for the course "Philosophy of Physics" (graduate course), at the Department of Philosophy, Logic and Scientific Method, London School of Economics .
Academic year 2010/2011	Lectures and Seminars for the course "History of Science" (graduate course), at the Department of Philosophy, Logic and Scientific Method, London School of Economics .
Academic year 2010/2011	Lectures and Classes for the course "Scientific Revolutions" (undergraduate course), at the Department of Philosophy, Logic and Scientific Method, London School of Economics .
Hilary Term 2010	Supervising (two-to-one teaching) in philosophy of physics (first year), Faculty of Philosophy, University of Oxford .
Lent term 2009	Discussion group leader (small group teaching) , approx. 12 students), philosophy of science (second year), Faculty of Philosophy, University of Cambridge .
Academic year 2007/2008 and 2008/2009	Instructor for first-year logic classes (small group lecturing, approx. 10 students), Faculty of Philosophy, University of Cambridge .
Easter Term 2008	Supervising (one-to-one teaching) in logic and philosophy of language (second year), Faculty of Philosophy, University of Cambridge .
Lent term 2007 Michelmas 2008	Discussion group leader (small group teaching) , approx. 12 students) in philosophy of probability (second year), Faculty of Philosophy, University of Cambridge .
Easter term 2007	Supervising (one-to-one teaching) in history of philosophy (British empiricism) (first year), Faculty of Philosophy, University of Cambridge .
Academic year 2006/2007	Marker for first-year logic classes , involved marking students’ work and some teaching in class, Faculty of Philosophy, University of Cambridge .
Summer term 2006	External university lecturer for the interdisciplinary course ‘Self-Organisation and Systems Theory’, graduate course , Center for Internet and Communication Technologies and Society, University of Salzburg , Austria (with two colleagues).
Winter term 2005/2006	External university lecturer for the interdisciplinary course ‘Self-Organisation – World Views, Theories, Applications’, graduate course , University of Applied Sciences and Arts Zurich , Switzerland (with two colleagues).

- 19.04.2005 **Invited guest lecture** 'Models of Self-organisation in Science' in the **graduate course** 'Technology Assessment', Department of Communication Studies, **University of Salzburg**, Austria.
- Winter term 2004/2005 **External university lecturer** in Human Geography for the course 'Perspectives on Self-Organisation in Science', third year students, **University of Kassel**, Germany (with two colleagues).

PH.D. STUDENTS: Adam White (from 10.2010); Aarne Talman (from 09.2011).

COURSES AND WORKSHOPS

- Academic year 2010/2011 **Postgraduate Certificate in Learning and Teaching in Higher Education** (Associate Level), professional development programme for lecturers in the UK, providing training in all aspects of teaching, **London School of Economics**.
- 08.2009-09.2009 **Undergraduate Admissions Course and Admissions Interviewing Practice Workshop**, preparation for conducting admission interviews at Oxford University, Oxford Learning Institute, **University of Oxford**.
- Lent term 2007 **Philosophy Faculty Teaching Skills Training Programme**, workshops and sessions on one-to-one teaching, group teaching, presentation skills and support of students with disabilities, Faculty of Philosophy, **University of Cambridge**.

TALKS

- 03.06.2011: On Choosing Between Deterministic and Indeterministic Descriptions: Indirect Evidence and Underdetermination, talk at **Crossing Borders, 9th Congress of the Austrian Society for Philosophy**, Vienna, Austria
- 26.05.2011: Climate Models, Confirmation and Calibration, invited talk, **Philosophical Issues in Climate Science Workshop**, University of Bristol, Bristol. [with K. Steele]
- 15.03.2011: Indirect Evidence and the Choice between Deterministic and Indeterministic Models", invited talk, **Applied Dynamical Systems and Inverse Problem Seminar, Mathematics Institute**, University of Oxford
- 07.11.2010: Why Boltzmann Got it (Almost) Right After All, Talk at the **PSA (Philosophy of Science Association) Annual Conference**, Montreal, Canada. [with R. Frigg]
- 09.07.2010: Causality and Observational Equivalence of Deterministic and Indeterministic Descriptions, talk at the **Concrete Causation Workshop**, LMU Munich, Germany.
- 08.07.2010: Explaining the Approach to Equilibrium in Terms of Epsilon-Ergodicity, talk at the **British Society for the Philosophy of Science Annual Meeting**, Dublin, Ireland. [with R. Frigg]
- 08.06.2010: Über die Äquivalenz der Vorhersagen von deterministischen und indeterministischen Beschreibungen, invited talk, **Center for Philosophy and Ethics of Science, Leibniz University of Hannover**, Germany.
- 10.02.2010: Underdetermination Between Deterministic and Indeterministic Descriptions, invited talk, **Philosophy and History of Science Seminars**, Philosophy Department, **University of Bristol**.
- 17.12.2009: Über die Ununterscheidbarkeit von deterministischen und indeterministischen Beschreibungen, invited talk, **research seminar**, Faculty of Philosophy, **University of Salzburg**.
- 12.11.2009: Determinism Versus Indeterminism: Some Results on Observational Equivalence, invited talk, **Philosophy of Physics Research Seminar**, Faculty of Philosophy, **University of Oxford**.
- 24.10.2009: The Indistinguishability of Deterministic and Indeterministic Descriptions, **Second Conference of the European Philosophy of Science Association**, Amsterdam, The Netherlands.
- 20.07.2009: Are Deterministic and Indeterministic Descriptions Observationally Equivalent?, invited talk, **workshop 'Philosophy of Probability in Physics'**, **University of Munich**, Germany.
- 02.07.2009: Justifying Definitions in Mathematics – Going Beyond Lakatos, **Conference 'Two Streams in the Philosophy of Mathematics: Rival Conceptions of Mathematical Proof'**, Hatfield.
- 02.06.2009: The Observational Equivalence of Continuous Deterministic and Indeterministic Descriptions, invited talk, **Philosophy of Physics Seminar**, Faculty of Mathematics, **University of Cambridge**.

03.03.2009: The Indistinguishability of Deterministic and Indeterministic Descriptions, invited talk, **Moral Sciences Club**, Faculty of Philosophy, **University of Cambridge**.

26.02.2009: Deterministic Versus Indeterministic Descriptions: Not That Different After All?, invited talk, **Philosophy of Physics Discussion Group**, **Oxford University**.

15.08.2008: To What Extent Can Determinism be Simulated by Indeterminism and Conversely?, invited speaker, **31st International Wittgenstein Symposium**, Kirchberg am Wechsel, Austria.

11.06.2008: What Is the Unpredictability Unique to Chaos?, invited talk, **Philosophy and History of Science Seminars**, Department of Philosophy, **University of Bristol**.

18.02.2008: What Are the New Implications of Chaos for Unpredictability?, invited talk, **Sigma Club**, Centre for Philosophy of Natural and Social Science, **London School of Economics**.

30.01.2008: Definitions in Mathematics—Going Beyond Lakatos, invited talk, **St John’s Moral Sciences Club**, **University of Cambridge**.

07.12.2007: On the Justification and Formation of Mathematical Definitions: The Case of Deterministic Chaos, invited talk, **Paris-London-Tilburg Workshop in Logic and Philosophy of Science**, Paris.

15.11.2007: Mathematical Definitions that Capture Real-World Phenomena or Features: On the Formation and Justification of Definitions, **First Conference of the European Philosophy of Science Association**, Madrid, Spain.

31.10.2007: The Special Kind of Unpredictability of Chaotic Systems, **Philosophy Workshop**, Department of History and Philosophy of Science, **University of Cambridge**.

31.03.2007: What is the New Implication of Chaos for Unpredictability?, **15th UK and European Meeting on the Foundations of Physics**, University of Leeds.

25.01.2007: Definitions of Classical Chaos and Their Applicability to Physics, invited talk, **Philosophy of Physics Discussion Group**, Faculty of Philosophy, **University of Oxford**.

14.12.2006: Ueberlegungen zu den Implikationen von Chaos auf Vorhersagbarkeit und Bestaetigung, invited talk, **research seminar**, Department of Philosophy, **University of Salzburg**.

27.11.2006: Definitions of Classical Dynamical Chaos, invited talk, Faculty of Mathematics, **University of Cambridge**.

ADMINISTRATIVE EXPERIENCE AND PROFESSIONAL ACTIVITIES

Academic years 2010-2013. **Academic Advisor** to fifteen undergraduate students in Philosophy and Economics, **London School of Economics**.

December 2009 **Admission interviews and deciding whom to admit as undergraduates in philosophy**, the Queen’s College, **University of Oxford**.

09.2007-09.2009 **Ph.D. Representative of the University of Cambridge, British Postgraduate Philosophy Association (BPPA)**, involved the construction and maintenance of the BPPA webpage, discussing and deciding agendas and actions of the BPPA, providing graduates and post-docs with information relevant to their career, reporting to the BPPA the interests of graduates and post-docs.

08.2004-08.2005 **Delegate of the Council of the Faculty of Humanities** at the University of Salzburg, Austria, involved discussions and voting on how to allocate money and resources to teaching and research in the Humanities.

08.2004-08.2005 **Delegate of the Representation of the Faculty of Humanities** at the University of Salzburg, Austria, involved discussions and preparation of proposals on the strategic development of teaching and research in the Humanities.

PROFESSIONAL AFFILIATIONS

Aristotelian Society, British Society for the Philosophy of Science, European Philosophy of Science Association, Philosophy of Science Association.

AWARDS

04.2011 **Cushing Memorial Prize 2011**, annual prize for significant new work by scholars in the history and philosophical foundations of modern physics (1000 Dollar).

- 10.2006-10.2009 **Honorary Cambridge European Trust Scholar**, Fellow of the Cambridge European Society, University of Cambridge (100 Pounds per year).
- 12.2006 **Award for outstanding achievements in the master's programme in philosophy** from the University of Salzburg (750 Euro).
- 12.2006 **Award for outstanding achievements in the bachelor programme in philosophy** from the University of Salzburg (750 Euro).
- 12.2006 **Award for outstanding achievements in the master's programme in applied mathematics** from the University of Salzburg (945 Euro).
- 10.2006 **Hans Stegbuchner Award for my master's thesis in applied mathematics** from the Department of Mathematics, University of Salzburg (500 Euro).
- 07.2005 **Award of advancement for my master thesis in philosophy** from the University of Salzburg (700 Euro).
- 11.2003 **Award for extraordinary achievements in the bachelor programme of mathematics** from the University of Salzburg (726 Euro).
- 06.2003 **Hans Stegbuchner Award for extraordinary achievements in the academic year 2002/2003**, Department of Mathematics, University of Salzburg (300 Euro).

SCHOLARSHIPS

- 10.2006-10.2009 **Benefactors' Scholarship** from St. John's College for my Ph.D. studies at Cambridge, covering tuition and College fees (5790 Pounds per year), living expenses (12500 Pounds per year) and research expenses (500 Pounds per year).
- 08.2005-12.2005 **Joint Study Scholarship** for a postgraduate stay at Duke University from Duke University Graduate School and the Austrian State covering tuition fees (12968 Dollar), living expenses (3900 Euro) and travel costs (730 Euro).
- 08.2005-12.2005 **Scholarship from the Julius Raab Foundation** for a postgraduate stay at Duke University Graduate School (600 Euro).
- 08.2005-12.2005 **Scholarship from the Kulturfonds of the City of Salzburg** for a postgraduate stay at Duke University Graduate School (500 Euro).
- 09.2003-07.2004 **Erasmus scholarship** for a stay at Oxford Brookes University covering tuition fees (1175 Pounds) and living expenses (2500 Euro).

LIST OF REFERENCES

Professor Robert Brandon
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27708 Durham, North Carolina,
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Dr Jeremy Butterfield
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History and Philosophy of Science
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Department of Philosophy, Logic
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WC2A 2AE London, UK
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Professor Maximilian Thaler
Department of Mathematics
University of Salzburg
Hellbrunnerstrasse 34
5020 Salzburg, Austria
maximilian.thaler@sbg.ac.at

LANGUAGE SKILLS

German: Native language; English: Excellent; Latin: Very Good; French: Basic Knowledge

HOBBIES AND INTERESTS Playing the piano, classical music; politics; international newspapers; photography; sports (climbing, hiking, tennis, cycling, running, cross-country skiing).

CONTACT DETAILS: Dr Charlotte Werndl, Department of Philosophy, Logic and Scientific Method, Houghton Street, London School of Economics, London WC2A 2AE, UK, email: c.s.werndl@lse.ac.uk.