

# ELISE M. CRULL

## Curriculum Vitae, April 2013

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### University Address:

Department of Philosophy  
School of Divinity, History and Philosophy  
King's College, University of Aberdeen,  
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### Home Address:

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## AREAS OF SPECIALIZATION

Philosophy of Physics; History & Philosophy of Science

## AREAS OF COMPETENCE

Metaphysics; Science, Technology & Values; Science & Religion

## EMPLOYMENT

Leverhulme Trust Postdoctoral Research Fellow, **University of Aberdeen** Sept 2011-present

## EDUCATION

PhD, History & Philosophy of Science, **University of Notre Dame** 21 May 2011

Thesis: "Quantum Decoherence and Interlevel Relations"

Director: Don Howard (HPS, philosophy)

Committee: Katherine Brading (HPS, philosophy),

John LoSecco (physics), Michael Rea (philosophy)

M.A., Philosophy, **University of Notre Dame** 06 Jan 2008

B.Sc. (Hon.), Physics; Astronomy minor, **Calvin College** 21 May 2005

## PUBLICATIONS

### 1. Books

*The 'Einstein Paradox': The Debate on Nonlocality and Incompleteness in 1935* expected 2015  
Co-authored with Guido Bacciagaluppi  
forthcoming from Cambridge University Press

### 2. Edited Volumes

*Grete Hermann: Between Physics and Philosophy* expected 2014  
co-edited with Guido Bacciagaluppi  
forthcoming from Springer

### 3. Papers/Chapters

"The Road to Leipzig and the 1935 Thesis" forthcoming 2014  
In *Grete Hermann: Between Physics and Philosophy*

Translation (English) of: G. Hermann, 'Die naturphilosophische Grundlagen der Quantenmechanik' (1935), forthcoming 2014  
In *Grete Hermann: Between Physics and Philosophy*

"Recent Work in the Philosophy of Physics" forthcoming 2013  
Commissioned for *Analysis Reviews*



## GRANTS, FELLOWSHIPS & HONORS

Leverhulme Trust Research Project Grant (UK) with Dr. Guido Bacciagaluppi	2011-2013
History of Quantum Physics Young Scholar Bursary	2010
University of Aberdeen Visiting Scholar Bursary	2010
Nanovic Institute for European Studies Graduate Initiatives Grant	2010
University of Notre Dame HPS Program Research & Travel Grant	2010
Graduate Student Development Grant, Institute for Scholarship in the Liberal Arts, University of Notre Dame	2010
Nanovic Institute for European Studies Graduate Travel & Research Grant	2009
University of Notre Dame HPS Program Research & Travel Grant	2009
Ian Langham Prize, Best Graduate Talk at Australasian Assoc. for History, Philosophy & Social Studies of Science Annual Meeting	2008
University of Notre Dame Lasalle-Mistic-Fitzgerald Fellowship	2008
University of Sydney (Australia) Visiting Researcher Grant	2008
Graduate Student Professional Development Grant, Institute for Scholarship in the Liberal Arts, University of Notre Dame	2008
University of Notre Dame HPS Program Summer Fellowship	2006-2007
Graduate Fellowship, University of Notre Dame	2005-2006
Presidential Scholarship, Calvin College	2001-2005
Mentoring Scholarship, Calvin College	2002-2005
Summer Science Research Fellowship in Physics, Calvin College	2003-2004
Roger D. Griffioen Physics Scholarship	2002-2003
Colorado Calvin Alumni Scholarship	2001-2002

## RESEARCH

Historical and Philosophical Foundations of Quantum Theory with Dr. Guido Bacciagaluppi	2008-2013
Structuralist Approaches to Physics with Dr. Katherine Brading & Alex Skiles	2006-2009
Research Assistantship for Dr. Don Howard, on the following: -“Albert Einstein: Physicist, Philosopher, Humanitarian.” (Lecture series for The Teaching Company, 2008) - <i>Scientific Philosophy: Its Origins and Development, 1850 to 1950.</i> (Routledge; in preparation) - <i>Einstein.</i> (Blackwell Great Minds Series; in preparation) -Bibliographical research on Walther Bothe	2008
Multi-wavelength Radio Imaging of the Saturn System with Dr. Larry Molnar, Calvin College	2003-2005
Worship in the Teachings of Early American Theologians with Dr. John Witvliet, Calvin Institute of Christian Worship	2005
Aesthetics in Mathematics and Physics For interdisciplinary Aesthetics Colloquia organized by Dr. Laura Smit, Calvin College	2004

## INVITED TALKS

- "Scientific Realism and the Case of Weak Interactions" 04 Feb 2013  
Philosophy Department/Center for Philosophy of Science  
University of Minnesota, Minneapolis MN
- "Mereology No More? Parts, Wholes & Quantum Decoherence" 24 April 2011  
Formal Philosophy Workshop,  
University of Chicago, Chicago IL
- "There IS No Classical World: philosophical lessons from quantum decoherence" 02 Dec 2010  
Issues in Contemporary Physics Seminar,  
Indiana University South Bend, South Bend IN
- "Something Old, Something New: Heisenberg's Response to EPR" 30 April 2010  
New Directions in the Foundations of Physics,  
Washington, D.C.
- "Quantum Decoherence" 16 April 2010  
Lecture for advanced undergrad phil physics course (Dr. K. Brading),  
University of Notre Dame, Notre Dame IN
- "Quantum Decoherence" 06 April 2010  
Calvin College Physics Department Colloquium,  
Grand Rapids MI
- "Faraday, Thomson and Maxwell on Fields" Feb 2010  
Lecture for advanced undergrad electromagnetism course (Dr. M. Caprio),  
University of Notre Dame, Notre Dame IN
- "Christians and Scientific Realism", June 2009  
Science, Philosophy & Belief Conference,  
Peking University, Beijing, China
- "Should Christians be Structural Realists?" Oct 2008  
Calvin College Christian Perspectives in Science Seminar,  
Grand Rapids MI
- "The *Other* Response to EPR: Heisenberg's 'Ist eine deterministische Ergänzung der Quantenmechanik möglich?' " May 2008  
History of Quantum Physics Satellite Workshop,  
University of Sydney, Australia

## CONFERENCE/WORKSHOP PRESENTATIONS

- Jordan's Derivation of Blackbody Radiation, April 2013  
with Guido Bacciagaluppi and Owen Maroney  
U.K. Integrated History & Philosophy of Science Workshop  
University of Aberdeen, Aberdeen, U.K.
- "Can There Be Metaphysically Robust Interlevel Relations?" Dec 2012  
Scots Philosophical Association Annual Meeting  
University of Aberdeen, Aberdeen, U.K.

"Hermann's Road to Leipzig and the 1935 Thesis" Grete Hermann Workshop University of Aberdeen, Aberdeen, U.K.	May 2012
"Mereology No More? Parts, Wholes & Quantum Decoherence" Philosophy Graduate Student Seminar, Notre Dame	April 2011
"Grete Hermann and the Gamma-Ray Microscope <i>Gedankenexperiment</i> " 3 <sup>rd</sup> History of Quantum Physics Conference ("HQ-3"), Max Planck Institute, Berlin, Germany	July 2010
"Grete Hermann and the Gamma-Ray Microscope <i>Gedankenexperiment</i> " International History of Philosophy of Science Conference, Central European University, Budapest, Hungary	June 2010
"Realism vs. the Pessimistic Meta-Induction, Scene II: from Fermi's theory to universal weak interactions" Logic, Mathematics and Physics Grad Philosophy Conference, University of Western Ontario, Ontario, Canada	April 2009
"A (So-So) Novel No-Go: Heisenberg on Hidden Variables (1927-1935)" 2 <sup>nd</sup> Integrated History and Philosophy of Science Conference, University of Notre Dame, Notre Dame, Indiana	March 2009
"Heisenberg on Hidden Variables", with Guido Bacciagaluppi 2 <sup>nd</sup> History of Quantum Physics Conference ("HQ-2"), Universiteit Utrecht, Utrecht, the Netherlands	July 2008
"The <i>Other</i> Response to EPR: Heisenberg's 'Ist eine deterministische Ergänzung der Quantenmechanik möglich?'" AAHPSSS stream, Australasian Association of Philosophy Conference Monash University, Melbourne, Australia	July 2008
"The Course of True Science Ne'er Did Run Smooth: Einstein, Special Relativity & the Nature of Science", with Joe Fremeau Hoosier Association of Science Teachers, Inc., annual conference Indianapolis, Indiana	Feb 2008
"Just What is That Stuff in the Gray Box For? The Nature of Science in Textbooks", with Joe Fremeau Hoosier Association of Science Teachers, Inc., annual conference Indianapolis, Indiana	Feb 2008
"Beyond Bohr: Investigating Heisenberg's Response to the EPR Paper" 25 <sup>th</sup> MEPHISTOS Grad Conference University of California, Los Angeles, California	April 2007
"Helmholtz, Poincaré and Structural Realism: What a Comparison Reveals" Presentation to HPS Reading Group University of Notre Dame, Notre Dame, Indiana	Sept 2006

## TEACHING

### *Instructor*

STV 20556: <i>Science, Technology and Society</i>	Spring 2011
STV 20556: <i>Science, Technology and Society</i> co-instructors: Dr. Erik Peterson, Greg Macklem	Spring 2010
HPS 63714 (Graduate Summer Class): <i>Einstein, Bohr, and the History of 20<sup>th</sup> Century Physics</i> co-instructor: Joe Fremeau	Summer 2007

### *Assistantships*

PHIL 20203: <i>Death &amp; Dying</i> , with Dr. Ted Warfield	Spring 2009
PHIL 10100: <i>Introduction to Philosophy</i> , with Dr. Jeff Speaks	Fall 2008
PHIL 22603: <i>Medical Ethics</i> , with Dr. David Solomon	Fall 2007
PHIL 20214: <i>Ancient Wisdom, Modern Love</i> , with Dr. Dave O'Connor	Spring 2007
PHIL 10100: <i>Introduction to Philosophy</i> , with Dr. Bill Ramsey	Fall 2006

### *Training*

Kaneb Center Graduate Teaching Workshop University of Notre Dame	August 2006
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## PROFESSIONAL SERVICES

Reviewer for <i>Philosophy of Science</i>	Dec 2012--
Organizer (with Guido Bacciagaluppi & Ben Marsden) & Presenter for 8 <sup>th</sup> Annual U.K. Integrated History & Philosophy of Science Workshop, University of Aberdeen	April 2013
Organizer (with Guido Bacciagaluppi) & Presenter for Grete Hermann Workshop, University of Aberdeen	May 2012
Invited Discussant/Presenter for Structuralism in Physics Workshop University of Notre Dame	Dec 2010
Invited Discussant for the Seven Pines Symposium Outing Lodge, Stillwater, Minnesota	May 2010
Invited Respondent for LOGOS Philosophical Theology conference Rutgers, New Jersey	May 2010

## MEMBERSHIPS

American Philosophical Association (APA)	Sept 2012- present
Scots Philosophical Association (SPA)	Sept 2011- present
History of Philosophy of Science Association (HOPOS)	2010 - present
Society of Christian Philosophers (SCP)	2009 - present
Philosophy of Science Association (PSA)	2008 - present
History of Science Society (HSS)	2008-2009

## **LANGUAGES (aside from English):**

Reading: high competence in German; moderate competence in Spanish and French

Writing: moderate competence in German and Spanish

Speaking: basic competence in German and Spanish

## **REFERENCES**

Dr. Guido Bacciagaluppi  
University of Aberdeen  
Department of Philosophy  
The Old Brewery G02  
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Aberdeen AB24 3UB UK  
Phone: +44 01224 272913  
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