

## THE DEPARTMENT OF LOGIC AND PHILOSOPHY OF SCIENCE FIVE-YEAR REVIEW SELF-STUDY

The Department of Logic and Philosophy of Science (LPS) was founded at UC Irvine in 2000. It is generally considered to have one of the best Ph.D. programs in the world for the philosophy of science, mathematics, and logic. Indeed, LPS arguably has the best Ph.D. program in the United States for the fields it covers and is among the top two with Oxford University worldwide. We are proud of this distinction and seek to both preserve and extend our reputation. Because LPS is, by its very nature, an interdisciplinary department, we are able to benefit from other strong programs in the School of Social Sciences and across campus and support our colleagues in related fields.

### SECTION 1: ANALYSIS OF PAST REVIEWS

1. Briefly characterize the last review of the Department's **undergraduate program**, conducted in 2002-03.

a. What were the key strengths and weaknesses of the program cited by the external review committee?

The key strengths identified were the quality of teaching of the LPS faculty, the support LPS provides to teaching courses that satisfy undergraduate major requirements in philosophy and allied fields on campus, the support LPS provides to teaching in courses that satisfy campuswide breadth requirements, and the contribution to interdisciplinary undergraduate education generally at UC Irvine.

While LPS has no undergraduate majors, reviewers did suggest that LPS might expand its undergraduate offerings, especially at the freshman and sophomore levels. The thought was that this would (i) help lead students into more advanced LPS courses, (ii) provide increased TA opportunities for LPS graduate students, and (iii) provide more enrollment credit for LPS faculty (at the time of the review, LPS faculty were not getting credit for students taking their courses under a philosophy course number).

b. Describe the specific steps that have been taken to respond to the recommendations from the last review.

LPS has implemented several new lower-division undergraduate courses in conjunction with departments across the campus. The most recent offering, is a course that will teach the history and philosophy of science to biology majors. This course will be required for students who are aiming to teach biology at the high school or junior college level. This and other new LPS undergraduate offerings are discussed below in the section on undergraduate education.

LPS has also made a long-term commitment to teaching in Social Sciences sequence of the Campuswide Honors Program. The honors course that Stanford and Barrett teach each year provides three additional TAs for LPS students and, as predicted, has led to some of the best undergraduate students on campus continuing to take more advanced courses from LPS faculty. Several of these students have subsequently been placed at in top Ph.D. programs in philosophy (most recently Porter Williams at Columbia University). LPS has also considered the possibility of working with Philosophy, Political Science, and Economics to implement a PPE program.

2. Briefly characterize the last review of the Department's **graduate program**, conducted in 2002-03.

a. What were the key strengths and weaknesses of the program cited by the external review committee?

The cited strengths included the strong international reputation of the LPS faculty for excellent research and graduate mentoring, a well-thought-out graduate program, and a strong placement record of graduate students into academic jobs.

Two areas of potential improvement were suggested. (1) At the time of the last School review, there were only thirteen graduate students in the department; it was suggested that this number might be increased to provide a critical mass for the purpose of interactions. (2) The main weakness, however, was that the maximum graduate funding package that LPS was able to offer was not nearly as attractive as the packages being offered by similarly prestigious programs—even at public universities. Indeed, reviewers judged the maximum graduate funding we were able to provide to be “grossly inadequate” given the quality of the program. The concrete minimal proposal made was that there should be at least some provision for star-student support packages in order to allow some degree of competitiveness for the very best students.

b. Describe the specific steps that have been taken to respond to the recommendations from the last review.

Since the last review, we have increased the number of graduate students in the program to a current size of approximately twenty, and we have done this without sacrificing in the quality of students in any way. Indeed, our current graduate students are arguably the strongest group we have had. The level of interaction among our students and between our students and their colleagues in philosophy are what one would expect in a healthy graduate program. Further details concerning the status of the graduate program are discussed more detail in the appropriate section below.

Since the issue of graduate funding is also discussed in detail below, we will provide only a short reply here. We have worked with the School of Social Sciences to try to find better support packages for our students. The School has been very generous by

UC Irvine Social Sciences and Humanities standards in providing us options for star students, but we still lag far behind the competition in what we can offer even the very best students. Consequently, we are only able to recruit these students if they are willing to trade five years of full fellowship support for about one and a half years of fellowship support in order to attend UC Irvine. The graduate funding situation has been made more difficult yet with the recent budget problems.

In order to help address this problem, LPS faculty have been applying for external grants with a portion of the grant aimed at graduate support whenever our research projects allow for this model of funding. Both we and the School have also been active in encouraging our students to apply for outside money. But this is not a funding model that can support our students at the levels that competing programs support their students. Give that only a relatively small portion of the research we do is the sort of research where graduate students might help directly, we simply cannot count on supporting our students on faculty grants. Consequently, even our best efforts in securing external resources can provide only an ad hoc and intermittent way of funding a few of our students. The bottom line is that this is no substitute for the sort of internal and comprehensive graduate fellowship support that competing programs offer. We will discuss this issue further in the appropriate section below.

## SECTION 2: ANALYSIS OF CURRENT PROGRAMS

### 1. Overview of Department

a. Provide a brief history of the Department and a description of its organization (e.g., degree programs, disciplinary specialties, etc.). Include a description of any formal interactions with other Departments and/or other units on campus.

Since its founding in 2000, the Department of Logic and Philosophy of Science has rapidly become one of the best Ph.D. programs in the world for the fields it covers: the philosophy of science, mathematics, and logic.

LPS enjoys strong cooperative relations with the Department of Philosophy in the School of Humanities. LPS and the Department of Philosophy jointly administer a single graduate program leading to the Ph.D. in Philosophy with two independent tracks: (1) the Philosophy Track and (2) the LPS Track. Each track begins with a common core of requirements in standard philosophical fields (e.g., history of philosophy, logic, ethics, metaphysics, and epistemology), then branch off thereafter. Both lead to a Ph.D. in Philosophy. Admissions to each track are made independently by the faculties of the two departments. Each department reports to its own school for graduate funding and the allocation of other resources.

LPS also has formal relationships with several other units on campus including mathematics, physics, biology, computer science, economics, and mathematical behavioral sciences. These relationships are based largely in seminars and such

reflecting shared research interests and in reciprocal commitments to teach courses that serve graduate and/or undergraduate requirements.

b. Provide a list of all current full-time faculty organized alphabetically within rank (include graduate degree institution and a brief set of research interests).

Below is a list of LPS faculty and affiliates followed by a list of Philosophy faculty and affiliates. LPS graduate students have close access to these faculty.

### **LPS Faculty**

Jeffrey A. Barrett, Ph.D. Columbia University; Professor and Chair: Philosophy of science, philosophy of physics, philosophy of quantum mechanics, epistemology

Jeremy Heis, Ph.D. University of Pittsburgh; Assistant Professor: History and philosophy of mathematics and logic, early analytic philosophy

Simon Huttegger, Ph.D. University of Salzburg; Assistant Professor: Game and decision theory, philosophy of biology, philosophy of science

Kent Johnson, Ph.D. Rutgers University; Associate Professor: Philosophy of language, philosophy of mind

Penelope Maddy, Ph.D. Princeton University; UCI Distinguished Professor: Philosophy of mathematics, philosophy of logic, naturalism, history of analytic philosophy

David Malament, Ph.D. Rockefeller University; UCI Distinguished Professor: Foundations of relativity theory, philosophy of physics

Brian Skyrms, Ph.D. University of Pittsburgh; UCI Distinguished Professor: Philosophy of science, decision theory, game theory, philosophy of biology, epistemology, metaphysics

Kyle Stanford, Ph.D. University of California, San Diego; Associate Professor: Philosophy of science, philosophy of biology, history of modern philosophy, metaphysics

Kai F. Wehmeier, Ph.D. Westfälische Wilhelms-Universität Münster; Associate Professor: Logic, philosophy of mathematics, history of analytic philosophy

Wayne Wright, Ph.D. Temple University; Assistant Professor: Philosophy of mind, philosophy of psychology, cognitive science

### **Affiliated LPS Faculty**

Wayne Aitken (CSUSM): Mathematical logic and number theory

Francisco Ayala: Evolutionary biology, philosophy of science, philosophy of biology

Patricia Churchland (UCSD): Philosophy of neuroscience and psychology

Paul Churchland (UCSD): Philosophy of science, philosophy of mind, artificial intelligence and cognitive neurobiology, epistemology, and perception

Paul Eklof: Mathematical logic

Matthew Foreman: Mathematical logic

Steven Frank: Evolutionary biology

Donald Hoffman: Human and machine vision

Duncan Luce: Mathematical behavioral science

D.A. Martin (UCLA): Logic, set theory, philosophy of mathematics

James McGaugh: Neurobiology of learning and memory

Yiannis Moschovakis (UCLA): Set theory, recursion theory

Louis Narens: Measurement, logic, and metacognition

Riley Newman: Experimental particle physics and gravitational physics

Terence Parsons (UCLA): Philosophy of language, metaphysics

Donald Saari: Mathematical economics, mathematical behavioral science, celestial mechanics

Jonas Schultz: Experimental particle physics

Norman Weinberger: Neural bases of attention and learning

Martin Zeman: Logic and combinatorics

**Philosophy Faculty** (in the School of Humanities)

Ermanno Bencivenga, Ph.D. University of Toronto, Professor of Philosophy (logic, history of philosophy, philosophy of language)

Sven Bernecker, Ph.D. Stanford University, Professor of Philosophy (epistemology, contemporary philosophy of mind)

M. Oreste Fiocco, Ph.D. University of California, Santa Barbara, Assistant Professor of Philosophy (metaphysics, epistemology, philosophy of language, ethics)

Margaret Gilbert, D. Phil. Oxford University, Professor of Philosophy and Abraham I. Melden Chair in Moral Philosophy (moral and political philosophy, philosophy of social science, social ontology, and collective intentionality)

Sean Greenberg, Ph.D. Harvard University, Assistant Professor of Philosophy (history of Early modern philosophy)

Aaron James, Ph.D. Harvard University, Associate Professor of Philosophy (ethics, political philosophy)

S. Nicholas Jolley, Ph.D. Cambridge University, Professor of Philosophy (early modern philosophy, political philosophy)

Bonnie Kent, Ph.D. Columbia University, Professor of Philosophy (ethics, medieval philosophy)

Martin Schwab, Ph.D. University of Bielefeld (Germany), Director of the Minor in Humanities and Law and Professor of Philosophy and Comparative Literature (nineteenth- and twentieth-century continental philosophy)

David W. Smith, Ph.D. Stanford University, Department Chair and Professor of Philosophy (phenomenology, Husserl, ontology, philosophy of mind)

### **Affiliated Philosophy Faculty**

Francisco J. Ayala, Ph.D. Columbia University, University Professor and Donald Bren Professor of Biological Sciences

Matthew D. Foreman, Ph.D. University of California, Berkeley, Professor of Mathematics and of Logic and Philosophy of Science

Donald Hoffman, Ph.D. Massachusetts Institute of Technology, Professor of Cognitive Sciences

Paul Hoffman, Ph.D. University of California, Los Angeles, Professor of Philosophy, UCR (history of early modern philosophy, moral psychology, philosophy of mind)

Kristen R. Monroe, Ph.D. University of Chicago, Professor of Political Science

Terence Parsons, Ph.D. Stanford University, Professor of Philosophy, UCLA (philosophy of language, Medieval philosophy)

Roger N. Walsh, M.B.B.S., Ph.D. University of Queensland, Professor of Psychiatry and Human Behavior

c. Discuss the distribution of the faculty in terms of rank, gender, and ethnicity (*Table 2*). Provide information about faculty recruitment and retention, including efforts to diversify the faculty, since the Department's last review. Referring to data from the Office of Equal Opportunity and Diversity (*Table 3*), evaluate the Department's success in achieving diversity in terms of national availability. Does the Department have a plan, and is the plan being effectively implemented?

LPS has an acceptable distribution of faculty across rank, but we could use two or three junior and/or midcareer appointments to help balance the distribution and prepare for the future. LPS is the only department at UC Irvine with three UCI

Distinguished Professors; that the department only has ten faculty total makes this particular remarkable. It is of critical importance to the reputation of the department that we build a strong midcareer faculty as the more senior colleagues approach retirement.

LPS is committed to working toward increased diversity among faculty. Among other virtues, we believe that this will help us serve our students, both undergraduate and graduate better both in instruction and in mentoring. We have recruited four new faculty since the last review and have had two faculty move to other universities. None of these were women or minorities.

Some evidence of the national availability of women in the field is provided in the list of potential reviewers for LPS that external nominators suggested for the purposes of the current five-year school review: of the eighteen distinguished reviewers nominated by the external nominators, none were female. While there are women in the field doing excellent work, they are unfortunately quite rare in proportion to the field as a whole. Against this background, we are very fortunate indeed to have Professor Penelope Maddy as a colleague in LPS as she is generally regarded as one of the very best philosophers of mathematics in the world.

Our strategy in addressing diversity has been (1) to try to identify talented women while they are still graduate students, then to specifically encourage them to apply to LPS when we have a job opening and (2) to work towards having a good representation of diversity on our short list for each position when we do conduct a search. This strategy has led to our making two offers to excellent women candidates since the last review. While the Dean has been very supportive in providing resources to help us recruit women candidates, neither of these women accepted our offer. In one case, the candidate felt she was a better match in a traditional philosophy department and ended up at UC Berkeley. In the other case, the candidate reported considerations involving career options for family and proximity to family leading to her decision.

d. How many part-time and/or visiting instructors are in the Department and how are they deployed in the instructional program? How many individuals are in the research specialist and professional researcher series and how are they deployed in the program?

We do not rely on lecturers or visiting faculty to teach any of our courses. If a distinguished colleague is visiting, we may offer him or her the opportunity to teach a graduate seminar. Also, visitors to LPS on the Salzburg Exchange Program sometimes teach courses in their field of specialization.

e. Describe your system of Departmental governance, in particular the procedures for and effectiveness of faculty involvement in curricular development, instructional resource allocation, and service activities to the School and campus.

Some decisions in LPS are made by individuals in their department roles, some by standing or ad hoc department committees, and some collectively. Since our department is relatively small and focused and since there is typically an ample supply of goodwill, everyone is involved in decision making at all levels and we are able to reach consensus on most issues.

All LPS faculty have at least one department responsibility. Perhaps the most time-consuming over the academic year are department chair and director of graduate studies. Slightly less work, but still considerable, is the director of undergraduate studies. The personnel officer, graduate recruitment officer, the chair of the admissions committee, and the chair of the placement committee also involve a significant amount of work, but much of this work is focused in one portion of the academic year. Ad hoc search committees and such, of course, can involve enormous amounts of work.

A few short examples of how we make decisions might be helpful. While we have a standing committee for graduate admissions that compiles relevant data and makes rough recommendations to the department, it is the department that together decides the final ranking of graduate students. Similarly, while we will typically form an ad hoc search committee with an ad hoc chair, it is the department that together decides the ranking of candidates. When prospective graduate students visit campus, they typically meet with each member of the department. LPS graduate students advance to candidacy by way of a portfolio exam: each member of the department reads at least one paper written by the student, then the entire department meets to discuss this work, and each member of the department reports on what he or she read. And, finally, the entire department reviews each graduate student each Spring Quarter with the DGS and the student's advisor leading the discussion. While these meetings typically involve detailed considerations, largely because of the shared standards and goodwill of LPS faculty, they are surprisingly efficient.

f. Describe the Department policy on teaching workload for formal graduate and undergraduate courses including information about course release policies for research and administrative service, and any changes in policy since the last review.

The teaching load for LPS is five quarter courses per year where the first service course counts as two courses. Because of the service-course policy and because everyone teaches at least one service course, the normative teaching load for LPS faculty is four courses per academic year.

LPS faculty are typically limited to one graduate seminar per year unless the seminar is cohabited with an upper-division undergraduate course, in which case, there is no limit. Cohabited courses only count as one course toward teaching credit.

The LPS department chair receives a one-course-per-year teaching reduction and the director of undergraduate studies currently receives a one-course-per-year reduction.



As Editor-in-Chief for the journal *Philosophy of Science*, Barrett receives a one course per year teaching reduction.

- g. What are the strengths of the Department's research program, and how does the overall research program compare with top national research programs in the discipline/field?

The standard reputational peer survey for philosophy Ph.D. programs worldwide, the 2009 Philosophical Gourmet report, currently ranks LPS at UC Irvine as tied for first in decision theory, rational choice, and game theory; tied for second in general philosophy of science and philosophy of physics and philosophy of social science; tied for third in philosophy of mathematics; tied for fifth in mathematical logic; tied for ninth in philosophical logic; and tied for seventeenth in philosophy of biology. Together these specialty rankings put the Department of Logic and Philosophy of Science as the top ranked graduate program in the United States for the philosophy of science, mathematics, and logic; and one of the top two in the world with Oxford University.

The philosophy department adds to the richness of the program with excellent rankings in Medieval Philosophy, Early Modern Philosophy: 17<sup>th</sup> century, and the history of analytic philosophy. Overall, UC Irvine's philosophy program is tied for twenty-third.

- h. Describe the working relationship between the Department and the Dean's office.

This relationship is strong and productive. The Dean of the School of Social Sciences is nearly always readily available for discussions with the LPS Chair and faculty. Further, we believe that the School has been very supportive of LPS and cares about the future of the department.

- i. Comment on the adequacy of the Department's operating budget, staff support, and space/facilities/equipment (*Table 2*).

Due to the UC budget crisis, our current operating budget is inadequate to meet the needs of LPS. This has affected everything from our ability to hold our biannual workshop series to the level of staff support in the department. The longer this lasts, the more it will hurt us. But this is likely true for other units throughout the School and across the Campus and University.

That said, we believe that the School's Dean and Assistant Dean have done everything they can to minimize the negative impact of the budget crisis. We also believe that there is a strong commitment in the School to restore our operating budget to a normal level as soon as possible.

- j. Provide narrative explanation and a brief table of general budget categories and expenditures (no more than a single page) (*Table 4*)

There is not much to say about the current LPS operating budget. The only thing left that might be cut would be the colloquium and the allocation for a small Frege workshop with matching funds. We are thankful that these lines have not been eliminated yet for the sake of morale and in case we need to borrow from these lines to make ends meet elsewhere.

k. Comment on Development activities at the Department level and provide data on amount and sources of gift funding for the past 5 years (*Table 5*).

While we are working to increase our external grant support, we do not expect many donor gifts to LPS since our graduate students tend to stay in academics and since what we do is a little difficult to explain to potential donors. We do, however, work to support Development whenever there has been a natural connection.

## 2. Evidence of Faculty Distinction

a. Discuss evidence for faculty/departmental distinction in research, teaching, and service (e.g., faculty research productivity in publications and extramural grant support, scholarly awards and honors, teaching awards, and distinguished service to the school, campus, university, and/or scholarly field).

LPS is generally recognized as the best place in the United States and one of the two best places in the world to study the philosophy of science, mathematics, and logic. Among the ten regular faculty, LPS has three *UCI Distinguished Professors*, three members of the *American Academy of Arts and Sciences*, one member of the *National Academy of Science*, a former President of the Philosophy of Science Association (PSA), the current President of the Association of Symbolic Logic, the current Editor-in-Chief of *Philosophy of Science*, the official journal of the PSA, one of the three Associate Editors of *Philosophy of Science*, a current member of the PSA Governing Board, and several younger faculty who are on track for such honors and responsibilities, one of whom won the PSA award for the best paper by a recent Ph.D. last year.

While the faculty bios below do a good job of characterizing the quality of the LPS faculty, it might be helpful to list a few recent events.

There have been three widely-reviewed books and discussed come out of the department in the last few years. Since the last review, Professor Penelope Maddy was selected for the Lakatos Award, the highest honor for a book in the philosophy of science, for her book *Naturalism in Mathematics* (Oxford University Press).

The editorial offices of the journal *Philosophy of Science* were moved to LPS in July of 2009. The agreement is for the journal to be here until July 2014.

There is currently an NSF grant in the department to sort, catalogue, and preserve the recently discovered documents of Hugh Everett III on the foundations of quantum

mechanics. Scans of these documents will become a part of the UC digital library, the originals will be moved to the American Institute of Physics, and typescript versions of the most important of these documents with commentary will be published by Princeton University Press.

There is also a large Department of Defense grant in LPS and Cognitive Science concerning applications of decision theory and evolutionary game theory.

In addition, LPS has a strong reputation for school and campus service. As a recent example, two members of LPS have served on CAP, the committee that reviews promotion and tenure decisions for the campus, in the last three years.

b. Provide biographical sketches (limit to 3 pages each) for all current full-time Departmental faculty (organized alphabetically).

**ACADEMIC PROGRAM REVIEW, SCHOOL OF SOCIAL SCIENCES,  
AY 2009-10**

**FACULTY BIOGRAPHICAL SKETCH FOR PERIOD  
SINCE LAST ACADEMIC UNIT REVIEW IN AY 2002-03  
DO NOT EXCEED THREE (3) PAGES + ATTACHMENTS**

NAME  Jeffrey A. Barrett	POSITION TITLE AND DEPARTMENT  <u>UCI Professor and Chair, Department of Logic and Philosophy of Science.</u>		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUD
Brigham Young University	B.A.	1986	Physics
Columbia University	M.A.	1991	Philosophy
Columbia University	M.Phil.	1991	Philosophy
Columbia University	Ph.D.	1992	Philosophy

A. **Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 141C-Quantum Mechanics (18); LPS 241 Quantum Mechanics (1); University Studies 3-Quantum Mysteries(13); LPS 298- Independent Study (1); LPS 299- Dissertation Research (1).

Winter 2003

LPS 102-Introduction to Knowledge (59); LPS 4B-Case Studies in Social Science (9); LPS 299-Dissertation Research (1).

Spring 2003

LPS 298- Independent Study (1); LPS 299- Dissertation Research (1).

Fall 2003

LPS 141C-Quantum Mechanics (20); LPS 241 Quantum Mechanics (2); UniStu 3-Quantum Mysteries (9); Soc Sci H1G-Honors: Critical Issues (156); LPS 299- Dissertation Research (1).

Winter 2004

LPS 102-Introduction to Knowledge (56); LPS 199- Independent Study (1); LPS 299-Dissertation Research (1).

Spring 2004

LPS 298- Independent Study (1); LPS 299- Dissertation Research (1).

Summer 2004

LPS 31- Inductive Logic (20).

Fall 2004

LPS 141C-Quantum Mechanics (25); LPS 241 -Quantum Mechanics (5); Uni Stu 3-Quantum Mysteries (13).

Winter 2005

LPS 102-Intro to Knowledge (74).

Fall 2005

H1G Honors: Critical Issues (149); University Studies 3-Quantum Mysteries (14).

Winter 2006

LPS 102-Intro to Knowledge (71); LPS 221-Epistemology of Science (5).

Fall 2006

H20C-Honors: Critical Issues (149); University Studies 3-Serious Puzzles (17).

Spring 2007

LPS102-Intro to Knowledge (53); LPS 241-Quantum Mechanics (4); LPS 141C-Quantum Mechanics (15).

Fall 2007

LPS 199- Independent Study (1); Soc Sci H1G - Honors: Critical Issues (145) ; University Studies- 197A Medical Uncertainty (1).

Winter 2008

LPS 102-Intro to Knowledge (36); LPS 199-Independent Study (1); LPS 221- Pragmatism (9); LPS 298-Independent Study (5).

Spring 2008

University Studies 7- Medical Uncertainty (13); LPS 141C -Quantum Mechanics (16); LPS 241-Quantum Mechanics (5); LPS 298-Independent Study (1); LPS 299- Dissertation Research (1).

Fall 2008

SocSci H1G-Honors: Critical Issues (177); LPS 199-Independent Study (1); LPS 299-Dissertation Research (1).

Winter 2009

LPS 141C- Quantum Mechanics (7); LPS 241-Quantum Mechanics (4); LPS 298-Independent Study (2); LPS 299- Dissertation Research(1).

Spring 2009

LPS 298-Independent Study (1); LPS 299-Dissertation Research (3).

Summer II 2009

LPS 31-Introduction to Inductive Logic (15).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	1	6
Ph.D. students advanced to candidacy (in progress) during this period	3	2
Number of other Ph.D. students supervised	8	21

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 5

C. **Awards and Honors** (*in chronological order since 2002-03*):

2009-present Selected by the PSA Governing Board to serve as Editor-in-Chief for the official PSA journal *Philosophy of Science*.

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

2001-07 Department Chair, Logic and Philosophy of Science

2003-present Campuswide Honors Program Faculty, UC Irvine

2004-05 Chair of the Nominating Committee for the Philosophy of Science Association.

2008-2009 Member of the Council on Academic Personnel (CAP) UC Irvine

2009-present Department Chair, Logic and Philosophy of Science

E. **Summary of Research** (250 words or less)

My current research falls into three areas. (1) Philosophy of Physics: I am under contract with Princeton University Press to edit a new volume of Hugh Everett III's papers and correspondence with commentary. In addition to textual commentary, this volume will contain an extended conceptual introduction to Everett's proposal for solving the quantum measurement problem and reconstructions of his formulation of quantum mechanics. (2) Logic: Wayne Aitken and I are working to formulate class theory in the context of algorithmic logic. We are also continuing to investigate the properties of transfinite computational models for the logic. (3) Evolutionary Game Theory: I am working on applying Skyrms-Lewis sender-receiver games to formulate a dispositional belief-revision theory of knowledge that allows for the coevolution of predictive dispositions and very simple descriptive languages.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

1. Current Research Grants

2009-2010 PI on an NSF Grant *Everett Papers Archive and Commentary*: \$162k. The grant is to preserve and catalog the most important recently discovered Everett documents. Peter Byrnes is serving as a subcontractor on this grant.

2. Research Grants completed since 2002-03

3. Pending Grants

## G. Research Publications

Career Total = 38

Total since AY 2002-03 = 21

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

Barrett, J.A. and W. Aitken (2009) "On the Physical Possibility of Ordinal Computation." Forthcoming.

Barrett, J. A. and K. Zollman (2008) "The Role of Forgetting in the Evolution and Learning of Language," forthcoming in the *Journal of Experimental and Theoretical Artificial Intelligence*.

Barrett, J. A. (2008) "Faithful Description and the Incommensurability of Evolved Languages," forthcoming in *Philosophical Studies*.

Barrett, J. A. (2008) "Approximate Truth and Descriptive Nesting," *Erkenntnis* 68: 213-24.

Barrett, J. A. (2008) "Everett's Relative-State Formulation of Quantum Mechanics," *The Stanford Encyclopedia of Philosophy*. <http://plato.stanford.edu/entries/qm-everett/>.

Barrett, J. A. (2007) "Dynamic Partitioning and the Conventionality of Kinds," *Philosophy of Science* 74: 527-46.

Aitken W. and J. A. Barrett (2007) "Abstraction in Algorithmic Logic," *Journal of Philosophical Logic* 37: 23-43.

Barrett, J. A. (2007) "The Evolution of Coding in Signaling Games," forthcoming in *Theory and Decision*. Online First Springer link:  
<http://www.springerlink.com/content/mw21n3h118204g4x/>

Aitken W. and J. A. Barrett (2007) "Stability and Paradox in Algorithmic Logic," *Journal of Philosophical Logic*, 36(1): 61-95.

Barrett, J. A. (2006) "A Quantum-Mechanical Argument for Mind-Body Dualism," *Erkenntnis*, 65(1): 97-115.

Barrett, J. A. (2005) "Relativistic Quantum Mechanics Through Frame-Dependent Constructions," *Philosophy of Science*. 72: 802-813.

Barrett, J. A. (2005) “The Preferred Basis Problem and the Quantum Mechanics of Everything,”  
*British Journal for the Philosophy of Science*. 56(2): 199-220.

Aitken W. and J. A. Barrett (2004) “Computer Implication and the Curry Paradox,”  
*Journal of Philosophical Logic*. 33(6): 631-637.

Barrett, J. A. (2003) “Are Our Best Physical Theories Probably and/or Approximately True?”  
*Philosophy of Science*. 70(5): 1206-1218.

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**FACULTY BIOGRAPHICAL SKETCH FOR PERIOD  
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 DO NOT EXCEED THREE (3) PAGES + ATTACHMENTS**

NAME  Jeremy Heis	POSITION TITLE AND DEPARTMENT  <u>Assistant Professor, Logic and Philosophy of Science</u>		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Michigan State University, East Lansing, MI University of Pittsburgh, Pittsburgh, PA	B.A. Ph.D.	1999 2007	Philosophy, Latin Philosophy

**A. Teaching** (*in chronological order since 2002-03*).

Fall 2007

LPS 29 - Critical Thinking (243).

Winter 2008

LPS 115 - History of Analytic Philosophy (9); LPS 215 - History of Analytic Philosophy (6).

Spring 2008

LPS 213 -The First Critique (8).

Fall 2008

LPS 247- Introduction to Philosophy of Math (9); LPS 147 - Introduction to Philosophy of Math (5);

Winter 2009

LPS 29 -Critical Reasoning (151); LPS 120 – Philosophy of Race (16).

Spring 2009

LPS 215 – Kant and Early Analytic Philosophy (10).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)		
Ph.D. students advanced to candidacy (in progress) during this period		3
Number of other Ph.D. students supervised	2	1

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 0

C. **Awards and Honors** (*in chronological order since 2002-03*):

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

1. **Member, LPS Faculty Search Committee, 2007-8**
2. **Member, Graduate Placement Committee, 2007-8, 2008-9**
3. **Member, Graduate Admissions Committee, 2007-8, 2008-9**
4. **Member, LPS Faculty Search Committee, 2008-9**
5. **Chair, Graduate Placement Committee, 2009-10**

E. **Summary of Research** (250 words or less)

My research concerns the history of the philosophy of the exact sciences in the period between Kant and Carnap. In particular, I have focused on the ways in which the philosophy of logic and mathematics after Kant can be seen as a development or criticism of Kantian ideas.

My 2007 dissertation investigates the early twentieth century, Neo-Kantian philosopher Ernst Cassirer. Cassirer, I show, used Kantian ideas to give a philosophy responsive to the new logical research of Frege and Russell and to the new geometries developed in the nineteenth century. I have also written on the development of logic between Kant and Frege, Frege's criticisms of Boolean logic, and Hans Reichenbach's claim that general relativity is inconsistent with Kantian theories of the a priori.

My current research extends these questions in natural ways. In addition to an encyclopedia article on Neo-Kantianism (for the *Stanford Encyclopedia of Philosophy*), I have paper drafts on Kant's unpublished notes on non-Euclidean geometry, and on Kant's and Frege's conceptions of concepts. Still in the preliminary stages are: a paper on the relationship between Bertrand Russell's development of his logic and his concurrent research in the foundations of geometry; and a paper on the forces internal to pure geometry that eventually led nineteenth century geometers to reject proofs using diagrams.



F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

1. Current Research Grants
2. Research Grants completed since 2002-03
3. Pending Grants

G. **Research Publications**

Career Total = 3

Total since AY 2002-03 = 3

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

"Critical Philosophy Begins at the Very Point Where Logistic Leaves Off': Cassirer's Response to Frege and Russell." *Perspectives on Science* (forthcoming).

"Ernst Cassirer's Neo-Kantian Philosophy of Geometry." *British Journal of the History of Philosophy* (forthcoming).

"Attempts to Rethink Logic." In *The Cambridge History of Philosophy in the 19<sup>th</sup> Century*, edited by Allen Wood (forthcoming).

**ACADEMIC PROGRAM REVIEW, SCHOOL OF SOCIAL SCIENCES,  
AY 2009-10**

**FACULTY BIOGRAPHICAL SKETCH FOR PERIOD  
SINCE LAST ACADEMIC UNIT REVIEW IN AY 2002-03  
DO NOT EXCEED THREE (3) PAGES + ATTACHMENTS**

<b>NAME</b> Simon Huttegger	<b>POSITION TITLE AND DEPARTMENT</b> Assistant Professor, Department of Logic and Philosophy of Science		
<b>EDUCATION/TRAINING</b> (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
<b>INSTITUTION AND LOCATION</b>	<b>DEGREE</b>	<b>YEAR(s)</b>	<b>FIELD OF STUDY</b>
University of Salzburg	MA	2002	Philosophy
University of Salzburg	Ph.D.	2006	Philosophy

KLI for Evolution and Cognition Research, Vienna	Postdoc	2006-08	Theoretical Biology
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A. **Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Winter 2009

LPS 242 - Game Theoretic Models of Signaling (8);  
LPS 199- Independent Study (1).

Spring 2009

LPS 31 -Introduction to Inductive Logic (135).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

Number of Ph.D. Students Supervised	Chair	Member
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)		1
Ph.D. students advanced to candidacy (in progress) during this period		
Number of other Ph.D. students supervised		

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 1

C. **Awards and Honors** (*in chronological order since 2002-03*):

Winner of the 2006 Philosophy of Science Association award for an outstanding article published in Philosophy of Science by a recent Ph.D. for the essay "Evolution and the Explanation of Meaning" (published in the January, 2007 issue of Philosophy of Science)

2009: Member of the Institute of Mathematical Behavioral Sciences, UCI

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

2008-09: Graduate Recruitment Committee, LPS

2009-10: Colloquium Director, LPS

E. **Summary of Research** (250 words or less)

My research concentrates, firstly, on issues in game theory and secondly on formal issues in the philosophy of biology.

1. Game theory: My game theoretic work encompasses applications of game theory to the evolution of signaling and other philosophically relevant topics. Concerning signaling, I have done work on common interest signaling, and I continue doing

- work on costly signaling. Moreover, I am engaged in work on the conceptual and formal foundations of game theory, where I am particularly interested in the meaning and relevance of equilibrium concepts and in the relation between games in extensive form and games in normal form. I am also actively working on robustness issues arising in game theory.
2. Philosophy of Biology: My research on the differences between games in extensive form and games in strategic form has also led to an important topic in the philosophy of biology, namely, adaptationism. Interestingly, these game theoretic perspectives can shed new light on this hotly debated topic. I am also working on geometrical representations in biology, e.g. in the form of phenotype spaces where organismal characteristics are related to each other via notions of similarity and closeness. Here, I am particularly interested in which biological concepts are meaningful in particular representations.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

4. Current Research Grants

5. Research Grants completed since 2002-03

6. Pending Grants

1 Collaborative research with Kevin Zollman (PI at CMU). PI at UCI. NSF grant, projected duration July 2010-June 2013,. Total direct costs: ?. One month per year at 100 % effort. Title: “Collaborative Research: Rethinking Costly Signaling.”

2. PI of NSF CAREER grant. Projected duration July 2010-June 2015. Total direct costs: ?. One month per year at 100% effort. Title: “Equilibrium Explanations: Dynamics, Robustness, and Accessibility.”

G. **Research Publications**

Career Total = 14

Total since AY 2002-03 = 14

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

Simon M. Huttegger (2007). Evolution and the Explanation of Meaning. *Philosophy of Science* 74: 1-27.

Simon M. Huttegger (2007). Evolutionary Explanations of Indicatives and Imperatives. *Erkenntnis*, 66: 409-436.

Simon M. Huttegger (2007).Robustness in Signaling Games. *Philosophy of Science*, 74: 839-847

Simon M. Huttegger and Brian Skyrms (2008). Emergence of Information Transfer by Inductive Learning. *Studia Logica*, 89, 237-256.

Josef Hofbauer and Simon M. Huttegger (2008). Feasibility of Communication in Binary Signaling Games. *Journal of Theoretical Biology*, 254, 2008, 843-849.

Simon M. Huttegger, Brian Skyrms, Rory Smead and Kevin J. S. Zollman (2008). Evolutionary Dynamics of Lewis Signaling Games. *Synthese*, DOI 10.1007/s11229-009-9477-0.

Philipp Mitteröcker and Simon M. Huttegger (forthcoming 2009). Mathematics and Metaphors: The Concept of Morphospace in Evolutionary and Developmental Biology. *Biological Theory*

Simon M. Huttegger (forthcoming). Generic Properties of Evolutionary Games and Adaptationism. *The Journal of Philosophy*.

**ACADEMIC PROGRAM REVIEW, SCHOOL OF SOCIAL SCIENCES,  
AY 2009-10**

**FACULTY BIOGRAPHICAL SKETCH FOR PERIOD  
SINCE LAST ACADEMIC UNIT REVIEW IN AY 2002-03  
DO NOT EXCEED THREE (3) PAGES + ATTACHMENTS**

NAME Kent Johnson		POSITION TITLE AND DEPARTMENT <u>Associate Professor, step II</u> Logic and Philosophy of Science	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
St. Olaf College	BA	1994	Philosophy and Ancient Languages
Univeristy of Florida	MA	1996	Philosophy
Rutgers University	PhD	2001	Philosophy, Cognitive Science Cert.

A. **Teaching** (in chronological order since 2002-03). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 143- Philosophy of Mind; LPS 243 - Philosophy of Mind (23).

Spring 2003

LPS 105C Incompleteness & Undecidability; LPS 205C- Incompleteness & Undecidability (16);

LPS 31- Inductive Logic (116).

Fall 2003

LPS 143 - Philosophy of Psychology; LPS 243 - Philosophy of Psychology (21).  
Winter 2004

LPS 105B Metalogic; LPS 205B - Metalogic(32); LPS 145 Philosophy of Linguistics;  
LPS 245 - Philosophy of Linguistics (12).

Spring 2004

LPS 31- Inductive Logic (95).

Fall 2004

LPS 143-Philosophy of Psychology; LPS 243-Philosophy of Psychology (15).

Winter 2005

LPS 105B Metalogic; LPS 205B - Metalogic(40); LPS 298 - Independent Study (1).

Spring 2005

LPS 31- Inductive Logic (117);LPS 298- Independent Study (1).

Winter 2006

LPS 105B – Metalogic (9).

Spring 2006

LPS 105C- Effective Processes & Incompleteness (2); LPS 205C -Effective Processes & Incompleteness (3).

Winter 2007

Econ 15A- Probability & Statistics (250)..

Spring 2007

Econ 15B -Probability & Statistics (250).

Winter 2008

Econ 15A- Probability & Statistics (302).

Spring 2008

LPS 105C - Undecidability & Incompleteness (2); LPS 205C- Undecidability & Incompleteness (4);

Econ 15B - Probability and Statistics (264); LPS 298- Independent Study (1).

Winter 2009

LPS 105B- Metalogic (4); LPS 205B-Metalogic (3); Econ 15A- Probability and Statistics (256).

Spring 2009

LPS 105C - Undecidability & Incompleteness (3); LPS 205C - Undecidability & Incompleteness (4);

Econ 15B - Probability & Statistics (300).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)		
Ph.D. students advanced to candidacy (in progress) during this period		6
Number of other Ph.D. students supervised		6

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 0

C. **Awards and Honors** (*in chronological order since 2002-03*):

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

1. LPS Hiring Committee (01-02, 03-04, 06-07,08-09)
2. School of Social Sciences Linguistics Search Committee (07 – 08)
3. Chair, Dept. of Logic and Philosophy of Science (08-09)
4. Faculty Executive Committee, School of Social Sciences (07-09)
5. Graduate Recruitment, LPS (02-09)

E. **Summary of Research** (250 words or less)

My research concerns various aspects of the foundations of linguistics and psychology. I am particularly interested in the manner in which unobserved structure (e.g., phonologically unrealized syntactic structure in linguistics, models containing latent variables in psychology) are constructed, confirmed, and subsequently used in ongoing theorizing. This research quickly branches out into a variety of independently interesting areas. For example, (i) it provides insight into many of the general philosophical issues concerning “theoretical terms”. (ii) It also facilitates the careful study of the epistemological status of such unobserved theoretical entities. E.g., what role does the quantitative representation of the evidence for a theory play in the confirmation of a model containing unobserved structure? Conversely, when unobserved structure is posited on the basis of informal expert judgments of highly complicated evidential considerations, how, if at all, does this affect the strength of confirmation that the evidence can supply to the theory? (iii) When the resulting theories of human linguistic abilities (or of some other types of cognitive activity) are treated as legitimate scientific theories, a very different picture of the mind emerges than what many popular philosophical accounts suggest. E.g., many philosophers have found it to be a priori that language is systematically structured, understood immediately by all its speakers, and transparently related to thought. However, attention to the details of the relevant theories shows such claims to be not so much false (although they often are that, too) as simply unhelpful ways to think about language and the mind.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

4. Current Research Grants
5. Research Grants completed since 2002-03
  1. 2005, Faculty Career Development Award, UC Irvine. One acadmic quarter of teaching release.
  2. 2005, Faculty Desktop Computing Initiative, UC Irvine, \$2,500
  3. 2004, Research and Graduate Studies Grant, UC Irvine, to develop a year-long course sequence in statistics (mathematical and logical foundations), \$3,200
6. Pending Grants

**G. Research Publications**

Career Total = 27

Total since AY 2002-03 = 26

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

1. 2009, “The Need for Explicit Inferential Methods in Linguistics”, *Language and Linguistics: Emerging Trends* (Cynthia R. Dreyer, ed.) New York: Nova Science, pp. 193 – 208.
2. 2008, “Reply to Philipona and O’Regan”, *Visual Neuroscience* 25:2, 221 – 224. (with Wayne Wright) [\[Paper\]](#)
3. 2008, “On Lexical Semantics”, *Philosophy Compass* 3:1, 119 – 134.
4. 2007, “The legacy of methodological dualism”, *Mind and Language* 22:4, 366 – 401. [\[Paper\]](#)
5. 2007, “Tacit and accessible understanding of language”, *Synthese* 156: 253 – 279. [\[Paper\]](#)
6. 2006, “Colors as properties of the special sciences” (w/ [Wayne Wright](#)), *Erkenntnis* 64 139 – 168. [\[Paper\]](#)
7. 2006, “On the nature of reverse compositionality”. *Erkenntnis* 64, 37 – 60. [\[Paper\]](#)
8. 2006, “Externalist Thoughts and the Scope of Linguistics”, in Gerhard Preyer (ed.) *Protosociology 22: Contemporary Problems in Cognitive Science*. [\[Paper\]](#)
9. 2004, “Gold’s Theorem and Cognitive Science”, *Philosophy of Science* 71, 571 – 592. [\[Paper\]](#)
10. 2004, “On the Systematicity of Language and Thought” *The Journal of Philosophy* CI:3, 111 – 139. [\[Paper\]](#)
11. 2004, “From Impossible Words to Conceptual Structure: The Role of Structure and Processes in the Lexicon”, *Mind and Language* 19:3, 334 – 358. [\[Paper\]](#)
12. 2004, “Tacit Belief, Semantics, and Grammar”, *Linguistics and Philosophy* 27, 57 – 91. [\[Paper\]](#)
13. 2003, “Are There Semantic Natural Kinds of Words?”, *Mind and Language* 18:2, 175 - 193. [\[Paper\]](#)
14. 2002, “Does syntax reveal semantics? A case study of complex demonstratives”, in J. Tomberlin (ed.) *Philosophical Perspectives* 16, 17 – 41 (with Ernie Lepore). [\[Paper\]](#)

NAME		POSITION TITLE AND DEPARTMENT	
Penelope Maddy		<u>UCI Distinguished Professor of Logic and Philosophy of Science</u>	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY

UC Berkeley	BA	1968-1972	Mathematics
Princeton University	PhD	1974-1978	Philosophy

A. **Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 105A - Elementary Set Theory (75); LPS 200 – Naturalism (8); LPS 205A - Set Theory (6); LPS 246A - Philosophy of Logic (8); LPS 299 - Dissertation Research (1).

Winter 2003

LPS 246B - Philosophy of Logic (7); LPS 299-Dissertation Research (1).

Spring 2003

LPS 298 - Independent Study (1); LPS 299 – Dissertation Research (1).

Fall 2003

LPS 105A - Elementary Set Theory (79); LPS 200 – Naturalism (8); LPS 205A - Set Theory (4); LPS 299 - Dissertation Research (1); Soc Sci 290 - Dissertation Research (1).

Winter 2004

LPS 200- Naturalism (5); LPS 298- Independent Study (2); LPS 299 -Dissertation Research (2).

Spring 2004

LPS 299-Dissertation Research (1).

Fall 2004

LPS 105A-Elementary Set Theory (100); LPS 200 - Second Philosophy (9); LPS 205A- Set Theory (9);

LPS 299-Dissertation Research (2).

Winter 2005

LPS 200 - Word-World Connections (10); LPS 299-Dissertation Research (2).

Spring 2005

LPS 299-Dissertation Research (3).

Fall 2005

LPS 105A- Elementary Set Theory (58); LPS 205A -Set Theory (5); LPS 246 - Philosophy of Logic (17);

LPS 298 - Independent Study (1); LPS 299 - Dissertation Research (3).

Winter 2006

LPS 246 - Philosophy of Logic (12); LPS 299 -Dissertation Research (3).

Spring 2006

LPS 298-Independent Study (1); LPS 299 - Dissertation Research (3).

Fall 2006

LPS 105A- Elementary Set Theory (37); LPS 205A -Set Theory (11); LPS 247 - Philosophy of Math (19); LPS 298 - Independent Study (1); LPS 299-Dissertation Research (3).

Winter 2007

LPS 247-Philosophy of Math II(12); LPS 298-Independent Study (1); LPS 299-Dissertation Research (3).

Spring 2007

LPS 298-Independent Study (2); LPS 299 - Dissertation Research (2).

Fall 2007

LPS 105A-Elementary Set Theory (24); LPS 200 -Skepticism, Nature & Therapy I (13); LPS 205A-Set Theory (4);

LPS 299- Dissertation Research (1).

Winter 2008

LPS 200-Skepticism, Nature & Therapy II (13); LPS 299 - Dissertation Research (1).

Spring 2008



LPS 299-Dissertation Research (1).

Fall 2008

LPS 298-Independent Study (1); LPS 299 - Dissertation Research (1).

Winter 2009

LPS 299 - Dissertation Research (1); LPS 247- Defending Axioms (12).

Spring 2009

LPS 299 - Dissertation Research (1); LPS 247- New Wave Philosophy of Mathematics (9).

**B. Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	4	1
Ph.D. students advanced to candidacy (in progress) during this period	2	4
Number of other Ph.D. students supervised	4	2

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.): 0

**C. Awards and Honors** (*in chronological order since 2002-03*):

Lakatos Prize for *Naturalism in Mathematics*, November 2002

Gauss Lecture, Dresden, Germany, October 2006

Ambrose/Tymoczko Lecture, Smith College, February 2007

UCI Distinguished Professor, November 2007

'How applied mathematics become pure' chosen one of the ten best philosophy papers published in 2008 by *The Philosopher's Annual*.

**D. Five Major Service Activities** (*in chronological order since 2002-03*):

Program Review Committee Chair, UCSD Department of Philosophy, Spring 2007

Review Committee member, Social Sciences Dean Review, Winter-Spring 2007

LPS Logic Search Committee Chair, 2008-9

LPS Placement Committee Chair, 2007-2009

LPS Personnel Chair, 2003-7, 2008-present

**E. Summary of Research** (250 words or less)

My research begins from questions in the philosophy and foundations of mathematics, especially set theory, and the status of logical truth. These issues lead into larger concerns about the nature of philosophy itself, where I develop a form of naturalism using various forms of skepticism, positivism, transcendentalism, therapeutic philosophy, common sense philosophy, and ordinary language philosophy as foils. I also have amateur historical interests in Berkeley, Hume, Reid, Kant, Wittgenstein, Moore, Austin and Quine.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

7. Current Research Grants

8. Research Grants completed since 2002-03

9. Pending Grants

G. **Research Publications**

Career Total = 3 books, 1 two-part monograph, 40 articles

Total since AY 2002-03 = 1 book, 6 articles

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

*Second Philosophy*, (Oxford: Oxford University Press, 2007).

‘Naturalism, transcendentalism and therapy’, to appear in to appear in M. Potter and J. Smith, ed., *Transcendental Philosophy and Naturalism* (Oxford University Press).

‘How applied mathematics became pure’, *Review of Symbolic Logic* 1 (2008), pp. 16-41.

‘Interview’, in *Philosophy of Mathematics: Five Questions*, V. Hendricks and H. Leitgeb, eds., (Automatic Press, 2007), pp. 191-2.

‘Mathematical existence’, *Bulletin of Symbolic Logic* 11 (2005), pp. 351-376.

‘Second Philosophy’, *Journal of the Indian Council of Philosophical Research* 20 (2003), pp. 73-106.

‘Three forms of naturalism’, in S. Shapiro, ed., *Oxford Handbook of Philosophy of Mathematics and Logic* (Oxford: Oxford University Press, 2005), pp. 437-459.

<p>NAME</p> <p>David B. Malament</p>	<p>POSITION TITLE AND DEPARTMENT</p> <p>UCI Distinguished Professor of Logic and Philosophy of Science.</p>		
<p>EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)</p>			
<p>INSTITUTION AND LOCATION</p>	<p>DEGREE</p>	<p>YEAR(S)</p>	<p>FIELD OF STUDY</p>

Columbia College	B.A.	1968	mathematics
Rockefeller University	Ph.D.	1975	philosophy

A. **Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 241- Foundations of Relativity Theory I (5).

Winter 2003

LPS 241- Foundations of Relativity Theory I (3).

Spring 2003

LPS 141D - Probability & Determinism (1); LPS 241 - Probability & Determinism (2); LPS 241Q - Foundations of Relativistic Quantum Mechanics & Quantum Field Theory (1)

Fall 2003

LPS 141B - Geometry & Spacetime (4); LPS 241- Geometry & Spacetime (1).

Winter 2004

LPS 141 - Probability & Determinism (8).

Fall 2004

LPS 298 - Independent Study (1)

Winter 2005

LPS 30 - Symbolic Logic (132); LPS 241- General Relativity Theory I (5).

Spring 2005

LPS 241- General Relativity Theory II (2).

Fall 2005

LPS 141D - Probability & Determinism (3); LPS 24 - Probability & Determinism (5).

Winter 2006

LPS 141B - Geometry & Spacetime (6); LPS 241- Geometry & Spacetime (6).

Spring 2006

LPS 241 - Probability & Determinism (4); LPS 298 - Independent Study (1).

Fall 2006

LPS 141D - Probability & Determinism (2); LPS 241- Probability & Determinism (5).

Winter 2007

LPS 241- Foundations of General Relativity I (4).

Spring 2007

LPS 241- Foundations of General Relativity II (3); LPS 298- Independent Study (1).

Fall 2007

LPS 241- Geometry & Spacetime (8); LPS 298 - Independent Study (1).

Winter 2008

LPS 298 - Independent Study (1).

Spring 2008

LPS 199 - Dissertation Research (1).

Fall 2008

LPS 299 – Dissertation Research (1); LPS 241 – Probability and Determinism (8); LPS 141D Probability and Determinism (4).

Winter 2009

LPS 299 – Dissertation Research (1); LPS 241 – Foundations of General Relativity I (3).

Spring 2009

LPS 299 – Dissertation Research (1); LPS 241 – Foundations of General Relativity II (3).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	1	
Ph.D. students advanced to candidacy (in progress) during this period		2
Number of other Ph.D. students supervised	2	2

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.)   0  

C. **Awards and Honors** (*in chronological order since 2002-03*):

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

**Editorial Board, *Studies in the History and Philosophy of Modern Physics*, 1995-present**

**Member of the Philosophy Section Panel of the American Academy of Arts and Sciences (advising on membership), 2006-2008**

**Director of Admissions for LPS (since 2002-2003 except for 2008-2009)**

E. **Summary of Research** (250 words or less)

I am interested in the mathematical and philosophical foundations of modern physics. I have done some work on classical equilibrium statistical mechanics [6] and quantum mechanics [14, 17]. (The numbers refer to papers listed in my cv.) But most of my work has dealt with problems of spacetime structure and the foundations of relativity theory. Topics have included: (i) the "causal structure" of spacetime [4, 5]; (ii) the relation of relativity theory to Newtonian gravitation theory [10, 11, 16]; (iii) Gödel's model of spacetime structure [8, 12, 14, 15, 18]; and (iv) rotation in relativity theory [9, 18, 19]. I am presently trying to bring together these investigations (and others) in a book on the foundations of relativity theory.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

- 10. Current Research Grants
- 11. Research Grants completed since 2002-03
- 12. Pending Grants

**G. Research Publications**

Career Total = 22

Total since AY 2002-03 = 5

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

"On the Time Reversal Invariance of Classical Electromagnetic Theory", *Studies in the History and Philosophy of Modern Physics*. vol. 35, no. 2, 2004.

"Classical General Relativity", in Butterfield, J. and Earman, J. (eds.), *Handbook of the Philosophy of Science*. Volume 1: Philosophy of Physics, Elsevier, 2007.

"Norton's Slippery Slope", *Philosophy of Science*, vol. 75, no. 4, 2008.

(Two other research articles appeared in non-peer-reviewed volumes.)

NAME Brian Skyrms		POSITION TITLE AND DEPARTMENT UCI Distinguished Professor Logic and Philosophy of Science		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)				
INSTITUTION AND LOCATION		DEGREE	YEAR(s)	FIELD OF STUDY
Lehigh University		BA	1959	Economics
		BA	1960	Philosophy
University of Pittsburgh		PhD	1964	Philosophy

**A. Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 108 -Evolution of the Social Contract (17); LPS 244A – Philosophy of Social Science (5);  
LPS 299 Dissertation Research (2).

Winter 2003

LPS 244A- Philosophy of Social Science (4); LPS 299 – Dissertation Research (1).

Spring 2003

LPS 244A-Philosophy of Social Science (2); LPS 299 - Dissertation Research (1).

Fall 2003

LPS 244A- Philosophy of Social Science (4); LPS 299 – Dissertation Research (2).

Winter 2004

LPS 244A-Philosophy of Social Science (3); LPS 299 - Dissertation Research (2).

Spring 2004

LPS 108-Conceptual Foundations of Probability (4); LPS 244 -Philosophy of Social Science (4);

LPS 299 -Dissertation Research (1).

Winter 2005

LPS 108 - The Social Contract (26); LPS 244 - Social Dynamics (1); LPS 244B - The Social Contract (12).

Spring 2005

LPS 244 -Social Dynamics (3).

Fall 2005

LPS 299 -Dissertation Research (1).

Winter 2006

LPS 299-Dissertation Research (1).

Spring 2006

LPS 299 -Dissertation Research (1).

Fall 2006

LPS 244 -Social Dynamics (7).

Winter 2007

LPS 244 Social Dynamics (6); LPS 142W - Philosophy of Biology (92); LPS 299 - Dissertation Research (1).

Spring 2007

LPS 244 -Social Dynamics (4); LPS 299 – Dissertation Research (1).

Fall 2007

LPS 244 -Social Dynamics (5); LPS 299 - Dissertation Research (1).

Winter 2008

LPS 244 - Social Dynamics (4); LPS 242 - Philosophy of Biology (3); LPS 142W - Philosophy of Biology (92).

Spring 2008

LPS 299-Dissertation Research (1).

Fall 2008

LPS 244 -Social Dynamics (5); LPS 298- Hume’s Moral and Political Theory (3).

Winter 2009

LPS 244 -Social Dynamics (6); LPS 242 - Philosophy of Biology (1); LPS 142W - Philosophy of Biology (94).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially	4	many

completed all requirements, including a signed and accepted dissertation)		
Ph.D. students advanced to candidacy (in progress) during this period	3	many
Number of other Ph.D. students supervised		

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.): 0

- C. **Awards and Honors** (*in chronological order since 2002-03*):  
 President Philosophy of Science Association 2004-2006  
 Paul Silverman Award in Foundations of Ethics 2006

- D. **Five Major Service Activities** (*in chronological order since 2002-03*):  
 Director – IDP in History and Philosophy of Science  
 Salzburg Exchange Coordinator  
 Governing Board - Institute for Mathematical Behavioral Sciences  
 Editorial Board: PNAS (and many others)  
 President: Philosophy of Science Assn.

- E. **Summary of Research** (250 words or less)

I apply adaptive dynamics (evolution and learning) to analyze general features of the emergence of social contracts. This includes emergence of signaling and information transfer, and formation of social networks. I also have a continuing interest in probability, foundations of Bayesian learning, and of the probabilistic treatment of counterfactual reasoning in games.

- F. **Current and Pending Research Support**

**Current Research Grants**

1. Air Force Co-PI (w L. Narens)                      \$376,000      2008 - 2011

G. **Research Publications**

Career Total = 6 books, 123 articles

Total since AY 2002-03 = 1 book, 22 articles

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

**Books:**

6. The Stag Hunt and the Evolution of Social Structure (Cambridge University Press: Cambridge, Mass., 2004) 149 pp.  
 6b. La Caza del Ciervo y la Evolución de la Estructura Social (Melusina, 2007).  
 (Tr. of 6)

**Articles :**

103. "Time to Absorption in Discounted Reinforcement Models" (with Robin Pemantle)  
Stochastic Processes and Applications 109 (2004) 1-12.  
 104. "Network Formation by Reinforcement Learning: the Long and the Medium Run" (with

- Robin Pemantle) Mathematical Social Sciences 48 (2004) 315-327.
105. "Discovering 'Weight, or the Value of Knowledge' In Cambridge and Vienna: Frank P. Ramsey and the Vienna Circle (Springer Verlag: Berlin, 2006) 55-65.
106. "Learning to Network" (with Robin Pemantle) Forthcoming in Probability in Science. Ed. E. Eells and J. Fetzer. Springer.
107. "Dynamics of Conformist Bias" Monist. 88 (2005) 260-269.
85. "The Social Contract Naturalized" In Justice, Political Liberalism and Utilitarianism: Themes from Harsanyi and Rawls. ed. M. Fleurbaey, M. Salle and J. Weymark. New York: Cambridge University Press (2008).
108. " Diachronic Coherence and Radical Probabilism" (2007) Philosophy of Science (Special Issue for PSA 2004) 73: 959-968.
109. "Trust, Risk, and the Social Contract" (2008) Synthese. 160:21-25.
110. "Evolution of Moral Norms" (with William Harms) In Oxford Handbook of Philosophy of Biology ed. M. Ruse. Oxford: Oxford University Press, 2008) 434-450.
111. "Presidential Address: Signals" (2008) Philosophy of Science 75: 489-500.
112. "Dynamic Networks and the Stag Hunt: Some Robustness Considerations" Biological Theory 2 (1) 2007, 1-3.
113. "Evolutionary Dynamics of Lewis Signaling Games" (with Simon Huttegger, Rory Smead and Kevin Zollman) forthcoming in Synthese.
114. "Emergence of Information Transfer by Inductive Learning" (with Simon Huttegger) (2008) Studia Logica 89: 237-256.
115. "Learning to Signal: Analysis of a Micro-Level Reinforcement Model" (with Raffaele Argiento, Robin Pemantle and Stanislav Volkov) (2009) Stochastic Processes and their Applications 119: 373-319.
116. "Evolution and the Social Contract" (2009) In The Tanner Lectures on Human Values 28. Salt Lake City: University of Utah Press, 47-63.
117. "Groups and Networks: Their Role in the Evolution of Cooperation" (2009) In Games, Groups and the Global Good Ed. Simon Levin. Berlin: Springer.
118. "Evolution of Signaling Systems with Multiple Senders and Receivers" Philosophical Transactions of the Royal Society B. (2009) 364: 771-779. doi:10.1098/rstb.2008.0258.
119. "The Flow of Information in Signaling Games" Forthcoming in a special issue of Philosophical Studies Ed. Brad Armendt and Kevin Zollman.
120. "Evolutionary Dynamics of Collective Action in N-person Stag-Hunt Dilemmas" (with Jorge Pacheco, Francisco Santos and Max Souza) Proceedings of the Royal Society B. (2009) 276: 315-321. doi:10.1098/rspb.2008.1126.
121. "Evolutionary Considerations in the Framing of Social Norms" with (Kevin Zollman) (2009) Philosophy, Politics and Economics.
122. "Pragmatics, Logic and Information Processing" Forthcoming in Language, Games and Evolution Ed. A. Benz.
123. "Common Knowledge, the Cooperative Principle and Adaptive Dynamics: Comments of Michael Tomasello's Tanner lectures" Forthcoming in Boston Review Tanner Lecture Volume (Cambridge, Mass., MIT Press.)

NAME Preston Kyle Stanford	POSITION TITLE AND DEPARTMENT <u>Associate Professor, Department of Logic and Philosophy of Science</u>
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)	



INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Northwestern University, Evanston, IL	BA	1991	Philosophy&Psych
UC San Diego, La Jolla, CA	MA, Ph.D	1994, 1997	Philosophy (Science Studies)

**A. Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 4A -Scientific Revolution (14).

Winter 2003

LPS 142 W - Philosophy of Biology / LPS 242- Philosophy of Biology (72).

Spring 2003

LPS 240- Scientific Explanation (3); Poli Sci 179-The Nature of Law (48).

Fall 2003

Social Sciences H1 G – Honors: Critical Issues (156)

Winter 2004

LPS 142 W - Philosophy of Biology / LPS 242- Philosophy of Biology (53); Poli Sci 179 – The Nature of Law (60).

Spring 2004

LPS 242- Philosophy of Biology (6).

Fall 2004

LPS 240 – Scientific Explanation ( 8); Social Sciences H1 G – Honors: Critical Issues (153).

Winter 2005

LPS 142 W - Philosophy of Biology / LPS 242- Philosophy of Biology (83); Poli Sci 179 – The Nature of Law (74).

Fall 2005

Social Sciences H1 G – Honors: Critical Issues (149).

Winter 2006

LPS 142 W - Philosophy of Biology (70); Poli Sci 179 – The Nature of Law (70).

Spring 2006

LPS 240 – Cause / Laws of Evolutionary Biology (5); University Studies 3- Making Supreme Court (10).

Fall 2006

LPS 242 – Genetic Causation (5); Social Sciences H1 G – Honors: Critical Issues (149); LPS 199 – Independent Study (1).

Winter 2007

LPS 140 – Scientific Inquiry (11); LPS 199-Independent Study (1); LPS 199-Independent Study (1); LPS 298 Independent Study (1).

Spring 2007

LPS 199-Independent Study (1).

Fall 2007

LPS 242 – Evolution and Language (11); Social Sciences H1 G – Honors: Critical Issues (145).

Spring 2008

Poli Sci 179 – Philosophy of Law (51); LPS 298 – Independent Research (7).

Fall 2008

LPS 242 – Evolution and Morality (17); LPS 299 – Dissertation Research (1); Social Sciences H1 G – Honors: Critical Issues (177).

Winter 2009

LPS 299 – Dissertation Research (1).

Spring 2009

LPS 242 – Evolution of Cognition (10); Dissertation Research (1).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	0	7
Ph.D. students advanced to candidacy (in progress) during this period	1	11
Number of other Ph.D. students supervised	1	3

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 2

C. **Awards and Honors** (*in chronological order since 2002-03*):

Author Meets Critics session on *Exceeding Our Grasp* at 2007 Pacific Division Meeting of the American Philosophical Association

Plenary Speaker, British Society for the Philosophy of Science meeting, 2007

Visiting Professor, Department of History and Philosophy of Science, University of Pittsburgh, Spring Semester, 2009

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

Director of Graduate Studies, Department of Logic and Philosophy of Science, 2002-2004, 2006-2009

Member, Governing Board of the Philosophy of Science Association, 2007-present

Program Committee Member, Philosophy of Science Association Meeting, 2008

Program Committee Member, European Philosophy of Science Association Meeting, 2009

Associate Editor, *Philosophy of Science*, April 2009-present

E. **Summary of Research** (250 words or less)

My research ranges over the philosophy of science, the philosophy of biology, the history of modern philosophy, and the philosophy of language. Recently, however, it has been centrally concerned with questions surrounding scientific realism, the view that our best scientific theories offer descriptions of otherwise inaccessible domains of nature that are at least probably and/or approximately true. In *Exceeding Our Grasp* (OUP, 2006), I argued that the most serious challenge to this view is posed by what I called the problem of unconceived alternatives (roughly, the probable existence of *non-empirically* equivalent alternatives to even our best scientific

theories that are also well confirmed by the evidence available to us but nonetheless remain presently unconceived), and that the best evidence we have for the seriousness of this challenge consists in the historical record of scientific inquiry itself. More recently I have suggested that the central remaining question concerns just where and when this problem should (and should not) lead us to regard fundamental scientific theories simply as powerful instruments for mediating our interactions with otherwise inaccessible domains of nature, rather than literally accurate descriptions of such domains. I am also seeking to integrate these views with a much broader empiricist and pragmatist vision of human cognitive activity that recognizes distinctive capacities such as thought and language as resources evolved in lineages of creatures like us for successfully navigating a world like ours, and scientific inquiry itself as simply the most sophisticated, organized, and systematic application we have of those very capacities.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

13. Current Research Grants

14. Research Grants completed since 2002-03

15. Pending Grants

G. **Research Publications**

Career Total = 23

Total since AY 2002-03 = 11

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

(2005). “August Weismann’s Theory of the Germ-Plasm and the Problem of Unconceived Alternatives”, *History and Philosophy of the Life Sciences* 27: 163-199.

(2006). “Francis Galton’s Stirp Theory of Inheritance and the Problem of Unconceived Alternatives”, *Biology and Philosophy* 21: 523-536.

(2006). “Darwin’s Pangenesis and the Problem of Unconceived Alternatives”, *British Journal for the Philosophy of Science* 57: 121-144.

(2006). *Exceeding Our Grasp: Science, History, and the Problem of Unconceived Alternatives*. New York: Oxford University Press.

(2006). “Instrumentalism” in *The Philosophy of Science: An Encyclopedia*, ed. Sahotra Sarkar and Jessica Pfeifer. New York: Routledge: 400-405.

(2006, with Jeff Barrett). “Prediction” in *The Philosophy of Science: An Encyclopedia*, ed. Sahotra Sarkar and Jessica Pfeifer. New York: Routledge: 585-599.

(2008). Review of Hanne Anderson, Peter Barker, and Xiang Chen, *The Cognitive Structure of Scientific Revolutions*, *British Journal of the History of Science* 41: 116-117.

(2009). “Scientific Realism, the Atomic Theory, and the Catch-All Hypothesis: Can We Test Fundamental Theories Against All Serious Alternatives?”, *British Journal For The Philosophy of Science* 60: 253-269.

(2009). “Underdetermination of Scientific Theories” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, <http://plato.stanford.edu/>.

(forthcoming, Nov. 2009). “Grasping at Realist Straws: Author’s Response” from Symposium Review of *Exceeding Our Grasp: Science, History, and the Problem of Unconceived Alternatives* (New York, Oxford University Press, 2006), *Metascience*.

(forthcoming). “Reading Nature: Realist and Instrumentalist Interpretations of Scientific Theories”, in Larry Sklar, ed., *The Oxford Handbook of the Philosophy of Science*.

(forthcoming). “Protecting Rainforest Realism” Symposium Review of James Ladyman and Donald Ross, *Everything Must Go: Metaphysics Naturalized* (New York: Oxford University Press, 2007), *Metascience*.

NAME		POSITION TITLE AND DEPARTMENT		
Kai F. Wehmeier		<u>Associate Professor, Logic and Philosophy of Science</u>		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)				
INSTITUTION AND LOCATION		DEGREE	YEAR(s)	FIELD OF STUDY
UC Berkeley		MA	1992	Mathematics
WWU Münster, Germany		Ph.D.	1996	Mathematical Logic
RU Bochum, Germany		MA	1999	Philosophy
RU Leiden, Netherlands		Postdoc	1999-2001	Philosophy

A. **Teaching** (*in chronological order since 2002-03*). Student enrollment numbers indicated in parenthesis following course listing.

Fall 2002

LPS 29- Critical Reasoning (132 ).

Spring 2003

LPS 147A-Introduction to the Philosophy of Mathematics (6); LPS 247- Philosophy of Math;

LPS 298- Independent Study (1).

Fall 2003

LPS 29 - Critical Reasoning (144); LPS 147B/247 Seminar: Logicism & Neo-Logicism (9).

Spring 2004

LPS 105C - Incompleteness & Undecidability (4); LPS 205C – Incompleteness & Undecidability (1); LPS – 241 Seminar: Proof Theory (5); LPS 298- Independent Study (1).

Fall 2004

LPS 29 - Critical Reasoning (176); LPS 206 - First-order Logic with Analytic Tableaux (2); LPS 106- First Order Logic (2).

Winter 2005

LPS 29 - Critical Reasoning (78); LPS-146- Modal Logic & Philosophy (3); LPS 246 - Modal Logic & Philosophy (8).

Spring 2005

LPS 206-Seminar: Proof Theory (8).

Fall 2005

LPS 29 - Critical Reasoning (181).

Winter 2006

LPS 120 - Metaphysics of Relations (2); LPS 220 - Metaphysics of Relations (4).

Fall 2006

LPS 206 - Seminar: Proof Theory (3).

Winter 2007

LPS 30 - Introduction to Symbolic logic (151); LPS 298- Independent Study (1).

Spring 2007

LPS 105C- Incompleteness and Undecidability (2); LPS 205C- Incompleteness and Undecidability (5); LPS 298- Independent Study (1).

Fall 2007

LPS 115 -Frege Seminar (4); LPS 215 -Frege Seminar (12); LPS 299-Dissertation Research (1).

Winter 2008

LPS 299-Dissertation Research (1).

Spring 2008

LPS 215 - Seminar: Identity (3).

Fall 2008

LPS 205A -Set Theory (6);LPS 105A - Introduction to Set Theory (14); LPS 299-Dissertation Research (3).

Winter 2009

LPS 299- Dissertation Research (2).

Spring 2009

LPS 299- Dissertation Research (2).

Fall 2009

LPS 205A- Elementary Set Theory; Introduction to Elementary Set Theory (7)

**B. Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	0	3
Ph.D. students advanced to candidacy (in progress) during this period	1	2
Number of other Ph.D. students supervised	1	2

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 0

**C. Awards and Honors** (*in chronological order since 2002-03*):

Visiting Professor (Professeur des Universités Invité), Laboratoire d'Histoire des Sciences et de

Philosophie/Archives Henri Poincaré, Université Nancy 2, France (6/09-9/09).

**D. Five Major Service Activities** (*in chronological order since 2002-03*):

LPS Director of Undergraduate Studies, 2002-2003

LPS Colloquium Chair, 2003-2004

LPS Director of Graduate Studies, 2004-2006

Social Sciences representative to the Council on Academic Personnel (CAP), 2006-08

Member, Logic Search Committee, LPS, 2008-2009

**E. Summary of Research** (250 words or less)

I apply methods of formal logic to questions arising from the history of analytic philosophy (especially the works of Frege and Wittgenstein), the philosophy of language (especially the semantics of modal discourse), and metaphysics (especially regarding the nature of the identity relation). I also work in the history of logic.

**F. Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

Current Research Grants  
Research Grants completed since 2002-03  
Pending Grants

**G. Research Publications**

Career Total = 23

Total since AY 2002-03 = 16

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

1. “On Ramsey’s ‘Silly Delusion’ Regarding Tractatus 5.53,” in S. Rahman and G. Primiero (eds.), *Knowledge and Judgment*, College Publications, London, 2009, pp. 353-368.
2. “Wittgensteinian Tableaux, Identity, and Co-Denotation,” *Erkenntnis* 69 (3), 2008, pp. 363-376.
3. Sven Schlotter & KFW, “Ein unbekannter Brief Gottlob Freges,” in *Methodisches Denken*, Peter Bernhard and Volker Peckhaus (eds.), mentis Verlag, Paderborn (Germany), 2008, pp. 171-176.
4. H.-C. Schmidt am Busch & KFW, “On the Relations between Heinrich Scholz and Jan Lukasiewicz,” *History and Philosophy of Logic* 28 (February 2007), pp. 67-81.
5. “Gottlob Frege,” *The Encyclopedia of Philosophy*, 2nd edition, Donald Borchert, editor-in-chief, Macmillan Reference USA, 2005, pp. 725-736.
6. “Modality, Mood, and Descriptions”, Reinhard Kahle (ed.), *Intensionality – An Interdisciplinary Discussion*, Lecture Notes in Logic, Wellesley, Mass.: AK Peters, 2005, pp. 187-216.
7. KFW & Peter Schroeder-Heister: “Frege’s Permutation Argument Revisited”, *Synthese* 147, 2005, pp. 43-61.

8. H.-C. Schmidt am Busch & KFW (eds.), *Heinrich Scholz – Logiker, Philosoph, Theologe*, Paderborn/Germany: mentis Verlag, 2005 (reviewed by Matthias Wille in the *Bulletin of Symbolic Logic* 12, 2006, pp. 135-137).
9. H.-C. Schmidt am Busch & KFW, “Heinrich Scholz und Jan Lukasiewicz“, in No. 7, pp. 119-131.
10. H.-C. Schmidt am Busch & KFW, “Heinrich Scholz und Jan Lukasiewicz“, with a postscript by Nikolaus Lobkowitz, in *Forum für Osteuropäische Ideen- und Zeitgeschichte* 11 (2), 2007, pp. 107-125.
11. H.-C. Schmidt am Busch & KFW, “‘Es ist die einzige Spur, die ich hinterlasse’ – zur Geschichte des Instituts für Mathematische Logik und Grundlagenforschung“, in No. 7, pp. 93-101.
12. KFW & H.-C. Schmidt am Busch, “The Quest for Frege’s Nachlass“, in Michael Beaney and Erich Reck (eds.), *Critical Assessments of Leading Philosophers: Gottlob Frege*, vol. I, London: Routledge, 2005, pp. 54-67 (English translation of No. 15).
13. “Wittgensteinian Predicate Logic“, *Notre Dame Journal of Formal Logic* 45, 2004, pp. 1-11.
14. “In the Mood“, *Journal of Philosophical Logic* 33, 2004, pp. 607-630.
15. “Russell’s Paradox in Consistent Fragments of Frege’s Grundgesetze“, in: Godehard Link (ed.), *One Hundred Years of Russell’s Paradox: Proceedings of the 2001 Munich Conference*, de Gruyter 2004, pp. 247-257.
16. “World Travelling and Mood Swings“, in: Benedikt Löwe, Thoralf Räscher, Wolfgang Malzkorn (eds.), *Foundations of the Formal Sciences II*, Kluwer (Trends in Logic), 2003, pp. 257-260

NAME Wayne Wright		POSITION TITLE AND DEPARTMENT <u>Assistant Professor, Logic &amp; Philosophy of Science</u>	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Hofstra University, Hempstead, NY	B.A.	1993	Philosophy
University of Florida, Gainesville, FL	M.A.	1996	Philosophy
Temple University, Philadelphia, PA	Ph.D.	1999	Philosophy

A. **Teaching** (*in chronological order since 2002-03*) Student enrollment numbers indicated in parenthesis following course listing.

Fall 2008

LPS 143 – Philosophy of Psychology (28);  
LPS 298 – Independent Study ( 1).

Spring 2009

LPS - 143 Color and Perception (3) ;

LPS 243- Color and Perception (3);  
 LPS 298 – Independent Study (1);  
 LPS 30- Introduction to Symbolic Logic (173).

B. **Number of Students Supervised** (*since 2002-03*), counted by whether you have served as chair of the committee or as a member of the committee.

<b>Number of Ph.D. Students Supervised</b>	<b>Chair</b>	<b>Member</b>
Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)	0	0
Ph.D. students advanced to candidacy (in progress) during this period	0	0
Number of other Ph.D. students supervised	0	0

Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 0

C. **Awards and Honors** (*in chronological order since 2002-03*): None

D. **Five Major Service Activities** (*in chronological order since 2002-03*):

LPS Colloquium Series Director (2008-2009)

E. **Summary of Research** (250 words or less)

My current research primarily focuses on the nature of color and foundational issues for the scientific studies of color and color vision. While color is interesting in its own right, it also serves as a useful starting point for inquiry into both broader topics regarding the relationship between the mind and the world and methodological issues that arise throughout the mind-brain sciences. I am particularly interested in examining the ways in which mainstream philosophical discussions of color do and do not make fruitful contact with relevant empirical disciplines. Tied to this interest is an effort to set out a more promising way of thinking about how philosophical research on color might proceed and providing actual examples of such work. In addition to two papers recently published, this latter work has so far yielded two other manuscripts that are under journal review. One deals with conceptual and methodological issues at the root of scientific research on the phenomenon of color constancy. Another offers an empirically-based, novel account of the source of the perceptual salience of the “Hering primary hues” (red, green, blue, and yellow) that challenges the account widely accepted in the philosophical and empirical literatures. Other papers – some already published, others under journal review or in development – address the questions of what colors are what we might come to know about them. The main position I argue for here is that the current state of scientific knowledge greatly limits what sort of metaphysical theorizing should be done about color.

F. **Current and Pending Research Support** – please attach lists, if necessary – include Faculty role, Agency, Dates of Project, Total Direct Costs, % Effort, and Title of Project

16. Current Research Grants



None

17. Research Grants completed since 2002-03

None

18. Pending Grants

None

### G. Research Publications

Career Total = 11

Total since AY 2002-03 = 11

Selected Peer-Reviewed Publications (*in chronological order since 2002-03; limit to one page*). List author(s), title, publisher or journal, volume, year and pages, in customary style for the discipline.

“Fodor’s epistemic intuitions of analyticity,” *Sorites* 14 (October 2002): 110-116.

“McDowell, demonstrative concepts, and nonconceptual representational content,” *Disputatio* 14 (May 2003): 37-51.

“A dilemma for Jackson and Pargetter’s account of color,” *The Southern Journal of Philosophy* 41 (Spring 2003): 125-142.

“Projectivist representationalism and color,” *Philosophical Psychology* 16 (December 2003): 515-533.

“Distracted drivers and unattended experience,” *Synthese* 144 (March I 2005): 41-68.

“Colors as properties of the special sciences” (w/ Kent Johnson), *Erkenntnis* 64 (March 2006): 139-168.

“Visual stuff and active vision,” *Philosophical Psychology* 19 (April 2006): 129-149.

“Explanation and the hard problem,” *Philosophical Studies* 132 (January 2007): 301-330.

“Why naturalize consciousness?” *The Southern Journal of Philosophy* 45 (Winter 2007): 583-607.

“Reply to Philipona and O’Regan” (w/ Kent Johnson), *Visual Neuroscience* 25 (March 2008): 221-224.

“The physical unnaturalness of Churchland’s ellipses,” forthcoming in *Philosophy of Science*.

### 3. Evaluation of Undergraduate Program

LPS currently has no undergraduate program. Most undergraduate teaching in the department consequently goes to service courses for the school and campus. These include logic and probabilistic inference courses that satisfy the campuswide symbolic-systems breadth requirement (the US Irvine undergraduate mathematics requirement), courses that satisfy philosophy major requirements, courses that satisfy major requirements in economics, physics, biology, mathematics, and computer science, courses that satisfy the campuswide advanced-writing requirement, and courses that satisfy requirements for the campuswide honors program. Every member of the LPS faculty typically teaches at least one major service course each academic year. We do not use part-time instructors for these courses. We are pleased to be able to provide this level of service to the school and campus.

#### a. Admissions (*refer to data in Table 6*)

i) Describe efforts the Department makes to recruit and enroll high quality students in its undergraduate programs.

While LPS does not have an undergraduate major, we do teach a large number of undergraduate courses. Many of our best undergraduate students have learned about LPS from our involvement in the Social Sciences segment of the Campuswide honors program. After taking additional, more specialized courses, from us, they often end

up applying to and being admitted to some of the very best philosophy and philosophy of science Ph.D. programs.

ii) Characterize the demographics of the Department's undergraduate students. Describe efforts the Department makes to recruit and serve members of underrepresented groups. Describe and comment on steps that the Department has taken to promote diversity. Is the Department's plan being effectively implemented?

Our best sense is that the demographics of LPS undergraduate courses reflects the demographics of undergraduates on campus generally. This is to be expected given that our largest courses satisfy campuswide graduation requirements.

iii) Comment on the number of Departmental majors and minors. Is it adequate, too few, or too many? Comment on the role of the department's minors.

N/A

iv) Describe the criteria for admission into the Department major(s). Are there additional criteria for freshman adopting the Department major beyond the campuswide criteria? What are the criteria for transfer students who wish to adopt the department major? What criteria or restrictions exist for UCI students in other majors who wish to transfer to the department major?

N/A

b. Training (*refer to data in Table 6*)

i) Provide an overview of the Department's undergraduate program, curriculum, and degree requirements. Include a sample 4-year course plan.

N/A

ii) Comment on the undergraduate class-size statistics and percentage of undergraduate courses taught by regular rank faculty. What is the ratio of teaching assistants to student enrollment? Is teaching assistant support adequate?

Nearly all of our undergraduate courses are taught by regular rank faculty.

We believe that teaching assistant support falls short of what would be necessary to ensure a quality of undergraduate instruction commensurate with the department's pedagogical potential. For example, our lower-division critical reasoning course is currently assigned four teaching assistants for an enrollment of 260, thus putting one TA in charge of 65 students. While this is better than some courses in the School, given that students are expected to learn the basics of argument assessment by formal means, which is essentially a mathematical method, weekly homework problem sets should be carefully graded by hand, ideally including commentary on where students'

proof strategy's took a wrong turn etc. This is simply impossible with current TA/students ratios. A different, though equally disturbing situation can be found for our upper-division logic course 105A (Intro to Set Theory), or 104 (Intro to Logic). Enrollment in 105A is 12, and in 104 it is 31, so that no TA at all is assigned. It is, however, hardly possible to introduce students even to the basics of a mathematical field without having them solve an ample amount of challenging problems and actually work on problem-solving with them individually. None of this is currently possible.

iii) Comment on the time to degree for undergraduate majors. Are required courses accessible and offered with sufficient frequency to ensure timely progress toward degree? What does the Department do to provide academic guidance and support for undergraduate majors?

The LPS Director of Undergraduate Studies provides academic guidance and support to students taking our courses. While we do not have undergraduate majors, this is still a significant task involving the articulation of content since many of our undergraduate students are taking courses from us designed to satisfy specific requirements in their majors or minors. Our students also look to us for advice what they might do to prepare for Ph.D. programs and support on graduate school applications.

iv) Referring to the results of the undergraduate student survey (*forthcoming from APRS and the Division of Undergraduate Education*), how would you characterize student satisfaction with the Department's undergraduate programs? What do undergraduate students perceive to be the key strengths and weaknesses of the Department?

N/A

v) Comment on the Department's efforts at professional socialization for undergraduate students. For example, what percentage of students are involved in honors programs, independent study, undergraduate research, small seminars, internships, study abroad, or student chapters of professional societies? List prestigious awards and/or achievements by your undergraduate students.

Our main professional services to undergraduates is (1) preparing those who are interested in the philosophy of science, mathematics, and logic for graduate school and (2) writing letters of recommendation for law schools, medical schools, and other Ph.D. programs. Because our upper-division courses, in particular, are naturally challenging, successful students are often eager to have their success communicated with their applications to professional programs.

vi) Describe how the Department contributes to the education of UCI students not majoring in the Department. What courses are offered as breadth courses for non-

majors? What restrictions are placed on non-majors with respect to taking courses offered by the Department?

The department places no restrictions on non-majors with respect to taking LPS courses.

Our lower-division logic courses LPS/Philos 29, 30, and 31 satisfy the campuswide General Education Requirement V (Quantitative, Symbolic, and Computational Reasoning).

Our lower-division course LPS/Philos 40 (The Nature of Scientific Inquiry) satisfies the campuswide General Education Requirement II (Science and Technology).

Our newly designed lower-division course LPS/History 60 (The Making of Modern Science) will satisfy the campuswide General Education Requirement IV (Arts and Humanities).

Our lower-division courses LPS/Philos 29 (Critical Reasoning) and LPS/Philos 30 (Intro Symbolic Logic) satisfy lower-division requirement A of the major in Computer Science.

Our upper-division courses LPS/Philos 105A-B-C satisfy upper-division requirement D of the major in Information and Computer Science.

Almost all of our current undergraduate courses are cross-listed with Philosophy Department and thus contribute to its major. LPS/Philos 142 (Writing/Philosophy of Biology) is cross-listed with Biological Sciences (as BioSci E142). LPS/Philos 143 (Philosophy of Psychology) is cross-listed with Psychology (as Psych 123P).

LPS courses also satisfy major emphasis requirements in department such as Physics.

#### c. Placement

i) What can be said about the prospective job and educational opportunities for your Department's undergraduate majors? Provide any data available regarding placement of undergraduate majors in appropriate jobs or graduate programs. What does the Department do to provide career guidance for undergraduate students?

Since the department does not itself offer an undergraduate major, no systematic career guidance is offered by the department as such. Individual members continue to mentor undergraduates both informally and formally, and provide counseling on an ad hoc basis. We also tend to write a lot of letters of recommendation for graduate school.

#### 4. Evaluation of Graduate Program

a. Admissions

i) Provide an alphabetical list of all current graduate students showing each student's undergraduate institution, initial quarter of graduate enrollment at UCI, degree sought, and faculty research advisor (*Table 7*). If no advisor has been selected or assigned, leave blank.

<i>Graduate Student Name</i>	<i>Undergraduate Institution</i>	<i>Initial Qtr Enrolled at UCI</i>	<i>Degree Sought</i>	<i>Faculty Research Advisor</i>
Erin Andrew	University of Connecticut-Storrs	Fall 2006	MA	Kent Johnson
Brett Bevers	Lawrence University, Wisconsin	Fall 2005	Ph.D	Jeffrey Barrett
Christina Conroy	Hunter College, CUNY	Fall 2004	Ph.D	Jeffrey Barrett
Michael Ernst	Harvey Mudd College, Claremont Ca.	Fall 2008	Ph.D	Pen Maddy
Samuel Fletcher	Princeton University, Princeton PA	Fall 2008	Ph.D	Jeffrey Barrett
Matthew Glass	Hamline University	Fall 2008	Ph.D	Pen Maddy
Justin Harvey	University of Pittsburgh	Fall 2009	Ph.D	Jeremy Heis
Jason Hoelscher-Obermaier	University of Regensburg, Germany	Fall 2009	Ph.D	David Malament
Bennett Holman	University of Michigan	Fall 2008	Ph.D	Kyle Stanford
Tucker Lentz	Southern Illinois University, Edwardsville	Fall 2006	Ph.D	Jeffrey Barrett
Michael Bennett McNulty	Macalester College	Fall 2008	Ph.D	Jeremy Heis
Gregory McWhirter	University of Pittsburgh	Fall 2008	Ph.D	Jeffrey Barrett
William Orr	University of Washington	Fall 2004	Ph.D	Kyle Stanford
Alexander James (A.J.) Packman	Queens University	Fall 2007	Ph.D	Pen Maddy
John Rapalino	Kansas State University	Fall 2003	Ph.D	Pen Maddy
Benjamin Rin	Bard College, NY	Fall 2008	Ph.D	Kai Wehmeier
Brian Rogers	University of Northern Iowa	Fall 2004	Ph.D	Pen Maddy
Jordan Stein	University of Illinois, Chicago	Fall 2002	Ph.D	Kai Wehmeier
Eric Updike	Hampshire College	Fall 2002	Ph.D	Kai Wehmeier
Carla Valenzuela	UC Santa Cruz	Fall 2001	Ph.D	Kai Wehmeier
Elliott Wagner	Columbia University	Fall 2006	Ph.D	Brian Skyrms
Jim Weatherall	Harvard University	Fall 2007	Ph.D	David Malament

ii) Describe the Department's success in enrolling high quality students in its graduate programs (*Table 8*). Describe efforts the Department makes to recruit outstanding graduate students (including any efforts supported by the Graduate Division funds).

LPS receives applications from some of the strongest students in the country (and abroad) interested in our areas of specialization. When students decline our offers of

admission, it is usually because they go instead to other departments with the very highest rankings. But, as will be discussed below, we are at a serious disadvantage in the competition because our financial aid packages are not nearly as generous as those offered by, at least, many of these other departments.

Our greatest success has probably been with applicants who did not major (or did not major exclusively) in philosophy as undergraduates, but had strong training in mathematics, physics, economics, biology, psychology, or some other area of natural science. Some of our competitor departments, not all, may be reluctant to take a chance on such students. In any case, quite a few have done extremely well in our program. They have gone on to write distinguished dissertations and receive attractive job offers.

Last year was anomalous because of the budget crisis. That year aside, our goal has been to attract 4-6 new graduate students each year. We have reached that goal by admitting on the order of 15 students (out of pool of 50+ applicants), and offering each a Social Science Merit Fellowship -- a five-year (TA + fellowship) financial aid package. (We have worked with a "multiplier factor" rather than with a wait list.) Here are data for the last four years.

	# of students admitted	# of students who accepted
for Fall 2006	15	5
for Fall 2007	15	5
for Fall 2008	14	6
for Fall 2009	9	1

Last year it was determined by the School of Social Science that our goal should be 3 new students, and we were only permitted to admit (and offer financial aid to) 9 applicants. The results were discouraging and worrisome. They also provide a lesson. We can project an approximate acceptance rate of 1/3 when we admit 15 students, but that ratio is unrealistic when we become more selective and admit only 9 students. Our top ranked applicants are much less likely to accept our offers of admission than those a bit further down on the list. (Last year, for example, the eight students who declined our offer of admission went instead to: Pittsburgh (History and Philosophy of Science), Harvard, Princeton, Columbia, UCLA, UCSD, Berkeley, Ohio State.)

LPS has a small graduate program and students enjoy unusually close, congenial working relations with faculty. It looks (even) better up close than at a distance. For that reason, we consider it particularly important that prospective students visit the Department. For many years now, we have scheduled a two-day group visit for them

at the end of Winter quarter. It has had both academic and social components. In past years, the group visit was supported jointly by the University Office of Research and Graduate Studies and by the School of Social Science. Unfortunately, this year the contribution from the first (RGS) was cancelled because of the budget crisis. The School of Social Science has been generous in trying to make up the difference, but we will almost certainly have to cut back our budget for the group visit. Needless to say, this too is discouraging.

iii) Characterize the demographics of the Department's graduate students (*Table 8*). Describe any efforts the Department makes to recruit and retain members of underrepresented groups. Referring to data from the Office of Equal Opportunity and Diversity on national availability for the academic discipline (*Table 9*), evaluate the Department's success in recruiting and retaining graduate students from underrepresented groups. Describe and comment on steps that the Department has taken to promote diversity. Is the Department's plan being effectively implemented?

LPS has relatively few students from traditionally underrepresented groups since relatively few students from these groups apply. We have, however, been able to attract several women to the program since the last review. We continue to look for opportunities to improve graduate student diversity.

#### b. Training

i) Provide an overview of the Department's graduate program(s), curriculum, and degree requirements. Include a sample course plan for each program.

##### Program Overview

The Department of Logic and Philosophy of Science and the Department of Philosophy jointly administer a Ph.D. program in Philosophy with two independent tracks: the Philosophy Track and the LPS Track. Both tracks begin from a common core of requirements in standard philosophical fields (e.g., history of philosophy, logic, ethics, metaphysics/epistemology) and branch off thereafter; both lead to the Ph.D. in Philosophy. (For information on the Philosophy Track, see the Department of Philosophy.)

The LPS Track is designed to allow each student to pursue an individualized course of study, so (with the exception of the Logic Requirement) no specific courses are required. Judgments on the appropriateness of certain courses or other undertakings for satisfying particular degree requirements must be approved by the student's advisor.

##### History of Philosophy Requirement

The purpose of this requirement is to provide a student with a broad perspective on the history of philosophy.

To satisfy this requirement, the student must receive a grade of 'B' or better in courses in three out of the following four areas: Modern Rationalism (Descartes, Leibniz, Malebranche, Spinoza), Modern Empiricism (Locke, Berkeley, Hume, Hobbes, Bacon), Kant, and 20<sup>th</sup>



Century Analytic Philosophy. (Courses on other topics can be counted as satisfying one of these period requirements if they (and the term paper(s) written by the student) seriously engage issues in the history of philosophy.) To be completed by the end of the seventh quarter in residence.

#### Logic Requirement

The purpose of this requirement is to acquaint the student with the fundamentals of modern logic: elementary set theory, metalogic, effective procedures and Gödel's incompleteness theorems.

To satisfy this requirement, a student must receive a 'B' or better in LPS 205A, 205B and 205C. (Students who have already completed courses with similar content can either satisfy the requirement by earning a B or better in a more advanced logic course or petition to have the requirement waived.)

To be completed by the end of the seventh quarter in residence.

#### Field Requirement

The purpose of this requirement is to expose the student to a range of philosophical disciplines.

To satisfy this requirement, a student must receive a grade of 'B' or better in one course in moral philosophy and one course in metaphysics/epistemology. (These courses may not also be used to satisfy the History Requirement.) To be completed by the end of the seventh quarter in residence.

#### Philosophy of Science Requirement

The purpose of this requirement is to expose the student to a range of philosophy of science, from general philosophy of science to the philosophical study of particular sciences (e.g., physics, biology, linguistics, psychology, and economics) to philosophy of logic and mathematics.

To satisfy this requirement, a student must receive a grade of 'B' or better in three courses from the following list: LPS 240, 241, 242, 243, 244, 246 and 247. (These courses may be repeated as topics vary.) [See below for course descriptions.] To be completed by the end of the seventh quarter in residence.

#### Tools of Research Requirement

This requirement provides flexibility for students with various levels of interest in pursuing the philosophy of a particular science. So, for example, a student most interested in historical issues in the philosophy of mathematics might benefit most from the study of German, while a student most interested in the philosophy of quantum mechanics should take a series of graduate courses in physics. Students wishing to specialize further in the philosophy of a

particular science might wish to pursue more demanding options; see the Math and Physics Emphases, below.)

To satisfy this requirement, a student must pass an examination in an appropriate foreign language or receive a grade of B or better in three appropriate graduate courses in a discipline or disciplines outside philosophy. Though the discipline(s) here must be outside philosophy, they might be taught by Philosophy or LPS faculty. The two-hour language exam will be administered by a member of the LPS faculty and will require the student to translate (with the aid of a dictionary) a passage or passages from philosophical or scientific texts. To be completed by the end of the twelfth quarter in residence.

### Portfolio Requirement

The purpose of this requirement is to ensure that the student has acquired dissertation-level skills in the writing of philosophy, e.g., the ability to isolate, understand and evaluate arguments in the philosophical literature; the ability to assimilate secondary literature; the ability to formulate and defend an original philosophical thesis. The portfolio is designed to display these skills.

To satisfy this requirement, a student must submit an extended writing sample, most often consisting of several individual papers, that demonstrates the skills necessary to write a Ph.D. dissertation. (A successful portfolio typically consists of several papers totaling around 80 pages. These may be revisions of term papers. Each paper should present and defend a definite thesis and should be accessible to faculty members unfamiliar with the literature in question. The paper(s) in the portfolio need not be of publishable quality, but they must, collectively, demonstrate the specified skills.) Portfolios will be evaluated by the entire LPS faculty. (LPS students may request that relevant Philosophy Department faculty submit written opinions or attend the evaluation meeting.)

To be submitted by the end of the fourth week of the seventh quarter. Toward the end of fall quarter, the LPS faculty will meet to evaluate the year's portfolio(s). Each faculty member will read at least one paper from each portfolio, and each paper will be read by at least one faculty member. The possible outcomes of the Department's deliberations are (a) pass, (b) neither pass nor fail, with specific conditions to be met by a given date (e.g., a rewrite of one or more papers), (c) fail, with permission granted for complete or partial resubmission by a given date, (d) fail, with permission to apply for a terminal M.A., (e) fail. Portfolio candidates will be informed of the Department's decision by the Director of Graduate Studies.

### Candidacy Exam

The purpose of this exam is to demonstrate that the student has a viable dissertation topic and an adequate grasp of related literature. To satisfy this requirement, a student must prepare and pass an examination on a brief (15-20 page) proposal and a reading list of canonical literature that, in effect, defines the context of the proposed dissertation. For information on the composition of the Candidacy Committee, see the Graduate Advisor's Handbook. To be completed by the end of the tenth quarter in residence.

### Dissertation Defense

To satisfy this requirement, a student must pass a final oral examination focussing on the content of the dissertation administered by The Doctoral Committee. For information on the composition of the Doctoral Committee, see the Graduate Advisor's Handbook.

The normative time for completion of the Ph.D. is five years, and the maximum time permitted is seven years.

The requirements considered to this point apply to all students in the LPS Track. Further requirements apply to students who pursue two special "emphases".

### The Math Emphasis

Students wishing to specialize in the foundations or philosophy of mathematics may elect to pursue the more demanding option of the Math Emphasis, which involves courses from, and usually supervised work with, members of the Department of Mathematics. (In recent years, Math Emphasis students have also worked with members of nearby Math Departments, e.g., UCLA and UCSD.)

To satisfy the Math Requirement of the Math Emphasis, a student must receive a grade of 'B' or better in six graduate courses in mathematics. (These courses may also be used to satisfy the Tools of Research Requirement.)

### The Physics Emphasis

Students wishing to specialize in the foundations or philosophy of physics may elect to pursue the more demanding option of the Physics Emphasis.

To satisfy the Physics Requirement of the Physics Emphasis, a student must receive a grade of 'B' or better in three sections of LPS 241 (whose topics are Philosophy of Quantum Mechanics, Geometry and Spacetime, and Probability and Determinism) and in three additional graduate courses in physics or mathematics. (Students in the Physics Emphasis may also use these courses to satisfy the Tools of Research Requirement, but not the Philosophy of Science Requirement.)

### Curriculum

Here is a listing (with descriptions) of our graduate level course offerings:

#### GRADUATE

200 Topics in Logic and Philosophy of Science (4). May be repeated for credit as topics vary.

205A Set Theory (4). The basic working vocabulary of mathematical reasoning. Topics include: sets, Boolean operations, ordered n-tuples, relations, functions, ordinal and cardinal numbers. Same as Philosophy 205A.

205B Metalogic (4). Formal syntax (proof theory) and semantics (model theory) for first-order logic, including the deduction, completeness, compactness, and Loewenheim-Skolem theorems. Prerequisite: Logic and Philosophy of Science 205A. Same as Philosophy 205B.

205C Undecidability and Incompleteness (4). Formal theory of effective processes, including recursive function, Turing machines, Church's thesis, and proofs of Goedel's incompleteness theorem for arithmetic, and Church's undecidability for first-order logic. Prerequisite: Logic and Philosophy of Science 205B. Same as Philosophy 205C.

206 Topics in Logic (4). May be repeated for credit as topics vary. Same as Philosophy 206.

213 Topics in Modern Philosophy (4). May be repeated for credit as topics vary. Same as Philosophy 213.

215 Topics in Analytic Philosophy (4). May be repeated for credit as topics vary. Same as Philosophy 215.

220 Topics in Metaphysics (4). May be repeated for credit as topics vary. Same as Philosophy 220.

221 Topics in Epistemology (4). May be repeated for credit as topics vary. Same as Philosophy 221.

232 Topics in Political and Social Philosophy (4). Same as Philosophy 232.

240 Topics in Philosophy of Science (4). May be repeated for credit as topics vary. Same as Philosophy 240.

241 Topics in Philosophy of Physics (4). May be repeated for credit as topics vary. Same as Philosophy 241.

242 Topics in Philosophy of Biology (4). May be repeated for credit as topics vary. Same as Philosophy 242.

243 Topics in Philosophy of Psychology (4). Selected topics in the philosophy of psychology, e.g., the nature of psychological explanation, reductionism, issues in cognitive, behavioral, and neuroscience. May be repeated for credit as topics vary. Same as Philosophy 243 and Psychology 231P.

244 Topics in Philosophy of Social Science (4). May be repeated for credit as topics vary. Same as Philosophy 244.

245 Topics in Philosophy of Language (4). May be repeated for credit as topics vary. Same as Linguistics 241 and Philosophy 245.

246 Topics in Philosophy of Logic (4). May be repeated for credit as topics vary. Same as Philosophy 246.

247 Topics in Philosophy of Mathematics (4). May be repeated for credit as topics vary. Same as Philosophy 247.

289 Logic and Philosophy of Science Workshop (1 to 4). A two- or three-quarter-long workshop on selected topics in logic and philosophy of science. In-progress grading,

Satisfactory/Unsatisfactory only. May be repeated for credit as topics vary. Same as Philosophy 249.

298 Independent Study (4 to 12). May be repeated for credit for a total of 12 units.

299 Directed Research (1 to 12). May be repeated for credit as topics vary.

399 University Teaching (4 to 12). May be repeated for credit for a total of 12 units.

### **Sample Graduate Course Plan**

We hesitate to provide a "typical" plan of courses for an LPS graduate student, as there is no "typical" LPS graduate student. Our students arrive with very different philosophical and scientific backgrounds, and a student's graduate coursework often varies considerably depending on which background elements are or are not already in place--our program is highly individualized. Nonetheless, for an entering student with a reasonably strong background in both philosophy and one or more of the sciences (let's call her "Susan"), a sample program might look something like this (virtually all of our students enter with a guarantee of three fellowship quarters to use throughout the course of their graduate careers, in addition to any competitive fellowship support they receive while in the program):

Year 1: Fall: Logic Sequence 1 (205A), History 1 (Empiricism), Philosophy of Science 1 (243 Philosophy of Psychology) [Fellowship Quarter]

Winter: Logic Sequence 2 (205) B, Philosophy of Science 2 (246 Naturalism in Logic), Moral Philosophy (242 Evolution of Morality) [Fellowship Quarter]

Spring: Logic Sequence 3 (205) C, History 2 (Kant), University Teaching

Year 2: Fall: Philosophy of Science 3 (242 Philosophy of Biology), Epistemology/Metaphysics 1 (221 Pragmatism and Human Knowledge), University Teaching

Winter History 3 (215 Frege and Russell),

Note that at this point Susan has satisfied all course requirements except tools of research, which need not be completed until the end of the 12th quarter of residence and are usually completed either in connection with or immediately following the development of a dissertation prospectus. She is free to take elective seminars (and most of our students do wind up taking many more than the required number of courses in either philosophy of science, philosophy of mathematics, logic, or philosophy of logic). She also has time now to work on her portfolio (which must be submitted in Fall of the third year) and take any required courses she did not manage to take in the maximally efficient way I described above. She has one quarter of fellowship left in which she might take extra courses, prepare for portfolio, or work on a dissertation prospectus, as needed.

ii) Comment on graduate class-size statistics and percentage of graduate courses taught by regular rank faculty (*Table 8*).

Virtually all graduate courses in LPS are taught by regular rank faculty and (much more rarely) visitors whose visits were motivated in part by the prospect that the graduate students would benefit from a particular course that the visitor would be able to teach. Our graduate course sizes are extremely favorable, with considerable time available for individualized attention and mentoring of graduate students by faculty.

iii) Comment on progress toward degree for graduate students (*Table 8*). Describe any efforts made by the Department since the last review to improve time to degree for its graduate students. What else does the Department do to provide academic guidance and support for graduate students?

Many students enter graduate study in LPS with backgrounds in mathematics or the sciences rather than philosophy, and many of those with strong philosophy backgrounds have much science or mathematics to learn in order to complete their dissertation work with us. Given that virtually all students thus have more to learn than in a traditional graduate philosophy program, we are quite happy with our statistics on time to degree. Perhaps the most important step we have taken to improve time to degree for our students is to revise our normative time to degree upward, as current campus housing policy is to allow students to occupy student housing only for a number of years equal to normative time minus one. This change will permit more of our students to finish their dissertations without the distraction of searching for (non-existent) affordable nearby housing off-campus. In addition, our department takes graduate advising very seriously: each incoming student is assigned a preliminary advisor (usually someone who was interested in the student's file during recruitment) whose job is to help the student select a course of study and successfully pass the portfolio requirement. After portfolio, the student may go on to start working on a dissertation topic with the same advisor, but there is no presumption that she will--students are explicitly encouraged to consider who in the department is the most natural supervisor for their dissertation work, and it is not uncommon for students to change advisors on the basis of interests or working styles at some point (not always after passing portfolio) before beginning dissertation work. In Fall Quarter of each student's third year, the faculty meets as a whole to consider the student's portfolio--a selection of the best work the student has produced so far. Typically, a student will submit a collection of (revised) papers for portfolio, and in advance of the discussion each faculty member is responsible for reading at least one paper by each student (and each paper from each student must be read by at least one faculty member besides the student's advisor). Thus, the faculty as a whole has a chance to consider the academic work of each student in detail and provide feedback about it just before a student begins the search for a suitable dissertation topic and begins work on putting together a dissertation prospectus. In addition we meet as an entire faculty every Spring to consider the academic progress of each student through the program individually and provide feedback and suggestions for the student through her primary academic advisor.

iv) Comment on your Departments' success in providing adequate financial support for its graduate students including in-state, out-of-state, and international students. Provide

data on the percentage of current students receiving support, with the amount of support broken down by year in program (*Table 10*). Provide data on the percentage of students supported by university grants/fellowships, federal grants/fellowships, other extramural grants/fellowships, teaching assistantships, etc. (*Table 11*).

According to our last review,

... financial support for graduate students in the program is grossly inadequate. ... In order for LPS to recruit more of its very best applicants, its offers of financial support will need to be competitive with those the applicants receive from other top-notch departments. The funds needed to substantially improve the kinds of offers LPS could make would not be substantial. It is hard to imagine a greater opportunity for making a substantial improvement in a program at so little cost.

Unfortunately, the situation has not improved since the last review; indeed, it may be getting worse given the current budget and what our competition is able to do. Here is one example. The HPS (History and Philosophy of Science) Department at the University of Pittsburgh is one of our principal competitors. We lose more students to that department than to any other. Its financial aid offers are not so generous as those of some departments. But their standard five-year package is far better than ours. Their students are required to do much less teaching -- two years rather than four. And the stipend they receive each year is approximately \$5000 higher. Their students are also guaranteed supplemental summer money every year. It may never be possible to fully close the gap, but it would be nice to see it growing smaller.

When making our decisions about admissions, we do not pay much attention to whether the US applicants are California residents or not. But international students are treated differently. The admissions bar for them is much higher than for other students -- just because it is so much more expensive to support them. And, in fact, we have never admitted very many international students. That is not our preference, but it has been the policy of the School of Social Science. Last year, we were specifically instructed by the School not to admit (or offer aid) to international students given the budget situation.

v) Referring to the results of the graduate student survey (*forthcoming from APRB*), how would you characterize student satisfaction with the Department's graduate programs? What do graduate students perceive to be the key strengths and weaknesses of the Department?

We asked the LPS graduate student representative from last year, Tucker Lentz, to address this perception. While he cautions that he cannot help but speak from his own perspective, he did feel that he could capture a general sense of the students. The following are Lentz's unedited comments:

“LPS graduate students are generally very satisfied with our graduate program. We recognize we they have an extraordinary opportunity to work closely with some of the best scholars in our respective fields of interest, in a supportive and productive research environment. We recognize the value of the quality of faculty, quality of graduate peers, small class size, excellent student-to-faculty ratio, and active, top-notch research projects that characterize LPS graduate education. The weakness of the department that is of most concern to graduate students is the potential difficulty of job placement that may result from coming from such a narrowly focused program. We all know how competitive the philosophy job market is, and that many jobs require candidates with facility in a wide range of philosophic topics. Our students have very limited opportunity to gain teaching experience in courses in more general areas of philosophy like ethics, philosophy of mind, and history of philosophy. This lack of experience may hurt our prospects on the job market. This problem could be addressed by better cooperation with our sister department.”

While such concerns are understandable, LPS has had, even in the midst of the currently bleak job market, a graduate placement record that would please almost any philosophy department (as discussed below). We believe that this is largely the result of having very good and well-prepared students.

vi) Comment on the Department’s efforts at professional socialization for graduate students. Does the Department offer professional issues seminars? What does the department do to train teaching assistants? Does the Department provide opportunities for graduate students to present and discuss their research (e.g., brown bags)? Does the Department provide guidance and assistance to students applying for fellowships and grants? Does the Department take any measures to improve/monitor faculty mentoring quality?

The vast majority of our professionalization and professional socialization of graduate students is handled on an individual basis by individual faculty members: one of the great advantages of the small size of our program is that it leaves us the freedom to provide such engagement and mentoring on an individual basis. We do not offer professional issues seminars and the formal training of teaching assistants is handled by the School of Social Sciences, though our sense is that a considerable amount of lore, constructive advice, and feedback regarding teaching is passed down not only from our faculty but from each generation of LPS students to the next. Graduate students sometimes present their own research in the department's own general colloquium series, and they sometimes organize events (often in conjunction with the graduate students in the Department of Philosophy) at which they present their own work to each other without faculty present. (As this is not a formal institution, it depends on the level of organization and dedication among the graduate students themselves, however.) Individual faculty members do provide guidance and assistance to students applying for fellowships and grants, both intramurally and extramurally, though the form taken by such assistance varies widely with the sort of fellowship or grant in question: we have (relatively) standardized procedures only for the process of applying for internal (School-wide) fellowship competitions and the



information, support, and advice we offer in encouraging many incoming students to apply for the NSF Graduate Research Fellowship Program. Also, the fact that the entire faculty meets each year to discuss the academic progress of each student individually provides a natural way to monitor and improve the quality of faculty mentoring: if no one is really keeping an eye on a student's progress through the program, this becomes painfully evident when the student's advisor and other faculty members are asked to comment on the matter at each year's Spring Graduate Evaluation Meeting. The most significant improvement we have made in recent years to our efforts at professional socialization has been reorganizing our annual Placement Meeting with students in Spring. Although this meeting was originally conceived as intended only for students who at least might be on the job market the next Fall (to help advise them regarding what they should be doing over the summer months and answer the many questions they typically have about the process), this meeting is now explicitly intended for students at every stage of the program and all students are encouraged to attend. This allows students to be thinking about how they are preparing themselves for the job market and what their academic profiles will look like when they get there throughout their graduate careers, as well as introducing various crucial pieces of market-related advice in time for the students to actually do something about those that require some action considerably in advance of the summer before the student goes on the market: e.g., "make sure you have faculty members observe your teaching so someone besides your advisor is in a position to comment on this in a letter...", "it is great to be able to list some branch of the history of philosophy as an AOC...".

vii) Comment on scholarly productivity of graduate students. Provide a list of publications and conference presentations of all current graduate students (*Table 12*).

<u>LPS Graduate Students</u>	<u>Publications</u>	<u>Presentations</u>
<b>Bever, Brett</b>	N/A	N/A
<b>Conroy, Christina</b>	<u>Winter 2008</u> : "No Lucuna and No Vicious Regress.", <i>Acta Analytica</i> , 23, 4, 367-72	<u>April 2008</u> : Presented, "An Alleged Refutation of Actually Rigidified Definite Descriptivism," APA Central Division Meeting in Chicago, IL. <u>April 2008</u> : Presented, "An Alleged Refutation of Actually Rigidified Definite Descriptivism," Berkeley-Stanford-Davis Philosophy Graduate Student Conference in Davis, CA. <u>2005</u> : Presented, "The Description Theory of Names," University of California, Irvine, Logic and Philosophy of Science and Philosophy Graduate Student Conference in Irvine, CA.
<b>Ernst, Michael</b>	N/A	N/A
<b>Fletcher, Sam</b>	N/A	<u>April 2009</u> : "A Stop on the Hard Road to Determinism: Cases from Classical Mechanics." University of Western Ontario, London, ON.
<b>Glass, Matthew</b>	N/A	N/A

<b>Harvey, Justin</b>	N/A	N/A
<b>Holman, Bennett H.</b>	N/A	<u>May 2009</u> : Presented, "Controlling for Expectation in Evidence Based Medicine," 7th Annual IMBS Graduate Conference, University of California, Irvine.
<b>Lentz, Tucker</b>	N/A	N/A
<b>McNulty, Michael Bennett</b>	N/A	N/A
<b>McWhirter, Greg</b>	N/A	N/A
<b>Orr, William</b>	N/A	N/A
<b>Packman, Alexander J.</b>	N/A	N/A
<b>Rapalino, John</b>	N/A	N/A
<b>Rin, Benjamin</b>	N/A	N/A
<b>Rogers, Brian</b>	<u>2009</u> : "Wittgenstein's Philosophical Methods in <i>On Certainty</i> " in V. Munz, K. Puhl, & J. Wang (eds.), Lanaguage and World, Kirchberg am Wechsel <u>2009</u> : Austrian Ludwig Wittgenstein Society, pp. 360-362	<u>August 2009</u> : Presented, "Wittgenstein's Philosophical Methods in OnCertainty", 32ND International Wittgenstein Symposium, Kirchberg, Austria.
<b>Stein, Jordan</b>	N/A	<u>2006</u> : "Relating Assent and Belief Through Disquotation." Presented: 1.) Fall 2005 meeting of Southern California Philosophy Conference 2.) 2006 meeting of Southern Society for Philosophy and Psychology
<b>Updike, Eric</b>	N/A	N/A
<b>Valenzuela, Carla</b>	N/A	<u>October 2004</u> : Presented, "Frege's Problem with 'the concept horse'", at the Southern California Philosophy Conference, Irvine, CA.
<b>Wagner, Elliott</b>	<u>February 2009</u> : "Communication and Structured Correlation," Erkenntnis, 71, 377-394.	<u>June 2009</u> : Prestented, "Network Structure and the Evolution of Communication," given at the Formal Epistemology Workshop. Carnegie Mellon University.
<b>Weatherall, James</b>	<u>July 2008</u> : "Quantum control of electromagnetically induced transparency dispersion via atomic tunneling in a double-well Bose-Einstein condensate" Phys. Rev. A 78, 013830 <u>November 2008</u> : "Quantum control of dispersion in lectromagnetically induced transparency via interacting dressed ground states" Phys. Rev. A 78, 053802. <u>October 2009</u> : Electromagnetically Induced Transparency in a Double Well Atomic Josephson Junction" Acta Physica Polonica A 116 (4), 455.	<u>2008</u> : Presented: "Quantum control of EIT dispersion via atomic tunneling in a double-well Bose-Einstein condensate." American Physical Society March Meeting. New Orleans, LA. [Peer reviewed talk. March, 2008] <u>2008</u> : "Quantum control of dispersion in EIT via interacting dressed ground states." 21st International Conference on Atomic Physics. University of Connecticut. Storrs, CT. [Peer reviewed poster presentation. Late July, 2008]

We are proud of the level of scholarly productivity among our graduate students. Students are given extensive assistance, advice, and encouragement in developing their own work for publication in and presentation at the most prestigious professional venues. Our goal is to assist students in getting their work presented at conferences and published in top journals while making sure that the demands of any such efforts the student should want to pursue do not interfere with her timely production of the best possible dissertation. The department's general attitude is that publication in a top-tier professional journal is a worthy goal for a graduate student that can significantly improve her chances for desirable academic employment, while publication in less prestigious venues is much less helpful and often not worth the cost in time that must be invested away from the work of the dissertation.

c. Placement

i) Provide a list of all graduate students who received their degree in the Department since the last graduate review, including the training period (the month/year they began the program and when the degree was awarded), the title of the dissertation, the dissertation committee chair, and the student's current employment (*Table 13*).

<b>TABLE 13: Placement of Graduate Students (Since last Graduate Review) (Data Supplied by Department)</b>					
<i>Name</i>	<i>Program Begin Date</i>	<i>Degree Awarded and Date</i>	<i>Dissertation Title</i>	<i>Dissertation Chair</i>	<i>Current Employment</i>
Ebels-Duggan, Sean	Fall 1998	Ph.D June, 2007	"The Ought in Thought: Logic and Rational Norms in Kant, The Tractatus, and Beyond"	Pen Maddy	Lecturer, Northwestern University
Franks, Curtis	Fall 2000	Ph.D Summer 2006	"Mathematics Speaks for Itself"	Aldo Antonelli	Assistant Professor, Notre Dame University
Hill, Doug	Fall 1996	Ph.D. Summer 2004	"Reputation in a World of Errors and Corruption"	Brian Skyrms	Lecturer, Cal State Fullerton
Hillier, Sam	Fall 2002	Ph.D Summer 2007	"Understanding Logical Empiricism: Language Engineering in Rudolf Carnap's "Logical Syntax of Language"	Pen Maddy	Instructor, Department of Philosophy, University of Alberta (2008-present)

Hom, Chris	Fall 1994	Ph.D Summer 2003	"The Logical Form of Structured Propositions"	Terry Parsons	Assistant Professor, Texas Tech University (2008- present)
Manchak, John	Fall 2004	Ph.D Spring 2009	"The Underdetermination of Global Spacetime Structure"	David Malament	Assistant Professor, Department of Philosophy, University of Washington in Seattle (2009- present)
Merrick, Teri	Fall 1995	Ph.D Summer 2004	Frege's Distinction Between Concepts and Objects: A Descendant of Kant's Distinction Between Concepts and Intuitions	Pen Maddy	Associate Professor, Azusa Pacific University
Rohloff, Waldemar	Fall 2000	Ph.D Fall 2007	"Kant and Frege on the A Priori Applicability of Mathematics"	Pen Maddy	Assistant Teaching Professor, University of Missouri, St. Louis
Skrenes, Carol	Fall 1995	Ph.D. Fall 2004	"The Prospects for an Empirical Theory of Concept Acquisition: Causal Cognition in Early Childhood"	Brian Skyrms	Lecturer, University of California, Irvine
Smead, Rory	Fall 2004	Ph.D. Summer 2009	"Social Interaction and the Evolution of Learning Rules"	Brian Skyrms	Lecturer, London School of Economics
Woodcock, Brian	Fall 1996	Ph.D. Summer 2005	"Problems and Prospects for Relativistic Quantum State Collapse Frameworks"	Jeffrey Barrett	Assistant Professor, University of Wisconsin, Eau Claire
Zollman, Kevin	Fall 2002	Ph.D Fall 2007	"Network Epistemology"	Brian Skyrms	Assistant Professor, Carnegie Mellon University

ii) Comment on your Department's success in placing its graduates in appropriate professional settings.

Notwithstanding a persistently difficult market for academic employment, LPS has been quite successful in placing our students in tenure-track jobs and in positions that are common preludes to such jobs.

iii) Comment on and provide a list of postdoctoral researchers associated with the department since the last graduate review (*Table 14*).

<b>TABLE 14: Postdoctoral Researchers (Since last Graduate Review) (Data Supplied by Department)</b>					
<i>Name</i>	<i>Begin Date</i>	<i>End Date</i>	<i>Research Description</i>	<i>Advisor</i>	<i>Current Employment</i>
Escoto, Ben M.	7/1/2004	6/30/2005	Formal Epistemology	Brian Skyrms	Stanford University
Yi, Byenong-Uk	4/1/2004	6/30/2004	Philosophy of Logic and Mathematics	Penelope Maddy	Associate Professor, University of Toronto
Williams, Madison	7/1/2005	6/30/2006	Formal Epistemology	Brian Skyrms	University of Texas at Austin
Forber, Patrick	2/1/2007	6/30/2007	Philosophy of Biology	P. Kyle Stanford	Assistant Professor, Tufts University
Huber, Franz	9/1/2007	12/31/2007	Formal Epistemology	Brian Skyrms/Jeff Barrett	Professor, University of Konstanz, Germany
Hoa, Zhaokuan	1/7/2009	12/31/2009	Philosophy of Mathematics	Penelope Maddy	Professor, Fudan University, China
Valente, Giovanni	3/23/2009	6/30/2009	Philosophy of the Foundations of Quantum Field Theory	David Malament / Jeff Barrett	Professor, Philosophy, University of Pittsburgh
Virone, Giacomo	10/1/2009	6/12/2009	18th and 19th Century Philosophy	Jeremy Heis	University of Milan, Italy

### SECTION 3: STRATEGIC PLAN FOR THE FUTURE

1. Provide an overall evaluation of the current strengths and weaknesses of the Department and suggest a strategic plan for how the research and teaching programs can be improved without additional resources.

Our greatest strength is the excellent current LPS faculty and the support of the Dean and campus. The most significant challenges facing LPS are (1) maintaining the the strong faculty and corresponding enviable reputation and (2) providing adequate graduate support packages in order to be appropriately competitive with rival programs.

Since LPS has only ten regular full-time faculty and since three of the most distinguished faculty in the department are relatively senior, the issue of maintaining a strong faculty is of the utmost importance in our planning for the future. With the relatively small faculty, the loss or gain of even just one or two LPS faculty can mean the difference between being the best program or being a top-ten program in one of the subfields essential to the department. In order to maintain our reputation, with fixed resources, we need (1) to replace retiring faculty over the next five to ten years with well established midlevel faculty who are on similarly distinguished career trajectories, (2) to support and develop current LPS faculty so that they can follow similarly distinguished trajectories, and (3) to be appropriately aggressive in retention as needed. The single most pressing need in the department is to hire a replacement in logic and the philosophy mathematics for Professor Aldo Antonelli. Our search for this position was put on hold with the current budget.

Providing adequate graduate support packages requires additional resources. While an external grant model for graduate support where students are funded with local money their first year and grant money subsequent years simply cannot work for our field, which explains why none of our competition follows such a model, LPS faculty have been increasingly successful in bringing in external grant support that can help fund our graduate students on the margin. For example, the journal *Philosophy of Science* brings in the equivalent of three fellowship quarters of support each year, and the NSF Everett papers project will bring in the equivalent of two fellowship quarters of support over two years. Even so, even students who work on these projects have nothing like the level of support provided by even *public university competition*. If we cannot solve this problem, the very best students will always have to sacrifice the sort of graduate support that allows time for serious research in order to attend UC Irvine.

2. If the Department were given additional resources, suggest a strategic plan for how these resources would be used to improve the research and teaching programs.

Our goal is to have the best faculty and best graduate program in the philosophy of science, mathematics, and logic in the world. The sense is that, while not as strong in the philosophy of mathematics and logic, the University of Pittsburgh remains stronger than UC Irvine in the general philosophy of science; and that Oxford is stronger than UC Irvine in the general philosophy of science and in logic, but perhaps not as strong in the philosophy of mathematics. We have been moving in the right

direction, but accomplishing the goal being the best place in the world for the philosophy of science would require (1) the maintenance of our reputation as described above (including hiring a midcareer logician), (2) hiring two additional midlevel faculty on distinguished trajectories, and (3) hiring at least two additional early-career rising stars. Having new faculty who would overlap with our three most senior faculty would also help protect the stability of our reputation.

Such additional resources would allow us to reinforce the areas of current distinction so that we are prepared for the retirements of senior colleagues and extend the reputation of the department. Three natural reinforcements and extensions would be in logic and the philosophy of mathematics, the philosophy of biology, and naturalized philosophy of mind and cognition.

It would help to solidify our first-rate reputation in game theory decision theory and rational choice to hire someone who would serve the instructional requirements of a program in Philosophy, Politics, and Economics (PPE) in conjunction with the Political Science, Economics, and Philosophy departments. There has been significant discussion of such a possibility with the colleagues across the School and campus, and it is a part of the most recent 2006 strategic plan for LPS and the School of Social Sciences (as reported below).

3. Provide a copy of the most recent Strategic Plan that was transmitted to the Executive Vice Chancellor and Provost.

**Department of Logic and Philosophy of Science Strategic Plan  
Transmitted to the Executive Vice Chancellor and Provost  
Spring 2006**

**Goals**

The primary goal of the Department of Logic and Philosophy of Science (LPS) is to have the best program in the Philosophy of Science and in Logic and the Philosophy of Logic and Mathematics in the world with respect to the standard reputational measure for these fields. We believe that we may be able to attain this goal in three to five years with modest resources. In accomplishing this goal we also seek to help support allied departments and programs in the School and on the Campus more generally. In addition to the many current teaching and research relationships LPS has within the School and on Campus (see **Interdisciplinary Connections**), LPS would like to investigate the possibility of an interdisciplinary program in Philosophy, Politics, and Economics (PPE) modeled on the successful PPE program at Oxford University (see **New Programs and Curriculum** and **Philosophy, Politics, and Economics**).

**Overview of the Department of Logic and Philosophy of Science**

The *Philosophical Gourmet Report* provides reputational rankings of English-speaking graduate programs in philosophy worldwide. The Report is based on the distinction of the faculty at each university ranked as perceived by peers at other major research universities. The 2004-6 Report ranks the Department of Logic and Philosophy of Science at UC Irvine as tied for **second in the philosophy of science**. LPS is ranked just ahead of Carnegie-Mellon, Oxford, and Princeton; it is tied with Columbia and the London School of Economics and just behind the Pittsburgh. LPS is also ranked **second in the philosophy of mathematics** just behind NYU and ahead of such programs as those at MIT, Princeton, and Stanford.

The reputation that LPS currently enjoys in the general fields of the philosophy of science and the philosophy of mathematics is the result of the reputation of its faculty across several closely allied but more specific fields: LPS is currently ranked **first** worldwide in decision theory, rational choice and game theory; **third** in philosophy of physics; **fourth** in mathematical logic; **fifth** in philosophical logic; and **sixth** in both philosophy of biology and philosophy of social science.

Over the last five years, UC Irvine has moved from being among the top twenty-two programs in the philosophy of science (2000-2) to being among the top-fifteen (2002-4), to our current position of being tied for second-place among the top four programs worldwide (2004-6). Given this trajectory, it is fair to suppose that UC Irvine can have the best philosophy of science program worldwide within three to five years.

### **Interdisciplinary Connections**

LPS is an inherently interdisciplinary department. It is connected to the Institute for Mathematical Behavior (IMBS) and the Department of Economics through its strength in decision theory, rational choice, and game theory; Mathematics at UC Irvine and Mathematics at UCLA through its strength in philosophy of mathematics; and to Physics and to Biological Sciences through its strengths in the philosophy of physics and the philosophy of biology respectively. And, in turn, these programs are both directly and indirectly responsible for the success of LPS. Further, Philosophy and LPS share a Ph.D. program. For its part, the Philosophy Department has a strong reputation in several fields, particularly in the history of early modern philosophy. Such strengths support the general reputation of LPS and serve LPS graduate students well.

In conjunction with our colleagues in the Department of Philosophy, we seek to provide a well-rounded curriculum in order to continue to attract the best graduate students. From the perspective of LPS, it is particularly important for our students to have access to expertise in the history of 20<sup>th</sup> Century analytic philosophy and philosophy of science and in the empiricist, pragmatist, and Kantian traditions. LPS will hire in such fields as needed to ensure appropriate coverage for our graduate students.



Within the School, LPS seeks to form closer working relationships, in particular, with Economics, Political Science, and Cognitive Sciences. The relationship between LPS and Economics is already very strong, involving shared research interests and shared teaching both at the graduate and undergraduate levels. This relationship is further supported through the active involvement of both departments in IMBS. In addition to this, we would like to explore the possibility of a PPE program with Economics and Political Science (see **Philosophy, Politics, and Economics**). The relationship between LPS and Cognitive Sciences currently involves our shared interests in the mathematical modeling of complex systems. This aspect of the relationship is well supported through IMBS. One field in which LPS may wish to hire is the naturalized philosophy of mind. A faculty hire in the naturalized philosophy of mind might be interested in the use of empirical and theoretical methods from cognitive science to clarify and address traditional questions in the philosophy of mind, or such a hire might be interested in artificial intelligence or formal reasoning.

## **Teaching and Students**

While LPS does not have an undergraduate major, each senate faculty member of the department teaches at least one service course for the School or Campus. LPS faculty, for example, teach courses that fulfill the Campuswide Symbolic Systems Breadth Requirement (LPS/Philos 29, 30, and 31 and Ling 20). Each of these courses enrolls from 100 to 250 students each quarter. LPS faculty also teach two large courses in statistics for economists that we expect will enroll approximately 350 students. And LPS courses satisfy major-specific requirements for majors including Computer Science, Philosophy, Biological Sciences, and Physics. The interdisciplinary nature of LPS teaching is indicated in LPS faculty having recently taught courses crosslisted with Economics, Political Science, Philosophy, Biology, Social Sciences, Linguistics, URP, and Criminology, Law, and Society. Such teaching service connects us to the schools of Social Sciences, Humanities, Mathematical and Physical Sciences, Biological Sciences, Information and Computer Science, and Social Ecology. There is perhaps no other unit on campus with this range of interdisciplinary connections. LPS faculty also teach the first quarter of the CHP Social Science Honors core sequence.

LPS shares a Ph.D. program in Philosophy with the Department of Philosophy in the School of Humanities. Currently, the LPS track of this program has approximately 20 graduate students. Given the status of the Ph.D. program in the philosophy of science and mathematics, LPS gets some very strong graduate applicants. Both the School of Social Sciences and the Campus have been very helpful in graduate recruitment, but many prospective LPS students receive offers from LPS peer programs (e.g. University of Pittsburgh, Columbia, and Princeton) that are as much as 40% more than our best graduate support package and typically require significantly less teaching from the graduate student. LPS is consequently investigating ways that we might better compete with the financial component of offers that have led some LPS applicants to choose peer graduate programs. The School has been particularly helpful and creative in suggesting possible strategies. LPS is also looking for external grant resources that might help cover the cost of the very best graduate students.

Over the past few years LPS Ph.D. graduates have accepted academic positions at Stanford, University of Western Ontario, Washington University (Saint Louis), UCSD, Waterloo, UCSC, Washington University, London School of Economics, and Notre Dame.

## **New Programs and Curriculum**

LPS does not currently have any plan to offer an undergraduate major. This is, in part, since the degree of specialization required in the field might be unsuitable for undergraduates. LPS has some interest in developing an undergraduate minor, but we fully expect that our undergraduate teaching will primarily continue to be in service of breadth, interdisciplinary majors, and other units on campus.

Given expected changes in the Campuswide Breadth Requirements, LPS may need to adjust its undergraduate offerings in order to be as useful as possible to the teaching mission of the campus.

While LPS's teaching role outside of the Ph.D. program is largely supportive of other units, there is perhaps the opportunity for successful new interdisciplinary programs to which we might contribute. We are always willing to entertain cooperative proposals where LPS teaching resources might be put to good use, and have recently proposed an LPS emphasis in Games and Decisions to mesh with the proposed Ph.D. Concentrations in Games and Decisions in Political Science and Economics. We would like to investigate the possibility of an undergraduate and/or masters degree program in Philosophy, Politics and Economics with our colleagues in the School. We are also interested in exploring the possibility of a joint undergraduate Philosophy of Biology Concentration with the School of Biological Sciences analogous to the current undergraduate Philosophy of Physics Concentration. We would also like to strengthen the relationship between LPS and Cognitive Sciences (see **Interdisciplinary Connections**), but it is currently unclear whether this will provide any natural opportunities for additional programs.

### **Philosophy, Politics, and Economics**

The first Philosophy, Politics, and Economics program was established at Oxford in 1920 for students entering the civil service. It has since developed into a highly prestigious program with distinguished graduates including Harold Wilson, Edward Heath, Wesley Clark, David Cameron, Stephen Breyer, and Benazir Bhutto. The current average intake of students for the Oxford program is about 300. Other prestigious undergraduate PPE programs include the one at the University of Pennsylvania. Both the Oxford and the Penn PPE programs claim particular success in placing graduates at prestigious law schools and other graduate programs. There are also successful masters degree programs that cover similar interdisciplinary ground. Among these, the London School of Economics offers a twelve-month masters degree in Philosophy and Public Policy, Economics and Philosophy, and Philosophy of the Social Sciences. Again, such a program might be expected to attract students interested in civil service, business ethics, or law.

The Oxford program, on which most PPE programs are modeled, was based on the premise that the three named disciplines are mutually supporting and each necessary to a rich understanding of social phenomena: philosophy equips students with tools to reason rigorously and facilitates ethical reflection, economics provides tools for evaluating individual and collective decisions, and politics provides an understanding of the real contexts in which ethical and economic principles must be applied. Oxford undergraduates begin with introductory courses in each of the three subjects. These courses include introductions to Microeconomics, Macroeconomics, Moral Philosophy, Logic, the Politics of France, Germany, the USA and the U.K, and Political Theory.

A successful undergraduate or masters degree PPE program at UC Irvine might be expected to include courses from the departments of Logic and Philosophy of Science, Philosophy, Political Science, and Economics. Such a program might also be expected to draw on expertise from faculty working on game theory, decision theory and rational choice and the Institute for Mathematical Behavioral Sciences.

### **Overview of Department Strategy**

We believe that we will be able to attain our goal of having the best program in the Philosophy of Science and in Logic and the Philosophy of Logic and Mathematics with modest resources. It seems that our success here will, to a large extent, depend on whether we will be able to afford the people we wish to hire given the current job market for the best researchers.

We are interested in exploring the possibility of a PPE program with Economics and Political Science. In addition, we believe that the research relationship between LPS and Cognitive Sciences will inevitably grow closer. At the same time, LPS must ensure that we have the appropriate history of philosophy resources on campus to support the LPS track of the joint LPS/Philosophy graduate program.

With respect to teaching, we intend to continue to use LPS undergraduate teaching resources in the service of the School and Campus. Consequently, we expect that demands on our teaching resources will increase proportionally with increases in undergraduate enrollment on Campus and the increase in the size of the joint Ph.D. program in Philosophy.

Jeffrey A. Barrett  
Professor and Chair  
Department of Logic and Philosophy of Science

### **Sources**

2004-5 Philosophical Gourmet Report:  
[www.philosophicalgourmet.com](http://www.philosophicalgourmet.com)

Wikipedia article on PPE programs:  
[http://en.wikipedia.org/wiki/Philosophy,\\_Politics\\_and\\_Economics](http://en.wikipedia.org/wiki/Philosophy,_Politics_and_Economics)

Oxford University PPE Program description:  
<http://www.admissions.ox.ac.uk/courses/ppec.shtml>

University of Pennsylvania PPE program description:  
<http://www.sas.upenn.edu/ppe/index.html>

4. What are the emerging trends in your field nationally in terms of research and teaching specialties? How do your strategic plans for future faculty recruitment, new graduate or undergraduate programs and curriculum revisions fit with those emerging trends?

There will always be a handful of essential fields that define our discipline: general philosophy of science, naturalized metaphysics and epistemology, the philosophy of mathematics, the philosophy of logic, and logic.

One significant emerging trend in the field is evolutionary game theory, and we are already a clear leader in this area. Hiring someone to provide reinforcement and continuity here would also support the proposal for a PPE program, both at the Masters and as an (initially) small undergraduate major administered by LPS and taught using courses from the naturally affiliated departments. An additional virtue of such a program is the natural connection it would have with the Law School at UC Irvine.

Other emerging fields include philosophy of biology, naturalized philosophy of mind, logic and computation, and philosophical modeling. While we typically try to hire the very best candidate we can find in any LPS-related field, our hiring plans, should we be allowed to pursue them when the budget improves, will certainly include such emerging areas.