Carlos Mariscal

carlos@philbio.org≢=7 +1 (919) 699-3659 € carlosmariscal.com Department of Philosophy University of Nevada, Reno Jones Bldg. 103A—MS 0102 Reno, Nevada 89557-0102

Academic Positions

University of Nevada, Reno

Associate Professor July 2022 –

Department of Philosophy, Ecology, Evolution, and Conservation Biology Program (EECB), and the Integrative Neuroscience Program

Assistant Professor July 2016 – June 2022

Dalhousie University

Herzberg Postdoctoral Fellow

September 2014 – June 2016

Supervisor: W. Ford Doolittle Department of Philosophy, Department of Biochemistry & Molecular Biology, and

the History of Science & Technology Programme at the University of King's College

Education

Duke University

Ph.D. in Philosophy September 2014

Dissertation: <u>Universal Biology</u>

Co-Advisers: Robert Brandon and Alex Rosenberg

Committee: Karen Neander, Dan McShea (biology), V. Louise Roth (biology), Tyler Curtain (UNC)

M.A. in Philosophy May 2012

New Mexico State University

B.A. in Journalism & Mass Communications

December 2006

Areas of Specialization

Philosophy of Science, Astrobiology, History & Philosophy of Biology, Ethics of Biotechnology

Areas of Competence

Science, Technology & Society (STS), Epistemology, Environmental Ethics, Cognitive Science, 20TH Century Philosophy

Publications

Academic Books

Smith K, Mariscal C (eds.): <u>Social and Conceptual Issues in Astrobiology</u>
 Oxford University Press

Academic Articles

1. Mariscal C: "<u>Introduction to Philosophy of Science</u>" 2022

Mind, Cognition and Neuroscience: Benjamin Young & Caroline Dicey Jennings (eds.). Routledge

2. Mariscal C: "Life"

2021

Stanford Encyclopedia of Philosophy

3. Stull KE, Bartelink EJ, Klales AR, Berg GE, Kenyhercz MW, L'Abbe EN, Go MC, McCormick K, Mariscal C: "Moving Beyond a Lost Cause: Forensic Anthropology and Ancestry Estimates in the United States"

2020

2 of 9 | CV

Journal of Forensic Sciences 68(5): 1/91-2. doi: 10.1111/1586-4029.14616	
4. Mariscal C, Brunet, TDP: "What are Extremophiles? A Philosophical Perspective"	2020
Social and Conceptual Issues In Astrobiology: Kelly C. Smith, Carlos Mariscal (eds.). Oxford University Press, Oxford.	
5. Mariscal C, Barahona A, Aubert-Kato N, Aydinoglu AU, Bartlett S, Cárdenas ML,	
Chandru K, Cleland C, Cocanougher BT, Comfort N, Cornish-Bowden A, Deacon T,	
Froese T, Giovannelli D, Hernlund J, Hut P, Kimura J, Maurel M-C, Merino N, Moreno A,	
Nakagawa M, Pereto J, Virgo N, Witkowski O, Cleaves II HJ: "Hidden Concepts in the	
	2019
Origins of Life and Evolution of Biospheres 49(3), 111-145.	
,	2018
Synthese. doi: 10.1007/s11229-018-1852-2	
, 0, , , , , , , , , , , , , , , , , , 	2017
Biological Theory. doi: 10.1007/s13752-017-0280-8	
7 1 0	2016
Monash Bioethics Review 34 (2), 101-116. doi: 10.1007/s40592-016-0062-2	• • • •
, , , , , , , , , , , , , , , , , , , ,	2016
Annual Reviews of Microbiology 70 (1), 279-297. doi: 10.1146/annurev-micro-102215-095456	
10. Scharf C, Virgo N, Cleaves HJ, Aono M, Aubert-Kato N, Aydinoglu A, Barahona A, Barge LM,	
Benner SA, Biehl M, Brasser R, Butch CJ, Chandru K, Cronin L, Danielache S, Fischer J,	
Hernlund J, Hut P, Ikegami T, Kimura J, Kobayashi K, Mariscal C, McGlynn S, Menard B,	
Packard N, Pascal R, Pereto J, Rajamani S, Sinapayen L, Smith E, Switzer C, Takai K, Tian F,	2015
Ueno Y, Voytek M, Witkowski O, Yabuta H: " <u>A Strategy For Origins of Life Research</u> " Astrobiology 15 (12): 1031–1042. doi: 10.1089/ast.2015.1113	2013
e, and a second	2016
Nature 529 (25): 25. doi:10.1038/529025e	2010
· · · · · · · · · · · · · · · · · · ·	2015
Philosophical Transactions of the Royal Society B: Biological Sciences 370: 20140322. doi: 10.1098/rstb.2014.0322	
12. Mariscal C: "Assessing Universality from a Single Example"	2015
In: Dick, S.J. (ed.), The Impact of Discovering Life Beyond Earth, Cambridge: Cambridge University Press	
13. Powell R, Mariscal C: "Convergent Evolution as Natural Experiment: The Tape of Life Reconsidered"	2015
Journal of the Royal Society Interface 5 (6): 20150040 . doi: 10.1098/rsfs.2015.0040	
Shorter Work	
1. Mariscal C: "A Pragmatic Account of Universal Biology" February	2021
Daily Nous: News for and About the Philosophy Profession	
	2017
Theology and Science, 15(2), 150-152. doi: 10.1080/14746700.2017.1299384	2017
	2016
3. Mariscal C, Petropanagos A: "Response to Genome Editing: Open Call for Evidence" February	2016
Nuffield Council on Bioethics	
4. Mariscal C, Petropanagos A: "Not Your Grandpa's Biotechnology" October	2015
Impact Ethics: Making a Difference in Bioethics	

December 2013

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1. Mariscal C, Lerner A: "Five Chances in Evolution"	2018
Studies in the History and Philosophy of Science A DOI: https://doi.org/10.1016/j.shpsa.2018.02.004	
2. Powell R, Mariscal C: "There is Grandeur in This View of Life: the Bio-Philosophical Implications of	2014
Convergent Evolution by George McGhee"	
Acta Biotheretica 62: 115-121 DOI: https://doi.org/10.1007/s10441-014-9211-2	
3. Mariscal C: "Epistemology, necessity, and evolution: a critical review of Michael Ruse's Philosophy	2011
After Darwin"	
Biology & Philosophy 26(3): 449-457 DOI: https://doi.org/10.1007/s10539-010-9226-2	

Presentations

Invited Talks	(Past Ten Years	Only)
THE TOTAL THING	(I ust Itali Italis	

14. "Evolution is not Reducible to Physics"

New Mexico State University – Department of Philosophy

ivited faiks (Fast fell fears Only)	
1-2 & 5-6. "When Will We Know if We've Discovered Life?"	
Possible Life ERC project – Universität Wien	October 2023
Exeter Centre for the Study of the Life Sciences (EGENIS) Seminar – University of Exeter	October 2023
Philosophical Issues in Astrobiology and Space Science Seminar Series 2023 – Durham University	March 2023
California State University, Sacramento – Nammour Symposium – Department of Philosophy	April 2022
3. "Biophysics as Universal Biology"	-
Workshop on the Philosophy of Biophysics — University of Bristol	September 2023
4. "What it Means When Nature Repeats Itself"	_
Philosophy of Biophysics Conference	August 2023
7. "The Generality of Biology & Physics"	-
University of Nevada, Las Vegas – Department of Philosophy	February 2020
8. "Life and Life Only: A Radical Alternative to Life Definitionism"	
University of Auckland – Department of Philosophy	August 2018
9. "Universal Biology"	
University of California, Davis – Philosophy of Biology Lab	December 2017
10-11. "LUCA, Life, and its Many Origins"	
ELSI Origins Network: History and Philosophy of Origins Research — Tokyo Institute of Technology, Japan	n August 2016
LUCA, its contemporaries and their viruses: 20 years after — La Fondation des Treilles, Tourtour, France	May 2016
12. "Life is Not a Natural Kind"	February 2016
Bryn Mawr College – Department of Philosophy	
13. "Going to Extremes: Exploring Life's Limits"	January 2016
University of Washington — Department of Philosophy and the Astrobiology Program	
14. "What is Weird About Weird Life?"	January 2016
Rhodes College – Department of Philosophy & Religious Studies	
15. "The Logic of Evolutionary Theory (And the Theory of Evolutionary Logic)"	January 2016
University of Nevada, Reno – Department of Philosophy	
16. "Universal Biology: Circumventing the N=1 Problem"	September 2014
Preparing For Discovery: A Rational Approach to the Impact of Finding Microbial, Complex, or Intelligent	t
Life Beyond Earth Life Beyond Earth — The Library Of Congress and the NASA Astrobiology Program	
13. "Evaluating Potential Evolutionary Systems in the Universe"	March 2014
Dalhousie University – Department of Biochemistry & Molecular Biology and Department of Pl	hilosophy
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Papers Presented (Past Ten Years Only)	
1. "Philosophical Issues at the Ends of Life"	July 2023
Biannual Meeting of the International Society for the History, Philosophy, and Social Studies of Biology	
(ISHPSSB) – Toronto, Canada	
2. "Proto-Psychohistory"	August 2022
P hilosophy of B iology a t H alifax – Dalhousie University – Halifax, Nova Scotia, Canada	O
3-5. "The New N=1 Problem"	
Astrobiology Science Conference (AbSciCon) – Atlanta, Georgia	May 2022
Society for the Social and Conceptual Issues in Astrobiology (SSoCIA) – Ole Miss – Oxford, Miss.	March 2022
Biannual Meeting of the International Society for the History, Philosophy, and	July 2021
Social Studies of Biology (ISHPSSB) – Cold Springs Harbor Laboratory/Online	,
6. "Universality in/of Evolution"	December 2020
Society for the Social and Conceptual Issues in Astrobiology (SSoCIA) – Online	
7. "Assessing the Research Program(s) of Astrobiology"	July 2019
Biannual Meeting of the International Society for the History, Philosophy, and Social Studies of Biology	
(ISHPSSB) – University of Oslo, Norway	
8. "Philosophical Issues in the Origin of Life"	July 2018
P hil oso phy of B iology a t H alifax – Dalhousie University – Halifax, Nova Scotia, Canada	
9. "Life and Life Only: A Radical Alternative to Life Definitionism"	April 2018
Social and Conceptual Issues in Astrobiology — University of Nevada, Reno — Reno, Nevada	-
10-11. "Regarding Biology as a Universal Science"	
Earth Life Sciences Institute Origins Network Universal Biology Workshop — Tokyo Institute of Tech., Japan	August 2017
American Association of Mexican Philosophers 11th Annual Conf. — Metropolitan St. Univ., Denver, Colo.	September 2017
12. "When Astrobiologists Write Humanities & When Humanists Write Astrobiology"	July 2017
Biannual Meeting of the International Society for the History, Philosophy, and Social Studies of Biology	,
(ISHPSSB) – Universidade de São Paulo, Brazil	
13. "Why Research Universal Biology?"	January 2017
Earth Life Sciences Institute Young Researchers Day (ELSI YRD), Fifth Annual Symposium — Tokyo Institu	te of Tech., Japan
14. "LUCA, Life, and its Many Origins"	September 2016
SoCIA 2016: Social and Conceptual Issues in Astrobiology — Clemson University, South Carolina	a
15. "Understanding Evolution in a Universal Context"	May 2016
Canadian Society for the History and Philosophy of Science/La Société canadienne d'histoire et de	
philosophie des sciences (CSHPS/SCHPS) – University of Calgary, Alberta, Canada	
16. "Trends and Tendencies in Universal Biology"	July 2015
Biannual Meeting of the International Society for the History, Philosophy, and Social Studies of Biology	1
(ISHPSSB) – Université de Montréal, Quebec, Canada	
17. "Convergent Evolution as a Natural Experiment"	July 2015
Biannual Meeting of the International Society for the History, Philosophy, and Social Studies of Biology	1
(ISHPSSB) – Université de Montréal, Quebec, Canada	
18. "Evolution reduces to Logic, not Physics"	June 2014
International Consortium for the History and Philosophy of Biology. Nature and Culture:	
The Ninth Annual Research Workshop – University of Cambridge, UK	

1. The Planetary Resources and Content Heroes (ReaCH)	June 2023
SETI Institute – Mountain View, California, USA	
2. Beyond the Ivory Tower	June 2023
Northeastern Universtiy – Boston, Massachusetts, USA	
. MBI Summit on the Rules of Life	June 2019
Mathematical Biosciences Institute – Columbus, Ohio , USA	
- SoCIA 2016: Social and Conceptual Issues in Astrobiology	September 2016
ISHPSSB Off-Year Workshop – Clemson, South Carolina , USA	
. History and Philosophy of Origins Research Workshop	August 2016
Earth-Life Sciences Institute (ELSI) at Tokyo Institute of Technology – Tokyo, Japan	
. LUCA, its contemporaries and their viruses: 20 years after	May 2016
La Fondation des Treilles – Tourtour, France	
. ELSI Origins Network Origins of Life Roadmap International Workshop	August 2015
Earth-Life Sciences Institute (ELSI) at Tokyo Institute of Technology – Tokyo, Japan	
3. Workshop on Evolutionary Genomics of Symbiosis	December 2014
Dalhousie University and Christian-Albrechts-Universität zu Kiel – Halifax, Nova Scotia, Cand	ada
ited Commentary	
l. "On The Quest for a Universal Theory of Life" – American Philosophical Association: Eastern Mt	tg. – Online January 202 1
2. "Semantic Essentialism and Populations" – Southwestern Philos. Assoc. 80 th Annual Mtg. – Der	rnver, Colo. Nov. 2018

Grants and Awards

National and International		
Earth Life Sciences Institute Workshop Grant –Tokyo, Japan	\$30,000 USD	2017
International Society for the History, Philosophy, & Soc. Studies of Biology	\$9,000 USD	2015
Ford Foundation Postdoctoral Fellowship	honorable mention	2013
University of Nevada, Reno		
Distinguished Outreach Faculty Award	finalist	2021
Paul and Judy Bible University Teaching Excellence Award	nominee	2017, 2018, 2022
International Faculty Travel Grant	\$1,000 USD	2017
Dalhousie University		
The Royal Society of Canada Open Academy	\$3,000 CAD	2016
Duke University		
Katherine Goodman Stern Dissertation Year Fellowship	Tuition + \$27,000 USI	D 2013 – 2014
Franklin Humanities Institute Digital Scholarship Initiative Seed Grant	\$1,000 USD	2011 - 2012
Melinda French Gates' University Scholars Program Fellow	\$135,000 USD	2008 - 2014
James B. Duke Endowment Fellow	Tuition + \$20,000 USI	D 2008 – 2013

6 of 9 | CV Mariscal | August 2023

Teaching Experience

University of Nevada, Reno

• CH 212: Science, Technology, and Society in the Modern Era8x since Spring 2018

• PHIL 224: Introduction to the Philosophy of Science

• PHIL 315: Twentieth Century Philosophy

• PHIL 434/634: Philosophy of Cognitive Science

• PHIL 438/638: Probs. in the History & Philosophy of Science: The Philosophies of the Sciences 2x since Spring 2018

• PHIL 438/638: Problems in the History & Philosophy of Science: Philosophy of Biology

• PHIL 438/638: Problems in the History & Philosophy of Science: Great Feuds in Science Fall 2021

• PHIL 438/638: Problems in the History & Philosophy of Science: The Big Questions Spring 2023

• PHIL/HIST 480: Science, Technology, & Society 11x since Fall 2016

• PHIL 713: Philosophy & Biology

University of Nevada, Reno – Independent Study

• PHIL 499: "Philosophy of Biochemistry"

• PHIL 499: "20th Century Analytic Philosophy"

• PHIL 499: "Philosophy of the Sciences"

• PHIL 699: "Science, Technology, and Society"

• PHIL 699: "Chance in Evolution"

Fall 2019

Spring 2021

Fall 2016

Spring 2019

Spring 2019

3x since Spring 2017

5x since Spring 2020

3x since Spring 2017

Fall 2017, Fall 2018

Spring 2017

Dalhousie University

• PHIL 1050: Ethics in Science (Flagship course for the First Year Dalhousie Integrated Science Program) Fall 2015

Duke University

• PHIL 150: Logic

Spring 2012

• PHIL 103S: Introduction to Philosophy

Fall 2011, Fall 2012

Professional Service and Development

Conferences/Workshops/Symposia Organized (Past Ten Years Only)

1. SoCIA 2018: Social and Conceptual Issues in Astrobiology – Organizer

April 2018

University of Nevada, Reno – Reno, Nevada, USA

2. Universal Biology: Investigating Life as it *Must* Be – Primary Organizer

August 2017

Earth Life Sciences Institute Origins Network – Tokyo Tech, Japan

3. SoCIA 2016: Social and Conceptual Issues in Astrobiology – Co-Organizer

September 2016

International Consortium for the History & Philosophy of Biology Off-Year Workshop – Clemson, South Carolina

4. Information & Transmission: Eighth Ann. Research Workshop – Primary Organizer, Commentator June 2013 International Consortium for the History & Philosophy of Biology in association with the Center for the Philosophy of Biology, Duke Philosophy, Duke Biology, Duke Computer Science, the Renaissance Computing Institute, and the Institute for Genome Sciences & Policy

Professional Leadership

METI (Messaging Extraterrestrial Intelligence) International – Advisory Council 2018 -Philosophy of Science Association – Media Committee 2018 -Social & Conceptual Issues in Astrobiology – Co-Founder 2016 - 2018Evo Devo Universe – Co-Director 2014 - 2016International Soc. for the Hist., Phil., & Soc. Stud. of Biol. – Webmaster, Publications Board Member 2011 – 2015 Duke Ctr. for the Phil. of Biol. - Asst. Director, Conf. Organizer, Fundraiser, Web Designer, Web Master 2010 - 2014

Graduate Students Chair			
	ty of Nevada Reno)	2018	3 – 2020
1. Erica C. Dietlein (University of Nevada, Reno) Philosophy M.A.: "Gamifying Nature: the aesthetic experience of science as a puzzle-game"			
2. Kassidy A. Freitas (University of Nevada, Reno)			9 – 2020
•	mental Existentialism: An Environmental		
Co-Chair 1			
1. Alexander Lerner (Univers	sity of Nevada, Reno)	2017	7 – 2019
Philosophy M.A.: "Mental H	Health Nosology and Animal Models"		
Committee Member			
1. Danielle Delilio (Universit	ry of Nevada, Reno)	2021	1 - 2022
Anthropology M.A.			
2. Cameron Gibson (Univers	sity of Nevada, Reno)	2019	9 – 2020
Linguistics M.A.	. (27 1 2		2010
3. Christina K. Roberts (Univ	·	M 1 1 . C 1A	2018
	e Stars vs. The Space Frontier: National Sp		merican
4. James A. Smith (University	urrently a Ph.D. Student at Purdue University of Newada, Pana)		6-2018
	ssayer: Sense and Reason in the Epistemic		.0-2016
•	sayer. Serise and reason in the Episterine	Dalance	
Panels Organized		T	1 2017
1. Philosophy of Astrobiolog			ıly 2017
0 0	onal Society for the History, Philosophy, and Social St.	c Cr	
2. Complexity and Evolution	– Co-Organizer, Presenter ional Society for the History, Philosophy, and Social	2	ily 2015
	, , , , , , , , , , , , , , , , , , , ,	C C	
3. Natural Experiments – Co	-Organizer, Presenter ional Society for the History, Philosophy, and Social	•	ily 2015
	wna society for the History, Frillosophy, and social	Situates of Blowgy — Offiversite de Ivi	OHITEAL
Professional Membership	4- ()		
	ual Issues in Astrobiology (SSoCIA)		2016 –
	ry and Philosophy of Science (CSHPS)		2016 –
American Association of Mexic	can Philosophers (AAMP)		2015 –
Evo Devo Universe (EDU)	(201)		2015 –
Philosophy of Science Associati			2013 –
American Philosophical Associ		(rayypaan)	2013 –
International Society for the H	istory, Philosophy, and Social Studies of E	iology (ISHPSSB)	2009 –
Referee (Past Ten Years Only)	John Templeton Foundation	D 1. (4 N 1 A	1
Acta Analytica	Journal of Theoretical Biology	Proceedings of the National Ac	cademy
BioEssays	Origins of Life and Evolution of	of Sciences	
Biological Theory	Biospheres	Royal Society Interface Science and Engineering Ethics	
Biology & Philosophy	NASA Postdoctoral Program (NPP)	Studies in History and Philosop	hu of
Cambridge University Press National Science Foundation (NSF) Science Part C:			ny oj
Frontiers in Physiology Philosophy Compass Biological and Biomedical			ıl
Futures	Philosophy of Science	Sciences	
International Journal of	Philosophical Transactions of the Royal	Synthese	
Astrobiology	Society B: Biological Sciences	,	

Department and University Service (Past Ten Years Only)	
UNR Honors College	
Curriculum Committee	2021 - 2022
UNR College of Liberal Arts	
SCAG Committee	2019 - 2020
Moulson/Feltner Research Committee	2019
Science Studies Committee	2018
Alianza	2018 -
UNR Core Humanities Department	
CH 212 Program Committee	2019; 2022
Thought on Tap Co-creator/co-organizer	2018 -
UNR Honors Program	
CH 212 Program Committee	2019; 2021
UNR Philosophy Department	• ,
Department Head Search	2019 – 2020
Lecturer Search Chair	2019
Events Committee	2017 – 2019
Communications Liason	2016 – 2019
Philosophy Club Co-Adviser	2016 – 2018; 2021 -
Dalhousie Postdoctoral Researcher's Union – Vice-President, Bargaining Committee Unio	
Dalhousie Evolution Studies Group – Organizer	2014 – 2016
	2011 2010
treach	
Reno (Past Five Years Only)	
1. "Toxic Titan" with Sarah Hörst and Donna dePolo	December 2022
Discover Science Podcast - College of Science - Interviewer	1
2-7. "American Possibilities: Establish Justice"	November 2022
"Rethinking Our Tech Overlords"	October 2021
"Confronting Legacies of Health Disparities"	October 2020
"Future Visions of Work and Money"	December 2019
"The Role of the Humanities in Sciences & New Technologies"	May 2019
"The Role of the Humanities in Resistance Movements"	November 2018
Thought on Tap – College of Liberal Arts and Core Humanities – Moderator 8. "Pattles Payand the Harizon"	October 2022
8. "Battles Beyond the Horizon" Creat Compressions Series - LIND College of Liberal Arts - Dandiet	October 2022
Great Conversations Series – UNR College of Liberal Arts — Panelist 9. "Human Genetic Modification: Lessons from Revolutionary Technologies"	February 2021
Great Conversations Series – UNR College of Liberal Arts	redition y 2021
10. "How COVID-19 Infected My Syllabus"	December 2020
Heart-to-Heart – Nevada Humanities – Writer	December 2020
11. "Life in the Universe: Astrobiology and Universal Biology"	September 2019
Colloquium Series – UNR Osher Lifelong Learning Institute	5 6 7 6 1 7
12. "Exploring Astrobiology"	February 2019
Science Distilled – Desert Research Institute & Discovery Museum	======================================
13. "Telling Stories from the Ivory Tower"	September 2019
14. "The Role of the Humanities in Times of Crisis"	October 2018
Thought on Tap – College of Liberal Arts and Core Humanities – Panelist	

National & International

1. "Life 2.0"

The Institute of Arts and Ideas – London, England

April 2023

2. "How Science is Made: A Glimps of the People, Institutions, and Money Behind It"

May 2021

Anna Funk – Discover Magazine – Zoom

3. "Life in the Universe – Interview with Carlos Mariscal"

January 2021

Kane B - YouTube - Zoom

4. "Why We Don't Have a Definition of Life, Nor Need One"

December 2020

OpenMind BBVA

5. "K.C. Smith and C. Mariscal, "Social and Conceptual Issues in Astrobiology (Oxford UP, 2020)" November 2020

New Books in Science, Technology, and Society – New Books Network – Zoom

6. "Are Viruses Alive?"

April 2020

The Future of Everything – Wall Street Journal – Zoom

Nationality and Languages

Dual Citizen of U.S.A. & Mexico

Fluent in English and Spanish