

PASTORAL ROLES

- 2016-2020 **Christian Educator and Supply Priest**
Forums and retreats in diverse contexts, from congregation to international society; popular, ecclesial, and academic. Specializing in the intersection of science and religion. Substitute preacher and presider in the Episcopal Diocese of Olympia. Ongoing relationship with St. Stephen's Episcopal, Seattle and Church of the Apostles (interdenominational), Seattle.
- 2014-2020 **Provincial Warden for North America, Society of Ordained Scientists**
Pastoral care, coordination of a distributed society, non-profit president, board development. Expanded membership from 35 to 70. Started a monthly online prayer service. Coordinated biennial retreat. Supported broader Society: website design and management (ordsci.org); started Facebook discussion group; facilitated annual retreat.
- 2015-2016 **Associated Clergy, Episcopal Church at Princeton**
Monthly preaching, presiding, and teaching at a college chaplaincy
- 2013-2015 **Associated Clergy, Lutheran Episcopal Ministry at MIT**
Regular preaching and teaching, strategic planning
- 2009-2013 **Episcopal Chaplain to the University of Arizona**
Weekly Eucharistic service, student Canterbury Club, Theology Pub. Started "Hill Society" student group for discussing reality and ethics across diversity (religious, political, economic, and ethnic): weekly meetings with membership of 40-60, active Facebook discussion group. Board development, advertising, website design and management. Local preaching monthly. Supervision of staff musician and peer minister. Diocesan Commission on Ministry, Examining Chaplain (2011-2013)
- 2008-2009 **Supply Clergy and Christian Educator, Diocese of Olympia**
Monthly preaching and forums, Diocesan Commission on Ministry, Monthly Forum at the Lutheran/Episcopal Ministry to the University of Washington
- 2007-2008 **Curate, Church of the Apostles, Seattle WA**
Led worship and pastoral care committees for a small urban parish (~60 members, average age 24, ecumenical). Facilitated congregational creation of innovative liturgy each week. Exchange Curate, Moot, London (2008): Exploring Emerging Church and Fresh Expressions in the UK
- Ordained Priest (Episcopalian), 6 January 2008 – Diocese of Olympia
Ordained Deacon (Episcopalian), 30 June 2007 – Diocese of Olympia

ACADEMIC DEGREES

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| 2007 | MDiv, Church Divinity School of the Pacific (Episcopalian Seminary) |
| 2004 | PhD, Organismic and Evolutionary Biology, Harvard University |
| 1997 | BS Biochemistry / BA Comparative Religion, University of Washington |

BLOG

Blog on post-modern Christianity [<http://docalu.wordpress.com>] (2008+)

ACADEMIC ROLES

- 2013+ **Associate, Organismic and Evolutionary Biology, Harvard**
 2012+ **Research Scholar, Ronin Institute**
 Studying life-concepts across biology, philosophy, and theology. Current projects include long-term trends in evolution, astrobiology, and the future of life. Secured multiple research grants from the John Templeton Foundation.
 Research/Seminar blog (2013-15): <https://sciencespiritscripture.wordpress.com/>
- 2015-16 **Fellow, Center of Theological Inquiry, Princeton, NJ**
 Research on Astrobiology and Society: What's at stake in definitions of life for science, ethics, theology, law, and policy? What do people want and what sorts of answers will satisfy. Facilitated interactions between philosophers, theologians, and natural scientists.
- 2010-13 **Adjunct Professor of Religious Studies and Biology, University of Arizona**
 Focus on science and religion. 1 undergraduate lecture and 2 graduate seminars per year. Graduate seminar blog: <https://chancepurposeprogress.wordpress.com/>
- 2009 **Computational Biologist, University of Washington**
 Writing/editing phylogenetic program: CODML for the PHYLIP software package w/ Joseph Felsenstein, Dept. of Genetics and Genomics.
- 2000-2006 **Editor-in-Chief, The Astrobiology Primer, NASA Astrobiology Institute**
 Five-year project coordinating over 100 contributors, 24 authors, 8 volunteers to produce an 80-page technical document introducing all major elements of the study of life as a planetary phenomenon.
- 1999-2001 **Computational Biologist, University of Washington**
 Writing/editing phylogenetic programs: PROML and PROMLK for the PHYLIP software package w/ Joseph Felsenstein, Dept. of Genetics and Genomics.

BOOKS

- Mix, LJ (2018) ***Life-Concepts from Aristotle to Darwin: On Vegetable Souls.***
 A 272-page exploration of life-concepts in Western thought from Homer through evolutionary biology. The book focuses on reinterpretations of Aristotelian vegetable souls and the issues of individuality and agency they addressed. [Peer reviewed. Palgrave-Macmillan]
- Mix, LJ (2016) ***Thinking Fair: Rules for Reason in Science and Religion.***
 North Charleston, SC: Createspace Publishing. A 306-page introduction to reasoning for undergraduates, focusing on epistemology and worldview construction. [Createspace]
- Mix LJ (2009) ***Life in Space: Astrobiology for Everyone.***
 A 322-page introduction to the study of astrobiology aimed at a general audience. The book introduces astronomy, geology, chemistry, and biology as well as showing how they fit together and impact human understanding of our place in the universe. [Peer Reviewed. Harvard Univeristy Press] [*La Vida En el Espacio: La Nueva Ciencia de la Astrobiologia.* Barcelona: Critica, April 2010.]

ACADEMIC TEACHING**Center of Theological Inquiry**

2017 Emerging Scholar Workshop on Astrobiology and Society (1 week)

2016 Emerging Scholar Workshop on Astrobiology and Society (1 week)

Church Divinity School of the Pacific

2016 "Life and Death in Biology and Theology" (STRS 2662, intersession)

Harvard

2013-2015 Religion and Science Reading Group (w/ MIT – 4 terms)

2002-2004 Moderator: Systematics Discussion Group (4 terms)

2004 Head TA: Evolutionary Biology (BS 53 – 1 term)

1998, 1999 TA: Integrative Biology of Organisms (BS 2 – 2 terms)

Society of Campus Ministers – Online Training via Moodle

2015 Theology of "Sex and Relationships" (4 weeks)

University of Arizona

2010-2013 "Chance, Purpose, and Progress in Evolutionary Biology and Religion"
(ECOL/RELI/PHIL 524 – 7 terms)

2010-2012 "Religion and Science in the West" (RELI 326 – 3 terms)

2009-2010 Forum: "Faculty Faith Forum" (2 terms)

University of Washington

2008 "Religion and Science in the West" (Religion 490 – 1 term)

2007-2009 Forum: "Alchemists Guild" (4 terms)

POPULAR PUBLICATIONS**Written Media Online**

2019

Winter is Coming. *God & Nature*. Winter 2020. <https://godandnature.asa3.org/>

Living with Bacteria, Dying to Self. *Christianity Today*, 10/3/19.

<https://www.christianitytoday.com/ct/2019/october-web-only/im-living-with-bacteria-and-dying-to-self.html>

2018

Thinking with Our Bodies. *Embodied Faith*. 12/18/18. <https://embodiedfaith.org/2018/08/19/8-18-18-theological-essay-thinking-with-our-bodies/>

The Poetry of Probability. *God & Nature*. Summer 2018. <https://godandnature.asa3.org/mix-the-poetry-of-probability.html>

2017

Breath and Spirit. *Embodied Faith*. 12/7/17: <https://embodiedfaith.org/2017/12/07/12-7-17-theological-essay-breath-and-spirit/>

The Cosmos in My Hand. *God & Nature*. Summer 2017: <http://godandnature.asa3.org/essay-the-cosmos-in-my-hand-by-lucas-mix.html>

Embodied Mindfulness. *Embodied Faith*. 6/8/20: <https://embodiedfaith.org/2017/06/10/6817-theological-essay-embodied-mindfulness/>

2015

Humans versus bacteria: the quiet war. *Collegeville Institute Blog*. 2/2/2015: <http://collegevilleinstitute.org/bearings/humans-versus-bacteria/>

Audio and Visual Media

- (2018) What is Resurrection? (online course). *Church Next*.
<https://www.churchnext.tv/library/what-is-resurrection/about/>
- (2017) Fresh Thinking #25 Emerging Scholars Workshop 2017 – Lucas Mix, Johanna Leidenhag, and Sara Reynolds on humanities and astrobiology.
<https://soundcloud.com/8ltxez6g7yqq/emerging-scholars-workshop-1>
- (2017) Popping Collars #60 Sherlock – religion and pop culture.
<https://poppingcollarspodcast.com/2017/04/20/60-the-great-mystery/>
- (2016) Fresh Thinking #14 Astrobiology and Society – Center of Theological Inquiry Podcast – Lucas Mix and Caleb Scharf on the probability of finding life in space.
<https://soundcloud.com/8ltxez6g7yqq/caleb-scharf>
- (2016) Popping Collars #36 Batman v Superman – religion and pop culture.
<http://poppingcollarspodcast.com/2016/03/31/36-the-heroes-of-old/>
- (2016) In the Beginning: A Video Curriculum Exploring the Catechism of Creation. Forward Movement.
https://www.youtube.com/playlist?list=PLa0q1BlzZ_Y1d58Zt4a8IfYzPnjDfBV5K
- (2016) Popping Collars #35 This Is My Body (on Pornography) – religion and pop culture.
<http://poppingcollarspodcast.com/2016/03/22/35-this-is-my-body/>
- (2015) Fresh Thinking #1 Astrobiology and Society – Center of Theological Inquiry Podcast – William Brown, Lucas Mix, and Susan Schneider on the meanings of life.
<https://soundcloud.com/8ltxez6g7yqq/fresh-thinking-podcast-1-final>
- (2014) BlueSciCon #34 Zombie Broccoli – What Zombies and Souls Can Tell Us about Ourselves (Blue Marble Space Institute of Science) <https://www.bmsis.org/the-zombie-broccoli-what-aliens-and-souls-can-tell-us-about-ourselves/>
- (2011) Interview on 104.1 The Truth, “Circles of Change” – life in the universe.
http://www.thelarsengroup.com/images/LifeinSpace_12-24-2011.mp3
- (2010) Ross and Burbank Radio Show “Response to NASA announcement.”
- (2010) KIRO News Radio “Interview on extra-terrestrial life discovery”

Print

Mix, LJ (2017) Other Sheep in the Universe? *The Living Church*, 19 Nov.

Poetry

Mix, LJ (2015) *Species of Love*. Createspace.

A collection of poetry on love, both religious and romantic.

Mix, LJ (2008) Crucifixion. In J.R Canon (ed) *Sanctified: An Anthology of Poetry by LGBT Christians* (Scotts Valley, CA: CreateSpace). pp. 107-110.

ACADEMIC PUBLICATIONS

Journal Articles

Mix, LJ (2017) Philosophy and data in astrobiology. *International Journal of Astrobiology*. 17(2): 189-200.

Mix, LJ (2016) Life-value narratives and the impact of astrobiology on Christian ethics. *Zygon* 51(2): 520-535.

- Mix, LJ (2016) Nested explanation in Aristotle and Mayr. *Synthese* 193(6):1817-1832.
- Mix, L and C Bertka (2015) Beyond natural sciences: humanities and social science contributions to astrobiology. In National Aeronautics and Space Administration "Astrobiology Strategy 2015." 155-160.
- National Aeronautics and Space Administration (2015) "Astrobiology Strategy 2015."
- Mix, LJ (2015) Defending definitions of life. *Astrobiology* 15(1): 15-19.
- Mix, LJ (2014) Proper activity, preference, and the meaning of life. *Philosophy and Theory in Biology* 6.
- Mix LJ and J Masel (2014) Chance, purpose, and progress in evolution and Christianity. *Evolution* 68-8: 2441-2451.
- Mix, LJ, JC Armstrong, AM Mandell, A Moiser, J Raymond, SN Raymond, FJ Stewart, K von Braun, and O Zhaxybayeva, (eds.) (2006) The astrobiology primer: An outline of general knowledge. *Astrobiology* 6(5): 735-813.
- Mix, LJ, D Haig, and CM Cavanaugh (2005) Phylogenetic analyses of the core antenna domain: Investigating the origin of photosystem I. *Journal of Molecular Evolution* 60: 153-163.
- Mix, LJ, T Harmer, and CM Cavanaugh (2004) Sequence of the core antenna domain from the anoxygenic phototroph *Heliophilum fasciatum*: Implications for diversity of reaction center type I. *Current Microbiology* 48: 438-440.

Book Chapters

- Mix, LJ (2020) Three lives in astrobiology. In: K Smith and C Mariscal, *Social and Conceptual Issues in Astrobiology*, pp. 57-78. New York: Oxford University Press.

Book Reviews

- (2018) "Cosmology in Theological Perspective, by Olli-Pekka Vainio" for the Astrobiology Society of Britain. <http://astrobiologysociety.org/book-reviews/>
- (2017) "Human Origins and the Image of God: Essays in Honor of J. Wentzel van Huysteen." *Perspectives on Science and Christian Faith* 70(2):143-144.
- (2016) "The Big Bang and God: An Astrotheology, by Walker and Wickramasinghe" for the Astrobiology Society of Britain. <http://astrobiologysociety.org/book-reviews/>

CHURCH PRESENTATIONS

Select Guest Preacher Invitations

- St. Ninian's Episcopal Church, Edinburgh, UK, 9 Jun 2019
- Manchester Cathedral, Manchester, UK, 5 July 2015
- Christ Church Cathedral, Vancouver, BC, 11 Jan 2015
- St. Matthew's, Westminster, London, UK, 24 May 2008
(for the Archbishop of Canterbury)
- Congregational Church of Futingi, American Samoa, January 2006
(for the Secretary General of the Congregational Christian Church of Samoa)

Retreats

- 7 Mar 2020 "Creeds: What They Are and How They Work." St. Stephen's Episcopal, Seattle, WA
- 8-11 Jan 2020 "Vocation in Science and Religion," Society of Ordained Scientists, Picture Rocks, AZ
- 23 Mar 2019 "The Soul: Life in Body, Mind, and Spirit," St. Stephen's Episcopal, Seattle, WA
- 10 Mar 2018 "Finding Wisdom through Faith and Science," St. Stephen's Episcopal, Seattle, WA
- 13-15 Oct '17 "Faith and the Problem-Solving Mindset," Lutheran Episcopal Ministry at MIT, Cambridge, MA
- 1-3 May 2017 "The Art of Mindfulness," Diocese of New Westminster Clergy Retreat, Anglican Church of Canada, Vancouver, BC
- 17-19 Feb '17 "Faith and Reason," College Chaplaincy Retreat, Province V, The Episcopal Church, Chicago, IL
- 7-9 Feb 2017 "Faith and the Problem-Solving Mindset," Episcopal Diocese of El Camino Real Clergy Conference, San Jose, CA
- 4-7 Jan 2016 "Pilgrimages of Perspective," Society of Ordained Scientists, Berkeley, CA
- 24-27 Jan '12 "Poetry in Science and Religion," Society of Ordained Scientists, Picture Rocks, AZ
- 5 Dec 2009 "Cosmos: Religion and Science in the Heavens," St. Philip's Episcopal, Tucson, AZ

Lecture Series

- Series of Three 1-hour forums: Space Exploration, Salvation, and the Future of Humanity
St. Stephen's Episcopal Church, Seattle, WA (Summer 2019)
- Series of Five 1-hour forums on the Meanings of Life
St. Andrew's Episcopal Church, Seattle, WA (Lent 2017)
St. Stephen's Episcopal Church, Seattle, WA (Fall 2016)
- Series of Three/Four 1-hour forums on Science, Knowledge, and Identity
St James' Episcopal Church, Kent, WA (Lent 2009)
Christ Church Episcopal, Puyallup, WA (Lent 2009)
St. John's Episcopal Church, Seattle, WA (August 2008)
Christ Church Episcopal, Seattle, WA (May 2008)
St. Clement's Episcopal Church, Berkeley, CA (December 2006)
- Series of Three 1-hour forums on Emerging Church
Christ Church Episcopal, Seattle, WA (February 2009)
- Series of Six 1-hour forums on Evolution and Christianity
St. Clement's Episcopal Church, Berkeley, CA (Lent 2007)

Invited Talks

- 21 Jul 2019 "Science and Religion" St. Matthew's Episcopal, San Matteo, CA
- 7 Apr 2019 "Moving Meditation" Christ Church Episcopal, Seattle, WA
- 24 Mar 2019 "Do We Still Need Souls?" St. Andrew's Episcopal Church, Seattle, WA
- 10 Mar 2019 "Do We Still Need Souls?" St. Michael's Episcopal Church, Tucson, AZ
- 24 Feb 2019 "Do We Still Need Souls?" Trinity Episcopal Church, Seattle, WA

- 20 Jan 2019 "Do We Still Need Souls?" Redeemer Episcopal Church, Kenmore, WA
 7 Feb 2018 "Who Needs a Soul?" Diocese of Olympia Young Adult Forum, Seattle, WA
 20 Apr 2017 "Aliens, Astrobiology, and the Meanings of Life," St. Philip's Episcopal Church, Tucson, AZ
 27 Apr 2017 "Aliens, Astrobiology, and the Meanings of Life," Trinity Episcopal Cathedral, Phoenix, AZ
 5 Mar 2017 "Thinking Fair," Church of the Apostles, Seattle, WA
 3 Mar 2017 "Astrobiology and the Meanings of Life," St. Stephen's Episcopal Church, Seattle, WA
 3 July 2016 "Meanings of Life," Episcopal Cathedral in Paris
 7 Mar 2016 "Meanings of Life," Episcopal Chaplaincy at Princeton
 18 Feb 2016 "Meanings of Life," Central Clericus, Diocese of New Jersey
 31 Jan 2016 "Astrobiology and Our Place in the Universe," Al Saints' Episcopal Church, Princeton, NJ
 20 Dec 2015 "Do We Still Have a Soul in the 21st Century," Church of the Apostles, Seattle, WA
 17 June 2015 "Zombie Broccoli: What it means to have only part of a soul?" Brent House Episcopal Campus Ministry, University of Chicago, Chicago, IL
 10 Mar 2015 "One Hope, One Faith, One Life – Being priest and scientist without leading two lives," Lutheran Episcopal Ministry @ MIT, Cambridge, MA
 1 Feb 2015 "The God of Ebola? Faith, Science, and Sickness," St. Philip's Episcopal Church, Tucson, AZ
 28 Jan 2015 "The God of Ebola?" Trinity Cathedral, Phoenix, AZ
 10 Jan 2015 "The God of Ebola?" Christ Church Cathedral, Vancouver, BC
 19 Oct 2014 "Zombie Church: What Biological Life Can Tell Us about Church Life," University Lutheran, Cambridge, MA
 20 Jul 2014 "The Soul and Life," Ascension Church, Seattle, WA
 18 May 2014 "The Soul and Life," University Lutheran, Cambridge, MA
 16 Feb 2014 "The Definition of Life," St. Michael's, Tucson, AZ
 7 Jan 2014 "Science and Religion," Theology on Tap, Seattle, WA
 29 Sep 2013 "Creation and Science," Good Shepherd, Watertown, MA
 24 Feb 2013 "What is the Soul?" St. Philip's, Tucson, AZ
 2 Apr 2011 Workshop on dealing with conflict, Province VIII young adult retreat, UC Davis
 30 May 2010 "Evolution and Creationism," All Saint's Sun City, AZ
 17 Mar 2010 "Literal Interpretation and Transubstantiation," St. Philip's Episcopal Church, Tucson
 24 Feb 2010 "Changing Minds: Reason in Science and Religion," Albert the Great Forum, Newman Center, University of Arizona, Tucson
 5 Jun 2009 "God in Space," for St. Philip's Episcopal Church, Tucson
 28 Oct 2007 "Science and Religion," Epiphany Episcopal Church, Seattle:
 29 Jun 2006 Didactic on Evolutionary Biology, Evergreen Hospital, Seattle
 27 Oct 2005 "Making Peace between Science and Religion," UC Berkeley Canterbury Club

Sam Portaro Award for Creative Expression and Intellectual Enquiry 2013

Awarded annually to an Episcopal Chaplain for contributions to campus ministry.

PUBLIC PRESENTATIONS**Invited Talks**

- 18 Jul 2019 "Spirituality, Astrophysics, and Space Exploration," IONS Conference, Santa Clara, CA
- 12 Mar 2018 "Theology and the Emergence of Life in the Universe," SXSW Conference, Austin, TX
- 19 Nov 2016 "God and Dinosaurs" for Diocese of Olympia Middle School Retreat (JYC)
- 27 Feb 2016 "Astrobiology and Our Place in the Universe," Center of Theological Inquiry Board of Trustees Meeting, San Antonio, TX
- 27 Aug 2015 "Astrobiology and Religion," Religion Newswriters Association Conference, Philadelphia, PA
- 6 Mar 2015 "The God of Ebola? Faith, Science, and Sickness," American Scientific Affiliation, Boston Chapter, Cambridge, MA
- 31 Oct 2011 "Ethics and Science," Imago Dei Middle School, Tucson, AZ
- 8 Dec 2010 "Ethics and Science," Imago Dei Middle School, Tucson, AZ
- 19 Mar 2009 "GLBTQ Issues," Mars Hill Graduate School, Seattle

Panels

- 9 Apr 2016 "Crossroads of Christianity and LBGTQIA," Louisiana State University
- 12 Apr 2011 "Religion and Love," Islam Awareness Week at U of Arizona
- 27 Oct 2010 Responding to movie "We're No Angels" about Gay Christians for U of Arizona Pride Alliance
- 16 Feb 2010 Responding to movie "Faith of the Abomination" about Gay Christians for Loft Cinema
- 1 May 2008 "Why Should Christians Care about Creation," at Greening the Church: Sustainability as an Act of Worship, a workshop at Seattle Pacific University, Seattle, WA
- 10 Apr 2008 "Why Christians Should Care What Science Says," at Healing Our Planet Earth Conference, Seattle, WA.

ACADEMIC PRESENTATIONS**Conferences**

- 11 Jun 2020 "To Infinity and Beyond: Biology, Ethics, and Endless Expansion." *The Institutions of Extraterrestrial Liberty*, Edinburgh, UK
- 27 Mar 2020 "Can Astrobiology Transcend Biology?" *SoCIA 2020: An Interdisciplinary Workshop on Social and Conceptual Issues in Astrobiology*, Oxford, MS
- 22 Jun 2019 "Three Lives in Astrobiology." *Astrobiology Science Conference*, Bellevue, WA
- 18 Jun 2019 "Three Lives." *AAAS, Pacific Division Annual Meeting*, Ashland, OR
- 1-5 Mar 2019 *Workshop on Long-Term Trends in Evolution*, Tucson, AZ (Co-chair with Joanna Masel)
- 16 Oct 2018 "Is Space Available," *Radcliffe Seminar on Space Resources*, Harvard, Cambridge, MA

- 14 Apr 2018 “Body Snatchers: What whole body hijacking reveals about our definitions of life,” *SoCIA 2018: An Interdisciplinary Workshop on Social and Conceptual Issues in Astrobiology*, Reno, NV
- 26 Apr 2017 Session Chair: What’s It All About? Social and Conceptual Issues in Astrobiology, *Astrobiology Science Conference*, Mesa, AZ
- 25 Apr 2017 “Darwin Life: A Discrete Population Genetics Life Category,” *Astrobiology Science Conference*, Mesa, AZ
- 12 Apr 2017 Session Chair: Philosophy and Astrobiology, *Pacific Division Meeting, American Philosophical Association*, Seattle, WA
- 14 Oct 2016 “The Wide Wild,” *Wild Animals in the Wild West*, Montana State University, Bozeman, MT
- 24 Sep 2016 “Replicator Theory: Testing Evolutionary Theories-of-Life,” *SoCIA 2016: An Interdisciplinary Workshop on Social and Conceptual Issues in Astrobiology*, Clemson, SC
- 28 May 2016 “Five Lives,” *Congress of the Humanities and Social Sciences*, Calgary, AB
- 18 July 2015 “Attributing Function to Molecules?” *Astrobiology Science Conference*, Chicago, IL
- 16 July 2015 “Astrobiology and Our Place in the Universe,” *Astrobiology Science Conference*, Chicago, IL
- 25 Jul 2014 Workshop Leader with Stephen Freeland: “Origin of Life,” *American Scientific Affiliation Annual Conference*, Hamilton, ON
- 16 Apr 2014 “Biology and Theology” for class “God and Creation,” Episcopal Divinity School, Cambridge, MA
- 17-20 Jun ’13 *Astrobiology Roadmap Meeting of Experts*, NASA Wallops Flight Center, Wallops, VA: Coordinated White Papers on
1. What can synthetic and reductive approaches tell us about earliest life?
 2. What are the common attributes of extant living systems, and what can they tell us about all living systems?
 3. Astrobiology and the Humanities
- 17 Apr 2012 “Astrobiology: Impacts on Philosophy and Society” Plenary, *Astrobiology Science Conference*, Atlanta, GA
- 10 July 2011 “On the valences of ‘fitness,’” Ian Ramsey Center conference on the *Ethics of Evolution and the Evolution of Ethics*, Oxford, UK
- 14 Sep 2010 Panel: “Science, Mystery, and Epiphany,” SETI Workshop: *50 Years after Ozma*, Green Bank, WV
- 13 Sep 2010 Panel: “Life in the Milky Way,” SETI Workshop, *50 Years after Ozma*, Green Bank, WV
- 31 Mar 2010 Panel: “Religion and Science Round Table Discussion: Evolution and Intelligent Design,” University of Arizona, Tucson
- 21 Aug 2005 “Astrobiology and the Sacred, Foundational Assumptions,” *Astrobiology Graduate Student Conference*, Seattle, WA

Invited Talks

- 7 Jun 2019 "Who counts as alive? And what ethical difference does it make? Earth, Life & Space Seminar Series, U of Edinburgh
- 12 Mar 2019 "Astrobiology and Human Context" for BIOL 378, Carleton College, Northfield, MN
- 7 Feb 2019 "(Biological) Altruism" for RELI 336, U of Arizona
- 15 Feb 2018 "A Population Genetic Theory of Life," Ronin Institute Online "Watercooler"
- 22 Jan 2018 "Physiology versus Psychology: How life in humans and non-humans got separated," U of Arizona
- 17 Jan 2018 "Biology and Souls" for RELI 326, U of Arizona
- 14 Nov 2017 "Astrobiology and Human Significance," Astrobiology Colloquium, U of Washington
- 26 Sep 2016 "Three Lives," Columbia Theological Seminary, Decatur, GA
- 23 Sep 2016 "Three Lives," Clemson University Philosophy Department, Clemson, SC
- 22 Sep 2016 "Three Lives," Georgia Tech Biology Department
- 8 July 2016 "Three Lives," University of Manchester Biology Department, Manchester, UK
- 16 Feb 2016 "The Drake Equation: Numbers and Life in the Universe," Center of Theological Inquiry, Princeton, NJ
- 29 June 2015 "Overlapping Definitions of Life," History and Philosophy of Science, Cambridge
- 27 Mar 2015 "Catechism of Creation" Panel, Yale Divinity School
- 27 Jan 2015 "Defending Definitions of Life," U of Arizona
- 26 Jan 2015 "Overlapping Definitions of Life," Origins Seminar, U of Arizona
- 13 Nov 2014 "Theology and Science for HUMN 407, Wentworth Institute of Technology, Cambridge, MA
- 10 Nov 2014 Respondent to Denis Alexander for the Herrmann Lectures on Science and Religion, Gordon College, Wenham, MA
- 15 May 2012 "Philosophy and Astrobiology," Astrobiology Seminar, U of Washington
- 12 Apr 2012 "Evolution and Ontology" for PHIL 233, U of Arizona
- 20 Feb 2012 "Evolution and Sociology" for RELI 336, U of Arizona
- 4 Nov 2011 Respondent to Philip Clayton at Donohoe Forum on Christianity after Darwin, Phoenix, AZ
- 19 Sep 2011 "Cosmology and Spiritual Direction," Hesychia School of Spiritual Direction, Tucson, AZ
- 13 Apr 2011 "Religion and Evolution" for TRAD 104, U of Arizona
- 1 Nov 2004 "Terrean Phototrophy," Carnegie Institute, Washington, DC:
- Fall 2003 "Photosynthetic Mechanisms" for Biology 221, Harvard
- 6 Jan 2003 "Origin of Photosystem I," Genetics and Genomics Seminar Series, Harvard University, Cambridge, MA
- 17 June 2001 "Early Events in Photosynthesis," Arizona State University Center for the Study of Photosynthesis, Arizona State
- 16 May 2000 "Phylogeny and the Evolution of Photosynthetic Bacteria," Graduate Student Seminar Series, Harvard
- 7 Apr 2000 "Comparative Metabolism" for Biology 221, Harvard

OTHER EXPERIENCE**Martial Arts**

Advanced study and teaching on dealing productively with conflict, promoting health and harmony.

2019-2020 Founder and Director, Union Hapkido

International organization for teaching and mutual development in Hapkido

1999-2020 Founder and Director, Enso Center for International Arts

(ensocenter.org). Enso Center is a non-profit promoting awareness, understanding, and harmony through programs in martial, healing, and fine arts programs.

- Teaching: founded and ran schools in Seattle, WA (1993-1997); Cambridge, MA (1998-2004); and Tucson, AZ (2009-2013). Taught 2-4x/wk at Redmond school (2016-2020).
- Board Work: record keeping, volunteer coordination, curriculum development, fund raising
- Event Coordination: seminars, tournaments, and art shows
- Technical Direction: wrote and maintain manual for instructors, detailing curricula and protocols for teaching

7th Dan Black Belt, Union Hapkido, 24 August 2019

5th Dan Black Belt, Korea Yonmookwan Taekwondo Association, 25 January 2007

Other Community Work

2018-2020 Acting Secretary, Society for Social and Conceptual Issues in Astrobiology (ssocia.com). Visioning, recruiting, conference organization, development of bylaws.

2012-2020 Board Member, Society for Ordained Scientists, North American Province (ordsci.org). Visioning, recruiting, meeting planning.

- Provincial Warden 2014-2020