

CURRICULUM VITAE

James DiFrisco

Group Leader and Head of Theoretical Biology Lab
The Francis Crick Institute
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PERSONAL DATA

Birthdate: 28 March 1987 (age 37)

Nationality: USA

RESEARCH INTERESTS

Areas of Specialization: Theoretical Biology, Philosophy of Biology, Evolutionary Biology, Developmental Biology

Areas of Competence: Philosophy of Science, History of Biology

EMPLOYMENT

2023– Group Leader and Head of Theoretical Biology Laboratory,
The Francis Crick Institute, London, UK

2021–2023 Senior Postdoctoral Fellow. Research Foundation – Flanders (FWO),
Institute of Philosophy, KU Leuven, Belgium

2018–2021 Postdoctoral Fellow. Research Foundation – Flanders (FWO),
Institute of Philosophy, KU Leuven, Belgium

2017–2018 Hans Prizibram Fellow. Konrad Lorenz Institute for Evolution and
Cognition Research, Klosterneuburg, Austria

2015–2017 Postdoctoral Fellow. Konrad Lorenz Institute for Evolution and
Cognition Research, Klosterneuburg, Austria

2011–2015 Doctoral Fellow. Research Foundation – Flanders (FWO),
Institute of Philosophy, KU Leuven, Belgium

EDUCATION

INSTITUTION	DEGREE
KU Leuven	Ph.D., Philosophy (2015)
KU Leuven	MPhil, Philosophy (2011)
KU Leuven	M.A., Philosophy (2010)
Wheaton College (IL)	B.A., Philosophy (2009)

PUBLICATIONS

EDITED BOOKS

- [1] Brooks, Daniel S., James DiFrisco, and William C. Wimsatt (eds.) 2021. *Levels of Organization in the Biological Sciences*. Vienna Series in Theoretical Biology, MIT Press: Cambridge, MA.

JOURNAL ARTICLES AND BOOK CHAPTERS

- [27] Pavlicev, Mihaela*, James DiFrisco, Alan C. Love, and Günter P. Wagner. (accepted) "Metabolic complementation between cells drives the evolution of tissues and organs." *Biology Letters*
- [26] Cao, Dominica, Sumit Garai, James DiFrisco*, and Jesse Veenvliet* (accepted). "The logic of monsters: development and morphological diversity in stem-cell-based embryo models." *Interface Focus*
- [25] McColgan, Áine and James DiFrisco* (accepted). "Understanding developmental system drift." *Development*
- [24] Jaeger, Johannes, James DiFrisco, and Andrea Loettgers (accepted). "Beyond networks: explaining dynamics in the natural and social sciences." Chapter to appear in *Modeling the Possible*, ed. Tarja Knuuttila. Routledge.
- [23] Meneganzin, Andra, Grant Ramsey, and James DiFrisco* (2024). "What is a trait? Lessons from the human chin." *Journal of Experimental Zoology part B: Molecular and Developmental Evolution*
- [22] DiFrisco, James*, Alan C. Love, and Günter Wagner. 2023. "The hierarchical basis of serial homology and evolutionary novelty." *Journal of Morphology* 284(1): e21531.
- [21] DiFrisco, James*, and Grant Ramsey. 2023. "Adaptationism and trait individuation." *Philosophy of Science* 90(5): 1234 – 1243.
- [20] DiFrisco, James, Günter P. Wagner, and Alan C. Love*. 2023. "Reframing Research on Evolutionary Novelty and Co-Option: Character Identity

- Mechanisms versus Deep Homology." *Seminars in Cell & Developmental Biology* 145: 3-12.
- [19] DiFrisco, James. 2023. "Toward a theory of homology: development and the decoupling of morphological and molecular evolution." *British Journal for the Philosophy of Science* 74(3): 771–810. (Winner of the 2023 Karl Popper Prize, which is awarded to the best article published in that year's volume of the journal, as judged by the Editors-in-Chief and the British Society for Philosophy of Science Committee.)
- [18] DiFrisco, James, and Günter P. Wagner*. 2022. "Body plan identity: a mechanistic model." *Evolutionary Biology* 49: 123–141.
- [17] DiFrisco, James*, and Johannes Jaeger. 2021. "Homology of process: developmental dynamics in comparative biology." *Interface Focus* 11: 20210007 (18 pp.)
- [16] Brooks, Daniel S., James DiFrisco, and William C. Wimsatt. 2021. "Levels of Organization: The Architecture of the Scientific Image." In: DS Brooks, J DiFrisco, and WC Wimsatt (eds.) *Levels of Organization in the Biological Sciences*. Vienna Series in Theoretical Biology, MIT Press: Cambridge, MA.
- [15] DiFrisco, James. 2021. "Integrating Composition and Process in Levels of Developmental Evolution." In: DS Brooks, J DiFrisco, and WC Wimsatt (eds.) *Levels of Organization in the Biological Sciences*. Vienna Series in Theoretical Biology, MIT Press: Cambridge, MA.
- [14] DiFrisco, James, Alan C. Love, and Günter P. Wagner*. 2020. "Character Identity Mechanisms: A conceptual model for comparative-mechanistic biology." *Biology and Philosophy* 35:44. (32 pp.)
- [13] DiFrisco, James, and Johannes Jaeger*. 2020. "Genetic causation in complex regulatory systems: an integrative dynamic perspective." *BioEssays* 1900226. (10 pp.)
- [12] DiFrisco, James, and Matteo Mossio. 2020. "Diachronic identity in complex life cycles: an organizational perspective." In: Anne Sophie Meincke and John Dupré (eds.) *Biological Identity: Perspectives from Metaphysics and the Philosophy of Biology*. London: Routledge, pp. 177–199.
- [11] DiFrisco, James*, and Johannes Jaeger. 2019. "Beyond Networks: Mechanism and Process in Evo-Devo." *Biology and Philosophy* 34:54 (24 pp.)
- [10] DiFrisco, James. 2019. "Homology and homoplasy of life cycle traits." In: G. Fusco (ed.) *Perspectives on Evolutionary and Developmental Biology*. Padova University Press, Padova, 71–82.
- [9] DiFrisco, James. 2019. "Developmental Homology." In: L. Nuño de la Rosa and G. B. Müller (eds.) *Evolutionary Developmental Biology: A Reference Guide*. Springer: Cham, Switzerland. (13 pp.)

- [8] DiFrisco, James. 2019. "Kinds of Biological Individuals: Sortals, Projectibility and Selection." *British Journal for the Philosophy of Science* 70(3): 845–875.
- [7] DiFrisco, James. 2018. "Biological Processes: Criteria of Identity and Persistence." In: Daniel J. Nicholson and John Dupré (eds) *Everything Flows: Towards a Processual Philosophy of Biology*. Oxford: Oxford University Press, pp. 76–95.
- [6] DiFrisco, James. 2018. "Token Physicalism and Functional Individuation." *European Journal for Philosophy of Science* 8(3): 309–329. (Specially commended, 2015 *Philosophy* essay prize competition – withdrawn for re-working.)
- [5] DiFrisco, James. 2017. "Functional Explanation and the Problem of Functional Equivalence." *Studies in History and Philosophy of Science Part C* 65: 1–8.
- [4] DiFrisco, James. 2017. "Time Scales and Levels of Organization." *Erkenntnis* 82(4): 795–818.
- [3] DiFrisco, James. 2015. "Élan Vital Revisited: Bergson and the Thermodynamic Paradigm." *The Southern Journal of Philosophy* 53(1): 54–73.
- [2] DiFrisco, James. 2014. "Hylomorphism and the Metabolic Closure Conception of Life." *Acta Biotheoretica* 62(4): 499–525.
- [1] DiFrisco, James. 2012. "Merleau-Ponty's Ontology of Life." *Pli: The Warwick Journal of Philosophy* 23: 50–71.

REVIEWS, ETC.

- [4] DiFrisco, James. 2019. Review of *Individuation, Process, and Scientific Practices* (Oxford University Press 2018). *Notre Dame Philosophical Reviews*, published online on Sept 3, 2019 at <<https://ndpr.nd.edu>>
- [3] DiFrisco, James. 2019. "Interdisciplinarity, Epistemic Pluralism, and Unificationism." *Studies in History and Philosophy of Science Part C* 74: 40–44. (Essay review of Lidgard and Nyhart (eds.) (2017) *Biological Individuality*)
- [2] DiFrisco, James, Gâelle Pontarotti, Federico Boem, Guillaume Schlaepfer, Ewelina Sokolowska, Eva Fernández-Labandera. 2015. "Ontological Issues in the Life Sciences." *Biological Theory* 10(2): 176–181.
- [1] DiFrisco, James. 2015. "Nature Rendered 'Intelligible': On Thomas Nagel's *Mind and Cosmos*." *Journal of the British Society for Phenomenology* 46(1): 79–86.

WORKS IN PROGRESS

- "Character individuation: functional, descriptive, and developmental" (submitted)
- "Science needs philosophy, but what philosophy?" (with Steven Orzack)

“Science Communication in the Modern University: A Citation Study of Philosophy and Science” (with Richard Gawne and Stefanie Widder; article)

“The Ontology of Dynamical Systems” (with Johannes Jaeger and Nick Monk)

SELECTED PRESENTATIONS

* = invited

- [58] * “The hierarchical basis of serial homology and evolutionary novelty.” *Seminar Series*, University of Cambridge, Department of History and Philosophy of Science, 16 February 2024. Invited by: Marta Halina.
- [57] “The evolution of novelty by co-option: theoretical issues.” *Autumn Science Meeting*, Francis Crick Institute. 10 November 2023.
- [56] * “The search for general principles of development: mathematical modeling versus evolutionary history.” *European Developmental Biology Congress*, Oxford University, 27 September 2023. Invited by: Jeremy Green.
- [55] * “The complementarity of conceptual and mathematical theoretical biology.” *London Mathematical Biology Conference*, University College London, 19 September 2023. Invited by: Zena Hadjivasiliou.
- [54] “Biological agency and teleology: a critique and reappraisal.” *Workshop: (Re)Conceptualizing function and goal-directedness*. University of Reading, UK. 13 September 2023.
- [53] “Genetic causation in complex regulatory systems.” *Venice Summer School in Evo-Devo: The future of evolutionary and developmental systems biology (EMBO Advanced Course)*, Venice, Italy, 21 August 2023.
- [52] * “Mechanisms and processes as units of generalization in comparative systems biology.” *Reconciling New Mechanism and Processualism (Workshop)*. Egenis, Centre for the Study of Life Sciences, Exeter University, 26 June 2023. Invited by: Tyler Brunet.
- [51] “Introduction: functional, descriptive, and developmental characters.” *Traits of Contention (Workshop)*. Institute of Philosophy, KU Leuven, 26 May 2023.
- [50] * “Toward a theoretical biology: conceptual methodology and comparative foundations.” Institute of Philosophy, School of Advanced Studies, University of London, 16 May 2023. Invited by: Nicolas Shea.
- [49] * “Biological agency: the perils of discarding mechanistic methods in favor of psychologism” (with Richard T. Gawne). Lecture series, Ruhr Universität Bochum, 8 May 2023. Invited by: Jan Baedke.
- [48] * “The search for general principles of development: theory, models, and stubborn facts.” Seminar, Laboratory of Molecular Cell Biology, University College London, 24 April 2023. Invited by: Jonathan Chubb.

- [47] **“Does a theory of development need teleology?” Toward a science of intrinsic purposiveness: shaping development*, workshop at Université Paris 1 Panthéon – Sorbonne, 21 March 2023. Invited by: Ana Soto and Matteo Mossio.
- [46] *“Clarity, fundamentality, and importance: conceptual methodology for philosophical biology.” The New Naturalism: Toward a Progressive Theoretical Biology*, workshop at the Wissenschaftskolleg zu Berlin, 13 October 2022.
- [45] *“The hierarchical basis of serial homology and novelty.” Venice Summer School in Evo-Devo*, Venice, Italy, 23 August 2022.
- [44] *“Introduction: the character concept.” Venice Summer School in Evo-Devo*, Venice, Italy, 22 August 2022.
- [43] *“Understanding evolutionary novelty and co-option in light of character identity mechanisms.” Society for Philosophy of Science in Practice*, Ghent University, 3 July 2022.
- [42] **“The developmental basis of homology: character identity mechanisms and developmental system drift.” Seminar series, Evo-Eco-Paleo Biology Group*, University of Lille – Sciences et Technologies France. 8 April 2022. Invited by: Vincent Castric.
- [41] **“Entropy and biological complexity: assessing the limits of physical concepts in biology.” Keynote Lecture, Translating Entropy Workshop*, Cambridge University. 10 February 2022. Invited by: Lilian Kroth and David Harrison.
- [40] **“The concept of mechanism in developmental biology.” Institut d’histoire et de philosophie des sciences et des techniques (IHPST). Université Paris 1 Panthéon-Sorbonne – CNRS*. 11 November 2021. Invited by: Matteo Mossio.
- [39] **“Reframing research on evolutionary novelty and co-option,” Heredity of Information and Biological Innovation Seminar*. Toulouse, France, 7 October 2021. Invited by: Alexis Boisseau.
- [38] **“The individuation of biological characters,” Metaphysics of Biological Individuality Workshop*, Paris, France, 21 September 2021. Invited by: Johannes Martens.
- [37] **“The individuation of biological characters,” Metaphysics of Biology Workshop*, Madrid, Spain, 20 September 2021. Invited by: Laura Nuño de la Rosa.
- [36] *“The problem of character individuality,” International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB) Cold Spring Harbor Laboratory (Virtual)*, 15 July 2021.
- [35] **“Neural masses and experienced homogeneity: revisiting Sellars’ sensorium–body problem,” Life & Cognition Seminar Series*, UC Louvain, Louvain-la-Neuve, Belgium. 14 October 2020. Invited by: Andrea Gambarotto.

- [34] **"Dynamical models and comparative biology,"* Royal Society Workshop, *Interdisciplinary approaches to dynamics in biology*, Chicheley, UK. 24 February 2020. Invited by: Berta Verd.
- [33] **"Character individuality in development and evolution,"* Centre for Advanced Study, Oslo, Norway. 2019–2020 Project: *Evolvability*. 26 November 2019. Invited by: Thomas Hansen.
- [32] *"Classification of mechanisms and characters,"* *Federation of European Biochemical Societies (FEBS) and European Molecular Biology Organization (EMBO) Advanced Course: "Mechanism in Development and Evolution."* Venice, Italy. 26 August 2019.
- [31] **"Developmental homology and the decoupling of levels of evolution,"* *Summer School in Philosophy of the Life Sciences: Molecular biology and Evolution*, University of Rijeka, Croatia. 17 July 2019. Invited by: Predrag Šustar.
- [30] **"Modeling the genotype-phenotype map: from networks to dynamics,"* *Summer School in Philosophy of the Life Sciences: Molecular biology and Evolution*, University of Rijeka, Croatia. 17 July 2019. Invited by: Predrag Šustar.
- [29] *"Beyond networks: dynamical explanation in evo-devo,"* *International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB)*, Oslo, Norway. 12 July 2019
- [28] **"Variational independence and the levels of developmental evolution,"* Workshop at Wissenschaftskolleg zu Berlin (WiKo), *Evolution of Hierarchical Organization in Adaptive Systems*. Berlin, DE. 31 January 2019. Invited by: Arunas Radzvilavicius.
- [27] **"The structure of biological variation: levels, modules, and homologies,"* Kolloquium der Wissenschaftstheorie und -geschichte, Institute of Philosophy I, Ruhr-Universität Bochum (Bochum, DE). 24 January 2019. Invited by: Jan Baedke.
- [26] **"Trait classification in biology: historical versus developmental approaches,"* Colloquium presented at CEFISES, Université Catholique de Louvain (Louvain-la-Neuve), 7 November 2018. Invited by: Charles Pence.
- [25] **"Science Communication within the Modern University,"* *European Advanced Seminar in the Philosophy of the Life Sciences (EASPLS)*. Konrad Lorenz Institute, Klosterneuburg, Austria. 12 September 2018. Invited by: Isabella Sarto-Jackson.
- [24] *"Developmental Homology and the De-coupling of Levels of Evolution,"* *Society for Metaphysics of Science 4*, University of Milan, Italy. 22 August 2018.
- [23] *"Levels of Developmental Evolution: From Composition to Process and Back,"* *Hierarchy and Levels of Organization in the Biological Sciences*, 36th Altenberg Workshop in Theoretical Biology, organized by Daniel S. Brooks, James DiFrisco, and William C. Wimsatt. Konrad Lorenz Institute, Klosterneuburg, Austria. 10 March 2018.

- [22] "Variation Across Levels of Organization: Insights from Evo-Devo" *On the Nature of Variation*, University of Lisbon, Lisbon, Portugal. 4 October 2017
- [21] *"Process Thinking for Evo-Devo" *Summer School in Evolutionary Developmental Biology*, Istituto Veneto di Scienze Lettere ed Arti, Venice, Italy, 18–21 September 2017. (Instructor)
- [20] *"Process Ontology of Biological Individuals," Colloquium presented to University of Vienna *DK Program, The Sciences in Historical, Philosophical, and Cultural Contexts*. 7 June 2017. Invited by: Martin Kusch.
- [19] "Introduction to Process Philosophy of Biology." Colloquium, Konrad Lorenz Institute, Klosterneuburg, Austria. 30 March 2017.
- [18] *"Individuals and Biological Kinds: Countability, Projectibility, and Selection." Colloquium on Theoretical Analytical Philosophy, Aarhus University, Denmark. 24 March 2017. Invited by: Johanna Seibt.
- [17] *"Individuals, Characters, and Biological Kinds," Visiting Speaker Series, Immunoconcept Lab, University of Bordeaux, France. 7 March 2017. Invited by: Thomas Pradeu.
- [16] "Functional Explanation and Functional Equivalents," *Philosophy of Science Association (PSA)*. Atlanta, USA. 3 November 2016.
- [15] "Token Physicalism and Functional Individuation," *Society for Metaphysics of Science*, Geneva, Switzerland. 17 September 2016,
- [14] "Functional Explanation and Functional Equivalence," *European Advanced Seminar in the Philosophy of the Life Sciences (EASPLS)*. Konrad Lorenz Institute, Klosterneuburg, Austria. 7 September 2016.
- [13] *"Explanatory Idealization and Developmental Processes," *European Society for Evolutionary Developmental Biology (EuroEvoDevo)*. Contributor to the symposium "Process Thinking for EvoDevo." Uppsala, Sweden. 28 July 2016. Invited by: Johannes Jaeger.
- [12] "Kinds of Biological Individuals: Selection and Projectibility," Internal Colloquium, Konrad Lorenz Institute, Klosterneuburg Austria. 14 June 2016.
- [11] *"Kinds of Biological Individuals: Projectibility, Analogy, and Selection," Visiting Lecture. University of Rijeka, Croatia. 2 June 2016. Invited by: Zdenka Brzovic.
- [10] "Functional Explanation and Functional Equivalents," *Nordic Network for Philosophy of Science*. Pärnu, Estonia. 21 April 2016
- [9] *"Physicalism and Functional Individuation," Colloquium on Theoretical Analytical Philosophy. Aarhus University, Denmark. 23 October 2015. Invited by: Johanna Seibt.

- [8] “Grounding Biological Individuals in Hierarchical Processes” *International Society for the History, Philosophy, and Social Studies of Biology* (ISHPSSB) Montreal, Canada. 5–10 July 2015.
- [7] *’’Individuality and the Limits of Biological Functionalism’’ Visiting Lecture, University of the Basque Country. San Sebastián, Spain. 8 June 2015. Invited by: Kepa Ruiz-Mirazo.
- [6] *’’Time Structure in Cellular Processes’’ *Process Philosophy of Biology Workshop*, Egenis, Exeter University, 20–21 November 2014. Invited by: John Dupré.
- [5] *’’Dynamic Individuation across Scales’’ Exeter University, Egenis Seminar, 29 October 2014. Invited by: John Dupré.
- [4] *’’Levels of Processes: Dynamic Individuation in Nature’’ University of the West of England, Visiting Speaker Series 2014–2015, 22 October 2014. Invited by: Michael Lewis.
- [3] “Time Scale and Levels of Organization” European Advanced Seminar for the Philosophy of the Life Sciences (EASPLS) 2014: Ontological Issues in the Life Sciences. Konrad Lorenz Institute (KLI), Klosterneuburg, Austria. September 1–5, 2014.
- [2] “Naturalizing Duration: Nature as a Temporal Hierarchy” *Phenomenology and Naturalism Conference*, University of Johannesburg, Johannesburg, South Africa. April 11–13, 2014.
- [1] “*Élan Vital* Revisited: Bergson and the Thermodynamic Paradigm” *International Society for the History, Philosophy, and Social Studies of Biology* (ISHPSSB) Montpellier, France. July 7–12, 2013.

FELLOWSHIPS, AWARDS, HONORS, ETC.

Karl Popper Prize (2023) – “awarded to the article judged to be the best published in that year’s volume of the *British Journal for Philosophy of Science*, as determined by the Editors-in-Chief and the British Society for Philosophy of Science Committee.” The prize was awarded for item [18] under *Publications* above: DiFrisco, James. (2023). “Toward a theory of homology: development and the decoupling of morphological and molecular evolution.”

Fonds Wetenschappelijk Onderzoek (FWO) (Research Foundation – Flanders). Senior postdoctoral fellowship awarded for the project “Character individuation in development and evolution” (2021–2024). ~173,000 EUR.

Fonds Wetenschappelijk Onderzoek (FWO) (Research Foundation – Flanders). Individual postdoctoral fellowship for the project “Hierarchical Evolution of Dynamical Systems” (2018–2021, renewable by application for the period 2021–2024). ~108,000 EUR × 2.

Hans Przibram Award, 2017. This is a 3rd year extension of postdoctoral fellowship at the Konrad Lorenz Institute, awarded “for exceptionally successful investigators” during the previous 2-year postdoctoral period.

Postdoctoral Fellowship, Konrad Lorenz Institute for Evolution and Cognition Research, Klosterneuburg, Austria. (2015–2016). 39,600 EUR x 2

Fonds Wetenschappelijk Onderzoek (FWO) (Research Foundation – Flanders). Individual Grant for the project “Process and Levels of Organization: A Dynamic Ontology for the Life Sciences” (2011–2015). 96,000 EUR.

KU Leuven MPhil Scholarship (2010–2011). 2,000 EUR.

Wheaton College Scholastic Honor Society Scholarship (2009). 2,000 USD. Awarded to top <5% of graduating class.

COLLABORATIVE PROJECTS

Cluster Coordinator for Templeton Project “Science of Purpose,” within the project cluster “Reconceptualizing Function and Goal-Directedness.” This involves providing coordination and intellectual leadership for four sub-projects on biological functions and goal-directedness.

<<https://www.biologicalpurpose.org/cluster/reconceptualizing-function-and-goal-directedness>> 2021-2024. Lead PI: Alan Love, University of Minnesota.

Group Member, “Network for Evolutionary Research in the Humanities and Behavioral Sciences,” an interdisciplinary initiative of KU Leuven that connects members of the departments of Philosophy, Linguistics, Biology, and Psychology, starting in 2018. PI: Andreas De Block, KU Leuven.

Group Member, “Theoretical Underpinnings of Molecular Biology,” funded by Croatian Science Foundation for 2018–2020. PI: Predrag Šustar, University of Rijeka, Croatia.

External collaborator (2014), “A Process Ontology for Contemporary Biology.” ERC Advanced Grant. PI: John Dupré, University of Exeter, UK.

VISITING RESEARCH STAYS

Jan.–April 2020 – Yale University, Dept. of Ecology & Evolutionary Biology. Host: Günter Wagner

Nov. 2019 – Centre for Advanced Study, Oslo, Norway – Project on Evolvability, 2019–2020. Host: Thomas Hansen (Oslo, Life Sciences)

Sept.–Dec. 2014, Exeter University (UK) – Egenis, Centre for the Study of the Life Sciences. Host: John Dupré.

TEACHING

Instructor, Venice Summer School, “The future of evolutionary developmental systems biology,” EMBO course. Venice, Italy. 21-25 August 2023. (This was a summer school for doctoral students and postdocs in evolutionary developmental biology.)

Instructor, Venice Summer School, “The Character Concept in Metabolic, Physiological, and Developmental Evolution,” FEBS | EMBO course. Venice, Italy. 22-26 August 2022. (This was a summer school for doctoral students and postdocs in evolutionary developmental biology.)

Research Seminar: Analytic Philosophy (MA- and PhD-level) (W0R28A): KU Leuven, 2020-2021. Year-long course providing an overview and training in the multiple methodologies and research topics of analytic philosophy.

Philosophy of Science (BA-level) (W0EA4a): KU Leuven, spring 2020 (co-taught with Grant Ramsey)

Instructor, Venice Summer School, “Mechanism in Development and Evolution,” FEBS | EMBO course. Venice, Italy. 26–30 August 2019. (This was a summer school for doctoral students and postdocs in evolutionary developmental biology.)

Epistemology Advanced Course (MA-level) (W0Q20A): *Naturalism in Epistemology*. KU Leuven, fall 2018

Instructor, Venice Summer School, “Process Thinking for Evo-Devo,” *Istituto Veneto di Scienze, Lettere ed Arti*. Venice, Italy. 18–21 September 2017. (This was a summer school for doctoral students and postdocs in evolutionary developmental biology.)

Guest Seminar, “Introduction to Process Philosophy of Biology,” for the Masters Seminar *Process Ontologies and Process Metaphysics*. Instructor: Prof. Johanna Seibt. Aarhus University: Institute for Culture and Society, Section for Philosophy and the History of Ideas. 22 March 2017.

Phenomenology Texts Seminar (W0EE4a): *Self-Consciousness and the Ego in Phenomenological Perspective*. KU Leuven, spring 2014.

Philosophy of Science Seminar (W0EA4A), KU Leuven, fall 2013. General philosophy of science.

Teacher’s Assistant, Wheaton College 2006–2009 (History of Philosophy – Ancient, Medieval, Modern, and Contemporary; Aesthetics Seminar; Postmodern Philosophy Senior Seminar)

SUPERVISION

Doctoral examination committee member, Bendik Aaby (PhD, KU Leuven), 31 May 2021.

2018-2021 –evaluator in 4 MA thesis defenses.

REVIEWING

Journals: Acta Biotheoretica; Analysis; Biological Theory (2); Biology and Philosophy (4); BioSystems; British Journal for the Philosophy of Science (2); Development; Erkenntnis (3); European Journal for Philosophy of Science; European Journal of Neuroscience; Frontiers in Psychology: Theoretical and Philosophical Psychology; Journal of Morphology (4); Leonardo; Minds and Machines; Parrhesia; Philosophy, Theory, and Practice in Biology (3); Phenomenologica; Philosophical Studies; Philosophies; Philosophy of Science; Progress in Biophysics and Molecular Biology; Scientific Reports; Studies in History and Philosophy of Science; Synthese (6); Tijdschrift voor Filosofie; Topoi – (41 papers reviewed so far)

Books: Cambridge University Press (2)

Grants: European Research Council (ERC); Branco Weiss Fellowship (CH)

CONFERENCE ORGANIZATION

“Origins of cell types: key questions for the single-cell era” Workshop at the Francis Crick Institute, 18-19 March 2024. London, UK.

“Re-conceptualizing Function and Goal-directedness” Templeton Foundation workshop, 13-15 September 2023. University of Reading, UK.

“The Future of Evolutionary and Developmental Systems Biology” EMBO Advanced Course, 21-25 August 2023. Summer school for ~30 PhD students and postdocs in the life sciences, sponsored by EMBO (European Molecular Biology Organization). Co-organizer: Johannes Jaeger (Vienna).

“Traits of Contention: Character Identification and Comparative Thinking Evolutionary, Developmental, and Behavioural Biology.” International workshop at KU Leuven, 26-27 May 2023, Leuven, Belgium. Co-organizers: Andra Meneganzin (KU Leuven) and Grant Ramsey (KU Leuven).

“The Character Concept in Development and Evolution” FEBS Advanced Course, 22–26 August 2022, Venice, Italy. Summer school for ~30 PhD students and postdocs in the life sciences, sponsored by FEBS (Federation of European Biochemical Societies) and EMBO (European Molecular Biology Organization). Co-organizer: Johannes Jaeger (Vienna)

Graduate Student Conference, Institute of Philosophy, KU Leuven (lead organizer). 14 May 2020.

“Mechanism in Development and Evolution” – FEBS Advanced Course, 26–30 August 2019, Venice, Italy. Summer school for ~30 PhD students and postdocs in the life sciences, sponsored by FEBS (Federation of European Biochemical Societies) and EMBO (European Molecular Biology Organization). Co-organizers: Johannes Jaeger and Berta Verd. <http://meetings.embo.org/event/19-evodevo>

“Summer School in Philosophy of the Life Sciences: Molecular Biology and Evolution” – Part of the Croatian Science Foundation project “Theoretical Underpinnings of Molecular Biology (ThUMB), 15–18 July, 2019. University of Rijeka, Croatia. Co-organizers: Zdenka Brzovic and Predrag Šustar.

<http://thumb.ffri.hr>

“Hierarchy and Levels of Organization” – 36th *Altenberg Workshop in Theoretical Biology*, 8–11 March 2018. Konrad Lorenz Institute for Evolution and Cognition Research, Austria. Co-organizers: William C. Wimsatt and Daniel S. Brooks.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Philosophy of Science Association; Society for Metaphysics of Science; European Philosophy of Science Association; Nordic Network for Philosophy of Science; European Society for Evolutionary Developmental Biology; International Society for the History, Philosophy, and Social Studies of Biology

THESES

Doctoral Thesis, KU Leuven, defended on 1 June 2015 – *Process and Levels of Organization: Dynamic Ontology for the Life Sciences*

Committee: Roland Breeur (supervisor) ; Andreas De Block (co-supervisor) ; Grant Ramsey (external) ; Jan Heylen. (*Summa cum laude*)

MPhil Thesis, KU Leuven, defended on 19 August 2011 – *Organization and Inorganic Life in Bergson* ; supervisor: Roland Breeur. (*Summa cum laude*)

Master’s Thesis, KU Leuven, defended on 20 August 2010 – *Merleau-Ponty’s Ontology of Life* ; supervisor: Rudolf Bernet (*Summa cum laude*)

LANGUAGE

English – Native

French – B2

Dutch – B1