

# Ahti-Veikko J. Pietarinen

PhD, Professor

PROFESSOR, *Hong Kong Baptist University*

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[https://www.researchgate.net/profile/AHTI\\_Pietarinen2](https://www.researchgate.net/profile/AHTI_Pietarinen2)

Born 4 November 1971, in Espoo, Finland.

**h-index: 33** (last 5y h-index: 22); i10-index: 107; Peer-reviewed journal papers: 235; Citations: 3685; Years: 24; Publications with two or more authors: > 100. (Google Scholar, retrieved 9/2024)

## Present Appointments

*Professor*, Department of Religion and Philosophy; Academy of Chinese, History, Religion and Philosophy; Faculty of Arts and Sciences; Hong Kong Baptist University; Hong Kong SAR, China. 1/2023–8/2025.

*Chair*, Department of Religion and Philosophy; *cum Associate Director*, Academy of Chinese, History, Religion and Philosophy; Faculty of Arts and Sciences; Hong Kong Baptist University; Hong Kong SAR, China. 9/2024–6/2026.

*Research Fellow*, Centre for Applied Ethics, Hong Kong Baptist University; Hong Kong SAR, China. 9/2023–8/2025.

## Research Interests

*Areas of Specialization*: Core Theoretical Philosophy: Philosophy of Cognitive Science and AI; Philosophy of Science; Logic and Philosophy of Logic; Philosophy of Language; Philosophy of Mind; History of Philosophy, esp. American Pragmatism (Peirce) and Early Analytic Philosophy; Clinical Reasoning; Formal Epistemology; Game Theory.

*Areas of Competence*: Ethics of AI; Critical Thinking; Values of Life & Death; Philosophy of Digital Humanities; Metaphysics.

## Research and Academic Highlights

*Highly Cited Researchers* Clarivate Analytics Top 2% percentile in 2020, 2021, and career-wide lists (since Nov 2022), field *Philosophy*, subfield *Artificial Intelligence*.

97.600 full-text reads at my ResearchGate homepage:

[https://www.researchgate.net/profile/AHTI\\_Pietarinen2](https://www.researchgate.net/profile/AHTI_Pietarinen2)

*Living Past President*, Charles S. Peirce Society (President 2018, Past President 2019, Fellow of the Society 2019–)

*Editor-in-Chief*, *Peirceana*, Mouton De Gruyter Publishers, 2019–.

*Editor*, special issues in *Synthese* (Springer); *Perspectives on Science* (MIT Press,

on hold); *Transactions of the Charles S. Peirce Society*; *Logica Universalis* (Springer); *Frontiers in Psychology*; *Sign System Studies*.  
 Editorial Board member of *Logica Universalis*, *Transactions of the Charles S. Peirce Society*, *Frontiers of Philosophy in China*; SAPERE (Springer) book series, and others.  
 Research Director, Academy of Finland & Estonian Research Council (Projects *Diagrammatic Mind*; *Abduction*; *Philosophy of Notation*), 2013–2018, 0.8M euros Personal Research Funds.  
 Research Director, Peirce Research Centre, Helsinki 2006–2017.  
 Member of the Finnish Union of University Professors, since 2009.  
 Research Grants awarded, 1997–2023: c.1.500.000 euros.  
 Global Rank by Google Scholar Citation Index (9/2024):

- 4th in “Philosophy of AI”
- 7th in “History of Philosophy”
- 11th in “Philosophy of Logic”
- 12th in “Pragmatism”
- 17th in “History and Philosophy of Science”
- 19th in “Philosophy of Cognitive Science” etc.

## Summary of Research Contributions

**Major Scholarly Achievements, a spotlight:** In the last five-year period (2019–2024), I have published five monographs with a 4\* scientific publisher De Gruyter-Brill. This series is a five-book monographic edition titled **Logic of the Future: Peirce’s Writings on Existential Graphs** (Boston & Berlin: De Gruyter). Its volumes comprehensively present Peirce’s later writings on logic for the first time. The last volumes 3/1 (*Pragmaticism*) and 3/2 (*Correspondence*) appeared in 2024 (May and December). These volumes have been lauded by the leading scholar in the field, Prof. Nathan Houser (Indiana University) with the following words:

“Logic of the Future ... seems destined to be the most consequential edition of Peirce’s writings to appear since the publication of the Harvard edition of Peirce’s *Collected Papers* in the 1930s and it may become the most seminal resource for developments in logic for many years to come” (N. Houser, 2022).

**Networks and Scientific Collaboration.** With dozens of co-authors, I have published a sustained series of research articles in leading journals on logic and philosophy and their applications, e.g. diagrammatic logic, including new non-classical and other variants, theories and analytic methods that have been applied across science and humanities, from AI to interpretation of art to quantum physics and game theory. I quote one reference from Pelosse (2015) to my paper “Quantum Logic in Game-Theoretical Perspective” (Pietarinen 2002c):

“[Pietarinen 2002c] is the first to explicitly raise the possibility of some fundamental connections between extensive form games of imperfect information, quantum logic and quantum mechanics ... [Pietarinen] is the first to have studied the similarities between the logic of games of im-

perfect information and quantum theory ... There does not seem to be any evidence that von Neumann noticed a formal connection between these two kinds of ‘indeterminism’ ” (Y. Pelosse, “The Intrinsic Quantum Nature of Nash Equilibrium Mixtures”, *Journal of Philosophical Logic*, 2015).

**Transdisciplinarity and Impact.** My work has extensive been cited outside the domain of philosophy, in numerous theoretical and applied research areas, including peer-reviewed scientific publications on:

Mathematical practice, Evolutionary linguistics, Inclusive environment and management studies, African logic, Autonomous vehicles, XAI and complex systems, Gesture studies, Health and disease, Rehabilitation sciences; Long COVID, COVID-19 and abductive reasoning, Post-pandemic business schools, Dementia research, Placebo effect, Treatment of anxiety disorders with CBD, Child mental state reasoning, Shaken baby syndrome, Child protection social work, Neural image retrieval, Deep neural networks, Conceptual history, Love of God, New Testament Theology, Celibacy in Claretian Aspirants, Universal language, Nudging and behavioral economics, Metaphors and translation, Semantic Web, IT Innovations, Cat memes, Authoritarian politics, Epicureans, Women science studies (e.g. Victoria Welby, Christine Ladd-Franklin, Marie Neurath), Tourism, Civic education, Municipal decision making, Diversity and intersectionality, Organized crime, Management and organization studies, Business models of Tax service providers, Pareto collective beliefs, Bias and game theory, Image retrieval and segmentation, Forecasting and futures, XAI for Ocean health, Metaphors in dance, Gaming and programming, Alpha-Go, Multimodal discourse, Extraterrestrial life, Education and learning, Intangible cultural heritage, Autopraxeography, Spectral shape similarities, and other topics across STEM, Humanities, Social Sciences, Arts, and others. (Source: Google Citations Report, collected from the citations until 8/2024)

**Contributions to the Field of Non-standard Logics and their Applications.** Publications with expected impact in the Logic of AI, Cognition and Philosophy of Scientific Practice (with Chiffi et al., 2017–2020); Extensions of the Gabbay–Woods schema of abduction (2018); Dynamic logical theory of pre-belief conjecturing in science (2017); Discovery of ‘abductive graphs’ (Pietarinen 2020); The role of uncertainty and anticipation in design and the futures studies (2017, 2020); Pragmatic, semantic, and cognitive aspects of **diagrammatic notations** (with collaborators, 2016–2020); **Semiotics of cognition and mind**, Gricean pragmatics, game theory, and the history of ideas in linguistic and human sciences (2006–2016).

**Monograph** *Signs of Logic*. Synthese Library 329, Springer (Pietarinen 2006). Widely recognized in the field, with citations to the book to date: 338.

## Previous and Visiting Appointments

*Research Fellow*, Centre for Applied Ethics, Hong Kong Baptist University, Hong Kong, 2023–2025.

*Research Administrator*, Cognitive Science, Research Cluster in Intelligence, Cog-

nition and Robotics, Nazarbayev University, Kazakhstan, 2018–2019.  
*Full Professor of Philosophy*, Ragnar Nurkse Department of Innovation and Governance, School of Business and Governance, Tallinn University of Technology (TalTech), Tallinn, Estonia. Appointed (Full Professor) 9/2011, permanent 8/2016-7/2022.  
*Special Expert in Philosophy to the People’s Republic of China & Guest Professor*, Xiamen University, Centre for Epistemology and Cognitive Science, 2014–2015.  
*Full Professor*; Department of Philosophy, History, Culture and Art Studies; University of Helsinki; Finland. 8/2009-7/2014.  
*Houghton Library Visiting Fellow*, Harvard University, 7/2011–6/2012.  
*Visiting Professor*, CSLI, Centre for the Study of Language and Cognition, Zhejiang University, Hangzhou, China, 5/2011–4/2011.  
*Visiting Professor (International Scholar)*, Department of Philosophy, Kyung Hee University, Seoul, Republic of Korea, 3/2010–2/2012.  
*Full Professor* (fixed term), Theoretical Philosophy, Department of Philosophy, University of Helsinki, Finland, 8/2008–7/2009.  
*University Lecturer* (= Associate Professor), Department of Philosophy, University of Helsinki, 1/2006–8/2008.  
*Fulbright Visiting Scholar*, The Peirce Edition Project, Institute for American Thought, Indiana University–Purdue University Indianapolis (IUPUI), 9/2005–12/2005.  
*Post-Doctoral Research Fellow*, Academy of Finland, (Project: *Logic and Game Theory*, Principal Investigator: A.-V. Pietarinen, 8/03–7/05; *Game-Theoretical Semantics and Its Applications*, PI: Jaakko Hintikka, 1/2002–7/2003), 1/2002–8/2005.

### **Career Breaks**

On Paternity/Parental leaves, 10/2017–7/2019; 10/2020–8/2021 (two children b.2017, 2020; 24 months of parental leaves in total).

### **Academic Formation (until the post-doc phase up to 2005)**

Qualified for Full Professorship in Theoretical Philosophy, U. Jyväskylä, External Assessors, 12/2005  
 Adjunct Professor (docent/habilitation), Theoretical Philosophy, U. Helsinki 9/2004  
 Adjunct Professor (docent/habilitation), Theoretical Philosophy, U. Turku 5/2004  
 PhD, Philosophy, U. Helsinki 3/2002 (*Semantic Games in Logic and Language*, with distinction (Magna Cum Laude))  
 MSc, Computer Science, U. Turku 9/1997 (*Epistemic Logic in Knowledge Representation*, with distinction)  
 MSc, Philosophy, U. Turku 9/1997 (*IF Logic and Liar’s Paradoxes*, with distinction)

### **Personal Research Grants and Awards (total c.1.5M euros)**

2023–: Faculty Niche Research Area Grant, Hong Kong Baptist University, c.60.000

2023–: Start-up Research Grant, Hong Kong Baptist University, 25.000

2020–2021: *International Laboratory of Logic, Linguistics, and Formal Philosophy*, the Academy of Finland, 30.000

2020: Bridge Grant, TalTech, 20.000

2018: Social Policy Grant, Nazarbayev University, 8.000

2016–2017: Estonian Research Council, Personal Research Grant, Principal Investigator (*Abduction in the Age of Fundamental Uncertainty*, PUT 1305), 126.000

2013–2017: Academy of Finland, Principal Investigator, Personal Research Grant (*DiaMind: Diagrammatic Mind*, 402170), 658.099

2013–2015: Estonian Research Council, Principal Investigator, Personal Research Grant (*DiaMind: Diagrammatic Mind*, PUT 267), 126.000

2016: Academy of Finland–Chinese Academy of Social Sciences Grant, 2.800

2014: U. Helsinki, Research/Teaching Visit Grant, Chinese U. Hong Kong, 1.800

2013b: U. Helsinki, R/T Grant, Fudan University, 2.600

2013a: Federation of Finnish Learned Societies, Grant, 3.000

2012: U. Helsinki, R/T Grant, São Paulo, 1.600

2011b: Academy of Finland and Taiwan Science Council, Research Visit, 2.500

2011a: U. Helsinki, R/T Grant, Wuhan U., St. Petersburg State U., 4.800

2010: U. Helsinki, R/T Grants, Peking U., Fudan U., 2.800

2009c: U. Helsinki, New Professor’s Start-Up Grant, 10.000

2009b: U. Helsinki, R/T Visit Grants, Chinese U. Hong Kong, Peking U., 3.600

2009a: Kone Foundation, Personal Research Grant, 8.000

2008: U. Helsinki, R/T Grants, Renmin U., Wuhan U., Fudan U., 5.400

2007c: Jenny and Antti Wihuri Foundation (*Director, Peirce’s Correspondence*), 18.000

2007b: U. Helsinki, R/T Grant, Peking U., U. São Paulo, 3.400

2007a: Academy of Finland, Conference Grant, 3.800

2006: Academy of Finland, Travel Grant, Chinese Academy of Social Sciences, Beijing, 3.000 1/06–12/08: U. Helsinki ‘Excellence in Research’ Project Grant (*Director, Peirce’s Pragmaticism*), 120.000

2005c: Jenny and Antti Wihuri Foundation, Personal Research Grant, 10.000

2005b: ASLA-Fulbright Visiting Scholar, PRG, 10.000

2005a: Finnish Cultural Foundation (*Director, Peirce’s Correspondence*), 18.000

2004: Acad. Finland, CIMO, R/T Visit Grants, Vrije Univ. Brussels, Hungarian Acad. Sciences, 2.000

8/03–7/05: Academy of Finland, Post-Doctoral Fellowship Grant (*Logic and Games*), 100.000

2003b: Charles S. Peirce Society Essay Contest, First Prize, 800

2003a: Acad. Finland, R/T Visit Grant, Copenhagen, Univ. Lille, France, 10.000

2002d: Ella and Georg Ehrnrooth Foundation, PRG, 8.000

2002c: Finnish Cultural Foundation, Monograph Work, 3.500

2002b: Ministry of Education Finland, Monograph Work, 1.000

2002a: University of Helsinki, Dissertation Grant, 3.000

1/2002–10/2002, 1/2003–6/2003: Academy of Finland (Post-Doctoral Grant)

2001: The Alfred Kordelin Foundation, Travel Grant, 1.000

2000: University of Helsinki, Travel Grant, 1.000

1998c: The Jenny and Antti Wihuri Foundation, PRG, 5.000  
1998b: The Osk. Öflund Foundation, PRG, 5.000  
1998a: The Helsingin Sanomat Centenary Foundation, PRG, 3.400  
1997b: The Finnish Cultural Foundation, PRG, 3.700  
1997a: The Osk. Huttunen Foundation Three-Year Post-Graduate Fellowship (10/1998–9/2001), 36.000

### **Directing / Principal Investigator of Major Research Projects**

*Abduction in the Age of Fundamental Uncertainty*, PI. Personal Research Grant PUT 1306 funded by Estonian Research Council, 2016–2018. Post-doc, PhD student and other hiring, budget and project leadership.

*Diagrammatic Mind (DiaMind): Logical, Cognitive and Communicative Aspects of Iconicity*, Personal Research Grant PUT 267, Estonian Research Council, 2013–2015. Post-doc, PhD student and other hiring and budget and project leadership.

*Diagrammatic Mind (DiaMind): Logical, Cognitive and Communicative Aspects of Iconicity*, Personal Research Grant, Academy of Finland, 2013–2017. Post-doc, PhD student and other hiring, budget and project leadership.

*Joan Nordell Houghton Library Fellowship* for the Study of Peirce's Manuscripts on Logic at Harvard University, 7/2011–6/2012.

*The Peirce Research Centre*, Helsinki–Tallinn, 2006–2017.

Home of Peirce Studies in the Nordic Countries, the Peirce Centre's activities include consolidating research projects and inviting guest lectures to participate the Metaphysical Club, a seminar series which has been running since 1997.

*Peirce's Pragmatistic Philosophy and Its Applications*, PI/Director, 1/2006–12/2008. University of Helsinki funded 'Excellence in Research' project on Peirce's pragmatism and logic. Major conference organised: *Applying Peirce*, Helsinki, 6/2007, with its second installment on Peirce's Centennial 4/2014.

*Scientific and Philosophical Correspondence of C. S. Peirce*, 2005–2009.

This project was preparatory for the ongoing editing and publishing of Peirce's unpublished philosophical and scientific correspondence by the Helsinki Peirce Research Centre. Funded by the Finnish Cultural Foundation (2005–2006) and the Jenny and Antti Wihuri Foundation (2007–2009).

*Pragmatic Theories of Meaning*, 1-6/2006. Funded by the Jenny and Antti Wihuri Foundation.

*Peirce's Manuscripts on Logic*, Indiana University–Purdue University Indianapolis, 9-12/2005. Funded by the Fulbright Bilateral Commission.

*Logic and Game Theory*, 8/2003–7/2005. Post-doctoral personal research funded by the Academy of Finland, stationed at the University of Helsinki.

### **Summary of Teaching Experience**

(Full details in Teaching Portfolio, available upon request, 15 pages)

*Full Curriculum Courses delivered 2004–2024: 90*

(since 2004, with total number of contact hours and number of course deliveries; mostly delivered annually within the stated period):

Hong Kong Baptist University, 2023–2025:

*Quest for Truth and Meaning*, Major Core (100), 42h (3)

*Matters of Life and Death*, GE, 42h (4)

*Diverse Intelligences: Minds, Meaning and Machines*, GE, 42h (1)  
*Cyberworld Philosophy*, GE, 42h (2)  
*Problems of Philosophy*, Major Core (200), 42h (1)  
*Contemporary Analytic Philosophy*, Major Core (300), 42h (1)  
*Logic and Philosophy of Logic*, Major Core (400), 42h, 2023-2024 (1)  
*Research Post-Graduate Seminar (700)* (3)  
 Nazarbayev University, 2017–2019:  
*Formal Logic 240*, 42h (1)  
*Philosophy of Language 361*, 42h (3)  
*Philosophy of Science 223*, 42h (3)  
*Knowledge and Reality 123*, 42h (3)  
*Critical Thinking 110*, 42h (1)  
 Tallinn University of Technology, 2011–2022:  
*History and Philosophy of Science & Technology*, PhD Course, Tallinn University of Technology, 39h, 2011–2022 (8)  
*Social and Political Philosophy*, Tallinn U. Tech., 30h, 2015–2016 (2)  
*Scenario Planning*, Graduate Course, 24h, Tallinn U. Tech., 2013–2015 (2)  
*Game Theory for the Social Sciences* (With Dr. M. Nagatsu), Graduate Course, Tallinn U. Tech., 39h, 2012–2015 (2)  
 University of Helsinki:  
*Semantics and Pragmatics*, Intermediate Course, Spring, U. Helsinki, 24h, 2012–2014 (4)  
*Theory and Methodology*, Intermediate Seminar, 24h, U. Helsinki, 2009–2014 (4)  
*Current Issues in Theory and Methodology*, Grad Seminar, 24h, U. Helsinki, 2010–2012 (3)  
*Pragmatism*, Undergraduate Course, 24h, U. Helsinki, 2010, 2013 (2)  
*Introduction to Semiotics*, Undergraduate Course, 24h, U. Helsinki, 2009–2013 (5)  
*History and Basic Reading*, Undergraduate Course, 24h, U. Helsinki, 2009–2013 (5)  
*Philosophy of Mathematics*, Graduate Course, 24h, U. Helsinki, 2008–2009 (2)  
*Graduate Seminar in Semiotics*, 48h, U. Helsinki, 2010–2012 (4)  
*Graduate Seminar in Theoretical Philosophy*, 48h, U. Helsinki, 2008–2009 (2)  
*Pro-seminars in Theoretical Philosophy*, Intermediate, 48h, U. Helsinki, 2006–2008 (3)  
*Introduction to Metaphysics*, Undergraduate Course, 24h, U. Helsinki, 2006–2009 (3)  
*Advanced Topics in Peirce's Logic*, Postgraduate Course, 24h, U. Helsinki, 2006 (1)  
*Logic I*, Intermediate Course, 36h, U. Helsinki, 2005–2009 (5)  
*Logic II*, Graduate Course, 12h, U. Helsinki, 2005–2009 (5)  
*Peirce's Logic and Philosophy*, Intermediate Course, 24h, U. Helsinki, 2004–2013 (6)  
*Metaphysical Club Seminar Series*, U. Helsinki, 2004–2017.  
*Introduction to Cognitive Sciences and Experimental Philosophy*, Xiamen University, 16h, 2014–2015

Visiting Lectures Abroad, 2004–2014 only, min. 8h each:

*Introduction to Cognitive Science*, Xiamen University, 24h, 2014–2015  
*Game Theory*, 8h, U. Tartu 6/2013  
*Scenario Planning: A Brief Guide to the Future*, 9h, Fudan U. 5/2013  
*Semantics & Pragmatics*, 8h, Zhejiang U. 5/2013  
*Quantified Epistemic Logic*, Dubrovnik, 8h, 5/2011  
*Essential Analytic Philosophy*, Wuhan U., 16h, 4/2011  
*Peirce's Logic & Philosophy*, U. Tartu, 12h, 3/2011; 12/2014;  
*Metaphysics*, Kyung Hee U., Korea, 8h, 6/2010  
*Professional Development in Philosophy*, Grad. course, 8h, Peking U., 5/2010;  
*Essential Analytic Philosophy*, Fudan U., 16h, 5/2010  
*Peirce's Logic and Philosophy*, Wuhan U., Zhejiang Univ., 8h, 3/2009, 5/2011  
*Games and Linguistic Meaning*, Graduate Course, U. Tartu, 8h, 8/2007; State U. St Petersburg, 6/2010  
*IF Logic*, U. São Paulo, 8h, 11/2007  
*Diagrammatic Reasoning*, Peking U., 8h, 8/2007  
*Introduction to Independence-friendly Logic*, 10h, Graduate Course, European Summer School in Logic, Language, and Information (ESSLLI 2004), Université Henri Poincaré, Nancy, 8/2004.

Tutorials and short courses held in other universities abroad (2–6 hours each), listed until 2015:

*Experimental Philosophy*, Xiamen U. 2014, 2015  
*Existential Graphs*, Universal Logic, Istanbul 6/2015  
*Peirce's Semeiotic* Univ. São Paulo, 11/2012; U. Hawai'i in Manoa, 2/2013  
*Logic & Reasoning in Science*, Estonian Summer School in Psychology, Tartu, 6/2012  
*What is Pragmaticism?*, Beijing Normal U., 2008; Fudan U., 5/2009; Chinese U. Hongkong, 6/2009; Nat. Tsing-Hua U. Taiwan, 2011  
*Philosophy in Interdisciplinary Contexts*, Tallinn U. Technology, 5/2011  
*Peirce's Logic and Semeiotic*, Centre for the Study of Language & Cognition, Zhejiang University, 5/2011  
*Professional Development in Philosophy*, Center of Philosophy of Sciences, University of Lisboa, Portugal, 4/2010; Southwest U. Politics and Law, Chongqing, 5/2013; Yunnan U., 3/2014; Yangon U., 3/2014; Xiamen U., 11/2014;  
*Peirce the Mathematician*, Imatra Summer School in Semiotics, 6/2010  
*Writing and Publishing in Philosophy*, Peking U., 5/2010  
*Tutorial on Existential Graphs*, Model-based Reasoning in Science Conference, Campinas, 12/2009  
*Epistemic Logic*, Renmin University, Beijing, 3/2008  
*IF Logic*, U. São Paulo, 11/2007  
*Diagram Logics*, UniCamp, Campinas, Brazil, 11/2007  
*Logic of C.S. Peirce*, Doctors' Logic Forum, U. Finance and Economics; Chinese Academy of Social Sciences, Beijing, 10/2006  
*Introduction to GTS and IF Logic*, UQAM, Montreal, 11/2005  
*What is Iconic Logic?*, Department of Philosophy, Stockholm U., 6/2005  
*Towards the History of Logic and Games*, Academy of Sciences, Prague Int. Collo-

quium, 10/2004

*Tutorial on Independence-Friendly Logic*, Vrije Universiteit Brussels, 5/2004

*Independence-Friendly Existential Graphs*, Inst. Cybernetics, Tallinn U. Technology, 4/2004.

*Invited General Education Lectures outside universities (2010–2012), a sample only:*

*Meaning Hierarchies and the Semantic Web*, National Library of Finland, 4/2013

*The Shadows of Culturalism*, Ministry of Foreign Affairs, Finland, 11/2012

*The Essence of Science*, Helsinki, 10/2012

*What and Where Is Semiotics?*, U. Helsinki, 4/2012

*Semiotics–The Third Culture?*, Studia Semiotica Generalia, U. Helsinki, 10/2012

*Philosophy in Interdisciplinary Contexts*, Tallinn, 5/2011; Xiamen U., 11/2014;

*Professional Development in Philosophy*, Fudan U., Peking U., Wuhan U., 5/2010; 5/2011 etc.

*On the Notion of Identity*, Imatra, 1/2010

*How to Ask Questions about Free Will?*, Studia Semiotica Generalia, U. Helsinki, 2/2010.

*PhD Supervision and Post-Docs hired with personal research funds:*

JÄRVILEHTO, L., PhD, U. Jyväskylä, 2006–2011 (C.I. Lewis's Epistemology).

KANNISTO, T., PhD, U. Tampere/Oslo, 2006–2010, (Kant's Modalities).

STYRMAN, A., PhD, U. Helsinki, 2009–2016, (Axiomatic Economy of Science).

MARILA, M., PhD Candidate, U. Helsinki, 2011–2019 (Pragmatism and Abductive Reasoning in Archaeology).

GUSTAFSSON, J.-V., PhD Candidate, Tallinn U. Tech, 2013–2015 (Induction and Fact/Values).

ISSAYEVA, Y., PhD Candidate (Mental Imagery and Perception), Tallinn U. Tech, 2013–2019.

VANOVA, V., PhD Candidate (AI and Risk Communication), Tallinn U. Tech, 2015–2018.

PROOVER, M., PhD Candidate (Non-Identity Problem and Abduction), Tallinn U. Tech, 2016–2020.

J. L. MENDEZ MARTINEZ, PhD Candidate (Logic and Metaphysics of Sounds), National Research University Higher School of Economics, 2018–2019.

VERA SHUMILOVA, PhD Candidate (Abduction), National Research University Higher School of Economics, 2020–2022.

NATHAN HAYDON, PhD Candidate (Diagrammatic Logics), TalTech, 2019–2023. Completed.

Supervised 18 Master's Theses and 36 Bachelor's Theses in philosophy in 2006–2014. Director of the International Master's Degree Programme in Semiotics 8/2009–7/2014.

Hired and mentored 9 Post-doctoral scholars in my research groups (2006–2020).

## **Scientific and Professional Academic Activities**

**Examiner of PhD Theses** (task, place, year(s) of service):

*External Examiner, Opponent, McMaster University, 2024*  
*Internal Examiner, HKBU, 2023*  
*External Examiner, Opponent, Aalborg University, 2022*  
*External Examiner, Aarhus University, 2018, 2021*  
*External Examiner, University of Turku, 2015, 2020*  
*External Examiner, University of Helsinki, 2019*  
*Internal Examiner, TalTech, 2019, 2020*  
*External Examiner, Opponent, Stavanger University, 2016*

**Consulting Board Memberships** (name, task, year(s) of service):

*Journals* (over 300 reviews written for academic journals, including):

*Journal of Linguistics, 2020*  
*Frontiers of Philosophy in China, Editorial Board, Reviewer, 2012–*  
*Logic and Logical Philosophy, 2020*  
*Logique & Analyse, Reviewer 2017–2019*  
*Journal of Applied Logic, Reviewer 2015–*  
*IfCoLog Journal of Logics and their Applications, Reviewer 2014, 2015*  
*Logic J. IGPL, Reviewer, 2002, 2018*  
*Journal of Logic, Language and Information, Reviewer 2003–*  
*History of the Human Sciences, ISSN 0952-6951, Reviewer 2013*  
*Mind, ISSN 0026-4423, Reviewer 2012*  
*Journal of Applied Non-Classical Logic, ISSN 1166-3081, Reviewer 2011*  
*Logica Universalis, ISSN 1661-8297, Editorial Board, Reviewer 2011*  
*Journal of Visual Languages and Computation, ISSN 1045-926X, Reviewer*  
*2010, 2013*  
*Foundations of Science, ISSN 1233-1821, Reviewer 2009, 2013*  
*Sign System Studies, ISSN 1406-4243, Reviewer 2009*  
*Cognitio, ISSN 1518-7187, Editorial Board, Reviewer 2008, 2009, 2010*  
*Erkenntnis, ISSN 0165-0106, Reviewer 2008, 2014, 2018*  
*Pragmatics & Cognition, ISSN 0929-0907, Reviewer 2008*  
*Philosophical Frontiers, Editorial Board, ISSN 1758-15, Reviewer 2008*  
*The Baltic International Yearbook of Cognition, Logic and Communication,*  
*ISSN 1944-3676, Editorial Board, Reviewer 2008, 2012, 2013*  
*Semiotica, ISSN 0037-1998, Reviewer 2007*  
*Journal of Philosophical Logic, ISSN 0022-3611, Reviewer 2007, 2008, 2013,*  
*2014*  
*History and Philosophy of Logic, ISSN 0144-5340, Reviewer 2007, 2008*  
*Studia Logica, ISSN 0039-3215, Reviewer, 2007, 2008, 2024*  
*Medicine, Health Care & Philosophy, ISSN 1386-7423, Reviewer 2007*  
*SATS: Nordic Journal of Philosophy, ISSN 1600-1974, Reviewer 2007*  
*Transactions of the Charles S. Peirce Society, ISSN 0009-1774, Editorial*  
*Board Member, Reviewer 2006–2019*  
*Stanford Encyclopedia of Philosophy, ISSN 1095-5054, Advisory Board Mem-*  
*ber, Reviewer 2006, 2011, 2013*  
*Acta Philosophica Fennica, ISSN 0355-1792, Reviewer 2005*  
*Philosophia Scientiae, ISSN 1281-2463, Reviewer 2005, 2010, 2014*

*Acta Baltica*, Editorial Board, Reviewer, 2011-  
*Ajatus: Yearbook of the Finnish Philosophical Society*, ISSN 0002-2918, Re-  
viewer 2004  
*Journal of Cognitive Systems Research*, ISSN 1389-0417, Reviewer 2002  
*Nordic Journal of Computing*, ISSN 1236-6064, Reviewer 2002  
*Group Decisions and Negotiations*, ISSN 0926-2644, Reviewer 2002  
*Synthese*, ISSN 0039-7857, Reviewer 2001, 2006, 2007, 2008(2), 2009(2),  
2010(2), 2011, 2012, 2013, 2014, 2015, 2016  
*Nordic Journal of Philosophical Logic*, ISSN 0806-6213, Reviewer 2000.

**Book Publishers:**

*Mouton De Gruyter*, Editor-in-Chief, *Peirceana* Book Series, 2019–  
*Oxford University Press*, Reviewer, 2017  
*MIT Press*, Cambridge, Mass., Reviewer, 2011  
*SKY Finnish Literature Society*, Reviewer, 2008  
*College Publications*, London, Reviewer, 2010  
*John Benjamins Publishing*, Amsterdam, Reviewer, 2007  
*Springer*, Dordrecht, Reviewer, 2006-  
*Elsevier Science*, Oxford, Reviewer, 2007-  
*Sapere: Studies in Applied Philosophy, Epistemology, and Rational Ethics*,  
Advisory Board Member, *Springer*, Dordrecht

**Research Councils, Search Committees (partial list):**

*RAE Panel Member*, Humanities, University Grants Council, Hong Kong,  
2024–2026  
*Faculty Search Committee*, Member (two positions), Hong Kong Baptist Uni-  
versity, 2024  
*External Assessor*, Rank Professor/Tenure, University of Hawaii, 2023  
*External Assessor*, Rank Professor/Tenure, University of Tartu, 2023  
*Reviewer*, Future and Emerging Technologies FET, EU, 20XX, and other EU  
grant application evaluations (details strictly confidential)  
*Search Committee*, External Evaluator, Tallinn University, 2016  
*Search Committee Chair*, Tallinn University of Technology, 2013, 2015, 2016  
*Search Committee*, External Evaluator, National University of Taiwan, 2013  
*Search Committee*, External Evaluator, University of Tartu, 2012, 2013  
*Promotion Committee*, Full Professorship, External Evaluator, UPenn, 2012  
*Tenure Committee*, External Evaluator, City University of New York, 2010  
*Evaluation Committee*, U. Helsinki Scientific Funds Philosophy Panel Expert,  
2011, 2013  
*Czech Academy of Science*, 2012; 2020 *Slovenian Research Council*, 2015,  
External Evaluator  
*The Netherlands Organization for Scientific Research NWO*, External Eval-  
uator, 2010  
*Estonian Research Council*, Expert Panel, Philosophy, 2008, 2009, 2012; Hu-  
manities, 2011.

**Program Committee Chair/Member (selected, until 2014):**

- 2014: *Charles S. Peirce International Centennial Conference*, U.Mass Lowell  
2014: *Second International Conference on Applying Peirce*, Chair, U. Helsinki & Tallinn  
2012: *Games & Game Semantics Conference*, Co-chair, Riga, Latvia  
2011, 2010: *I-Semantics: International Conference on Semantic Systems*, Graz, Austria  
2009: *International Conference on Cognitive Science*, Campinas, Brazil  
2007: *First International Conference on Applying Peirce*, Chair, University of Helsinki  
2006: *First Int. Pragmatic Web Conference*, Stuttgart, Germany  
2005–2011: *Cognitive Science Society Conferences*, 2005–2011  
2004: *Prague Int. Colloquium–Logic, Games and Philosophy: Foundational Perspectives*, Co-chair, Czech Academy of Sciences, Czech Republic  
2001–2008: *ESSLLI Summer Schools*.

**Chair of Organising Committee of International Scientific Conferences, Symposia and Workshops (selected, until 2020):**

- 2020: *Diagrams'2020. 11<sup>th</sup> International Conference on the Theory and Application of Diagrams*, General Chair, TalTech, 8/2020.  
2018: Workshop on Abduction, Tallinn U. Technology, 8/2018.  
2016: Workshop on Abduction, Tallinn U. Technology, 8/2016.  
2015: *History and Philosophy of Logic Notation*, Tallinn U. Technology, 8/2015.  
2014b: *Workshop on ICON*, University of Helsinki.  
2014a: *2nd International Conference on Applying Peirce*, Tallinn & University of Helsinki.  
2013: *EFAK9: Estonian Philosophy Conference*, Tallinn  
2012: *Round Table on Peirce*, World Congress of Semiotics, Nanjing.  
2012: *Games & Game Semantics*, International Conference, Riga, Co-chair.  
2010: *Peirce The Mathematician*, University of Helsinki & Imatra Summer School.  
2009: *Peirce and Early Analytic Philosophy*, International Symposium, University of Helsinki. *Peirce's Existential Graphs*, Model-Based Reasoning'09 Symposium, Campinas, Brazil.  
2007: *International Conference on Applying Peirce*, University of Helsinki.  
2004: *Prague 2004 Int. Coll.–Logic, Games and Philosophy: Foundational Perspectives*, Co-chair.  
8/1999–12/2001: The *13th European Summer School in Logic, Language and Information* (ESSLLI'01), Secretary, Organising Committee, University of Helsinki (8/2001). Demonstrated fund-raising success for large conferences (278.000 euros) from Ministry of Education; EU (IST-FET); Academy of Finland; NorFA; Finnish Cultural Foundation; EAAC; FoLLI; Nokia; Lingsoft; Conexor.

**Reviewer for Conference etc. submissions:**

(Numerous [est.> 300] to be conveniently enlisted.)

### **Scientific Memberships (year of first enrollment):**

Charles S. Peirce Society, Fellow (Living Past President), 2020-  
Charles S. Peirce Society, Past President, 2020  
Charles S. Peirce Society, President, 2019  
Charles S. Peirce Society, Vice-President, 2018  
Charles S. Peirce Society, Executive Committee Member, 2014–17  
Nordic Association of Semiotics, Board Member, 2011  
Society for the Advancement of American Philosophy, 2007-  
History of Early Analytic Philosophy Society, 2005-  
Cognitive Science Society, 2005  
European Society for Analytic Philosophy (ESAP), 2002  
Association for Symbolic Logic, (ASL), 2000  
American Philosophical Association (APA), 2000-  
British Logic Colloquium (BLC), 1999  
Finnish Philosophical Society (SFY), 1999  
European Association for Logic, Language and Information (FoLLI), 1998-

### **Academic Administrative Service:**

Chair cum Associate Academy Director; Department of Religion and Philosophy;  
Academy of Chinese, History, Religion, and Philosophy; Faculty of Arts and  
Social Sciences; Hong Kong Baptist University, 2024–  
Faculty Committees, Hong Kong Baptist University, 2024–  
Programme Management Committee (and subcommittees), Hong Kong Baptist  
University, 2023–  
Research Administrator, Nazarbayev University, Research Cluster on Intelligence,  
Cognition and Robotics, 2018–2019.  
Council Member, Faculty of Social Sciences, Tallinn U. Technology, 2012–2020  
Head of Chair, Philosophy, Tallinn U. Technology, 2011–2016  
Head of Discipline (semiotics), U. Helsinki, 2010–2014  
Programme Director, International Master’s Programme, U. Helsinki, 2009–2014  
Department of Philosophy, Faculty Board member, U. Helsinki, 2007–2009  
Faculty of Arts Representative, U. Helsinki, 2007–2009  
Selection Committee for Teaching Degrees, Faculty of Arts, U. Helsinki, 2006–2009  
Teaching Development Committee, Department of Philosophy, U. Helsinki, 2007–  
2012  
Admissions Representative, Department of Philosophy, U. Helsinki, 2006–2008

### **Invited Talks (IT) and Scientific Conference Presentations**

(Over 250 in total, listed below are only the types, not tokens.)

253. Originary abduction in AI. Newton Da Costa Memorial Conference. Rio de Janeiro, 12/2024.  
252. (with N. Haydon) Diagrammatic Syntax and Neo-Peircean Calculus of Relations in the Diagrammatization of Mathematical Practices. International Conference on Theory and Ap-  
plication of Diagrams’2024, Münster, Germany, 9/2024  
251. (with N. Haydon) Ethics of notation, existential graphs, and logical analysis. International Conference on Theory and Application of Diagrams’2024, Münster, Germany, 9/2024  
250. (with M. Roman) Diagrams in linear math-

- ematics. International Conference on Theory and Application of Diagrams'2024, Münster, Germany, 9/2024
249. (with M. Ma) Monadic Boolean Existential Graphs. International Conference on Theory and Application of Diagrams'2024, Münster, Germany, 9/2024
248. (with J. Nikulainen) Putting Peirce's notation on the page. International Conference on Theory and Application of Diagrams'2024, Münster, Germany, 9/2024
247. (with F. Bellucci, F. Stjernfelt) Peirce's Philosophy of Notation, Workshop, International Conference on Theory and Application of Diagrams'2024, Münster, Germany, 9/2024
246. (with F. Xu) Peirce's Extended Euler diagrams and Ladd-Franklin's antilogism. International Conference on Theory and Application of Diagrams'2024, Münster, Germany, 9/2024
245. History of Logic in the *Logic of the Future*. History of Logic Workshop, Sun Yat-Sen University, Guangzhou, 5/2024.
244. Evolutionary Metaphysics of Charles Peirce. Metaphysics Seminar, Sun Yat-Sen University, Guangzhou, 5/2024.
243. Roundtable on Ethics of AI. Symposium on Digital Societies and Humanities, Hong Kong Palace Museum, HK. 1.7M online views. 3/2024
242. History of Logic in the *Logic of the Future*. Chinese Academy of Social Sciences CASS, Beijing, 12/2023.
241. ChatGPT-led student paper grading and feedback experiment. Workshop on Generative AI assessments, HKBU, 11/2023.
240. Abduction to build better abduction. Model-Based Reasoning Conference, Rome, 6/2023.
239. Generative AI and Assessment Tasks. CUHK, 6/2023.
238. Early experiments in the accuracy of GPT-4 grading. Center for Holistic Teaching and Learning, HKBU, 6/2023.
237. On the non-teleophobic, semiotic cognition of xenobots, Origins Conference, HKBU, 5/2024. 236. Improving Skill and Accuracy in Clinical Reasoning. HKBU, 5/2023.
235. What AI Needs. Polytechnico Milan, 6/2022, IT.
234. Philosophy of Notation in the *Tractatus*. HSE University World Logic Day, 1/2021 (on-line), IT.
233. Do we know what we know? Asserting Ignorance. Formal Philosophy Conference, HSE University, 10/2020 (on-line), IT; St. Petersburg State University, 12/2019.
232. Anticipation and Scenario Planning. Milan Polytech, Italy 6/2020 (on-line), IT
231. Assertive Beta Graphs. Diagrams'2020 8/2020 (on-line)
230. Two Implications and Dual-Processes of Reasoning. Diagrams'2020 8/2020 (on-line)
229. The Blot. Diagrams'2020 8/2020 (on-line)
228. Peirce's Last Graphs. Presidential Address. Charles S. Peirce Society, American Philosophical Association Eastern, Philadelphia 1/2020. Keynote
227. Beta Assertive Graphs. Lecce Conference on Proof & Assertion, 9/2019. IT
226. Non-Classical Logic Diagrams. Asian Logic Conference, Astana, 6/2019, Plenary Talk
225. Scenario Planning and Uncertainty. Polytechnic U. Milan, 5/2019, IT
224. Abduction and Diagrams. 2nd Int. Conf. Philosophy of Notation, Bologna, 5/19, IT
223. Paradisiacal Fiction, Eco Center, Bologna, 5/19, IT
222. Ladd-Franklin, Welby and Peirce on Pragmatism and Phenomenology, London, ON, 4/2019, IT (two talks)
221. Gamma and Grammar, American Philosophical Association, Vancouver, 4/19, IT
220. Publish or Peircish. Milford, PA, 4/19, IT
219. Brouwer Graphs, The Logic Day, Nazarbayev University, 1/19, IT
218. Four talks on Wonders of Language, Beijing Language and Culture University, Beijing 11/2018. 217. Abduction and Diagrams, Model-Based Reasoning 2018, Sevilla 10/18, IT
216. Peircenstein, Moscow 10/18, CASS, Renmin U. 11/18, IT
215. To Peirce Hintikka's Thoughts, UniLog 2018, 6/18, IT
214. (with D. Chiffi) Assertive Graphs, UniLog 2018, 6/18
213. (with M. Ma) A Weakening of Alpha Graphs, Diagrams'2018, Edinburgh, 6/18
212. (with D. Chiffi) Assertive and Existential Graphs: A Comparison, Diagrams'2018, Edinburgh, 6/18
211. Logic of the Future, Diagrams'2018, Edinburgh, 6/18, Keynote
210. Logical Conventions in Peirce's Lowell Lectures, Humboldt University, 7/17. IT
209. Graphical Brouwer Logic, Tallinn U. Technology, The First Estonian Logic Day, 6/17.
208. Justifying Reason: Uneliminability and Theorematicity, Peking University 5/17. IT
207. On Logical Philosophy: New Topics from Peirce, Beijing Normal University 5/17. IT
206. Fundamental Issues in Communication, Beijing Language and Culture University 5/17. IT

205. Graphical Logic, Indian Winter School on Diagrams, Kalkutta, 2/17. IT
204. Logic of the Future, Bogota, Colombia, 12/16. IT
203. From Knowability to Conjecturability, Int. Conf. on Peirce, Cali, Colombia, 11/16. IT
202. Abduction in Game Theory, KAIST, Korea, 11/16. IT
201. Peirce's Philosophy of Logic. Workshop on Logical Methods in Philosophy and Language, Tsinghua U. 10/16. IT
200. Syntax, Semantics and Notationics. Chinese Academy of Social Science, 10/16. IT
199. Pragmatistic Philosophy of Science, Guizhou, China 10/16. IT
198. Abduction and Conjectural Reasoning, Int. Workshop on Abduction, Tallinn 8/16.
197. Extensions of Euler Diagrams, Diagrams'2016, Pittsburgh 8/16.
196. (with M.C.) Messaging Extra-terrestrial Intelligence (METI), Panel, International Space Science Conference, Puerto Rico 5/16.
195. Why "Why Most Research Findings Are False" Is True, Tallinn, 3/16.
194. No Scope for Conditional?, Philosophy of Notation Conference, Tallinn, 8/15.
193. Philosophy of Notation in Logic of the Future, Panel, Logic, Methodology and Philosophy of Science, Helsinki, 8/15.
192. (with J.-V.G.) Is Ethical Normativity similar to Logical Normativity? *ibid.*, 8/15.
191. Interrogative Abduction and Inverse Problems, Panel, *ibid.*, 8/15.
190. Qualia and Pragmaticism, Panel, Towards the Science of Consciousness, Helsinki, 6/15. IT
189. Scope in Logic Diagrams, Universal Logic, Istanbul 6/2015. IT
188. Meaning and Rule-Following in the Light of Procedural Rationality, Moscow, 10/14. IT
187. Team Reasoning and Habits of Action, St. Petersburg, 10/14. IT
186. (with A.M.) Symbolic Logic as a Profession, Baltic History of Science Conference, 8/14.
185. Systems of Modal Gamma Graphs, Peirce Centennial Conference, Invited Panel on Gamma Graphs and Modal Logic, UMass Lowell, 7/14. IT
184. The Future of Logic, Peirce Centennial Conference, The Logic of the Future Panel, UMass Lowell, 7/14. IT
183. Peirce's World, Peirce Centennial Conference, UMass Lowell, 7/2014.
182. Guessing at the Unknown Unknowns, Peirce Centennial Conference, The Future of Abduction and Abduction of the Future Panel, UMass Lowell, 7/14. IT
181. (with A.M. & F.B.) Pragmatism and Mathematical Logic, 1900-1914, HOPOS 2014, Ghent, 7/14.
180. Pragmatism and the Logic of Conversation, Interdisciplinary Conf. Pragmatism and Communication, Helsinki, 6/14. IT
179. (with F.B.) 'A Rhapsody on Theme by Peirce': Grice's Lectures on Peirce's Theory of Signs, 6th Conf. Intercultural Pragmatics & Communication, Malta, 5/14.
178. Retroductive Reasoning, Collège de France, Paris, 5/14. IT
177. Logic of the Future, Logic in Question, Sorbonne, Paris, 5/14. IT
176. Theorematic Reasoning, Applying Peirce: The 2nd International Conference on Peirce's Thought and Its Applications, Tallinn & Helsinki, 4/14.
175. The Second Metaphysical Club and Its Impact of the Sciences in the US, *ibid.*, Tallinn & Helsinki, 4/14. IT
174. Intentions in Intelligent Interaction, School of Philosophy and Sociology, Beijing Normal University, 4/14. IT
173. Philosophy of Technology Today and Tomorrow, Dept. Philosophy of Science and Technology, Renmin U., Beijing, 4/14. IT
172. Diagrams and Logical Analysis, Institute of Philosophy, Chinese Academy of Social Sciences, Beijing, 4/14. IT
171. Analytic Philosophy and Its Profession, Dept. Philosophy, Yangon University, Myanmar, 3/14. IT
170. Philosophy as a Profession, Dept. Philosophy, Yunnan U., Kunming, 3/14.
- Philosophy as an Academic Study, Department of Philosophy, Student meeting, Yunnan University, Kunming, 3/2014.
169. Peirce's Theory of Signs: A Centennial Re-assessment, School of Foreign Languages & Cultures, Nanjing Normal University, 3/14.
168. When Science Bubbles Burst, Nurkse School of Innovation and Governance, Tallinn, 2/2014.
167. Philosophy in Interdisciplinary Contexts, The 9th Estonian Philosophy Conf., Tallinn U.Tech, 12/13.
166. New Light on Retroductive Reasoning, Philosophy of Science in the 21st Century—Challenges and Tasks, Lisboa, 12/13. IT
165. Imagination and Diagrams in Scientific Discovery, Symposium, *ibid.*, Lisboa, 12/13. IT
164. The Science to Save Us from Philosophy of Science, *ibid.*, Lisboa, 12/13. IT
163. Philosophy of Iconic Communication, 4th Visual Learning Conference, Budapest, 10/13.

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162. (with A.M. & F.B.), The Development of Karnaugh Maps and Connected Spaces, Int. Workshop on Diagram Logic and Cognition, Kolkata, 10/13.
161. (with F.B. & A.M.), Diagrammatic Autarchy, Int. Workshop Diagram Logic and Cognition, Kolkata, 10/13.
160. From Semantic to Pragmatic Tradition in Philosophy, Peirce and the Semantic Tradition, Aarhus University, 10/13.
159. Three Talks in Scenario Planning (IT, Fudan U., 5/13)
158. Peirce-Grice Pragmatics and Game-Theoretic Models of Linguistic Contexts (IT, Zhejiang Univ., 5/13)
157. Is Language a Game? Intentions in Communicative Interaction (IT, Hunan Univ., 5/13)
156. Is Meaning Conceptual? The Cases of Cognitive Semantics and Semiotics (IT, Hunan Univ., 5/13)
155. Research and Professional Development in Contemporary Philosophy (IT, Chongqing, 5/13)
154. Peirce's Remarkable Logical Philosophy (IT, Chongqing, 5/13)
153. Ysa-asiasanastosta Yso-ontologiaan—mutkia matkassa? (IT, National Library of Finland, 4/13)
152. Know your signs (U.Helsinki, 4/13)
151. Guessing at the Unknown Unknowns (IT, U.Hawai'i, 2/13)
150. What is Semeiotic and Why Do We Need it? (IT, U.Hawai'i, 2/13)
149. What is Pragmaticism? (IT, U.Hawai'i, 2/2013)
148. The Stapler Fraud in the Light of Philosophy of Science (Kosovo, 12/12)
147. The Ups and Downs of Analytic Philosophy (IT, Peking U., 11/12)
146. Pragmaticism Revived: Co-Evolution and the Methodology of the Social Sciences (IT, São Paulo, 11/12)
145. On the Possibility of the Logic of Real Discovery (Plenary, Lisboa, 10/12)
144. Expressivity and Higher-Order Logic of Existential Graphs (IT, St Petersburg, 6/12)
143. Logic and Creativity in Science (IT, Tartu, 6/12)
142. The Modal Logic of Gamma Graphs (Modalities and Modal Logic, Copenhagen, 5/12)
141. Charles Sanders Grice (Lodz, 5/12)
140. On the Pragmatics of Logic Games (IT, Riga, 5/12)
139. Ten Myths about Existential Graphs (IT, Berlin, 3/2012)
138. What is Pragmaticism? (IT, Nat. Tsing-Hua U., 12/11)
137. Icons & Metaphors (IT, Nat. Yang Ming U., 12/11)
136. Intuitions of Analytic Philosophy (IT, Soochow U., 12/11)
135. Mathematical and Linguistic Practices from Peirce to Grice to Hintikka (IT, Workshop on Hintikka, Granada, 11/11)
134. Semiotics—The Third Culture? (IT, U. Helsinki, 10/11)
133. Modal Logic, viewed as Semeiotics (IT, American Semiotics Society, Pittsburgh, 10/11)
132. Semiotic Modelling (IT, Tartu, 8/11)
131. A Realist Modal-Structuralism? (LMPS'11, Nancy, 7/11; Nat. Taiwan U., 12/11)
130. Is There a General Diagram Concept? (IT, Thinking in Diagrams, Berlin, 7/11)
129. Philosophy in Interdisciplinary Contexts (IT, Tallinn University of Technology, 5/11)
128. The Baldwin Effect and the Evolution of Language (IT, Biosynteesi, Helsinki, 5/11)
127. The Peirce Effect? (NASS 2011, Lund 5/11)
126. Semiotics and Logic (IT, CSLL, Zhejiang U., 5/11)
125. Essential Analytic Philosophy (IT, Wuhan U., 4/11)
124. Grice, Games and Contexts (MCC 2011, Lodz 3/11)
123. Peirce's Logic and Philosophy (IT, U. Tartu, 3/11)
122. Semiotics as Science (IT, Society for the Philosophy of Nature, Helsinki, 2/2011)
121. How to Analyse Rigid Designation? (San Sebastian, 11/10)
120. Rorty in the Footsteps of Quine (IT, Oslo, 10/10)
119. Iconic Diagram Logic of Metaphors (Stockholm Metaphor Festival, 9/10)
118. The Ups and Downs of Analytic Philosophy (IT, 6th Meeting of Chinese Society for Analytic Philosophy, Taiyuan, 8/10)
117. Formal Methods for Cognitive Science (7th Int. Conf. Cognitive Science, Beijing, 8/10)
116. Existential Graphs: Insights and Prospects (IT, Annual Meeting of Korean Association of Logic, Seoul, 7/10)
115. On the Conceptual Underpinnings of Organizational Semiotics (IT, 12th Int. Conf. Informatics and Semiotics in Organizations, Reading & Beijing, 7/10)
114. Grice, Games, and Linguistic Contexts; Game Theory and Linguistic Meaning (IT, St Petersburg Summer School in Logic, 6/10)

113. Peirce The Mathematician; Pragmaticism as a Philosophy of Mathematics (IT, Imatra Summer School, 6/10)
112. Tableaux for the Gammas (UniLog'10, Lisboa, 4/10)
111. Professional Development in Philosophy (IT, U. Lisboa, 4/10)
110. The Diagrammatic Mind (IT, Sino-Finnish Workshop on Logic & Cognition, U. Helsinki, 3/10; Humboldt-Universität zu Berlin, 4/10; Aarhus 11/10)
109. How to Ask the Question about Free Will? (IT, Studia Semiotica Generalia, U. Helsinki, 2/10)
108. Where is Semiotics? In Finland and Beyond (IT, U. Helsinki, 2/10)
107. On Pragmatic and Causal Theories of Proper Names (IT, University of Hokkaido, Sapporo, 2/10)
106. On the Concept of Identity (IT, Imatra Winter School of Semiotics, 1/2010)
105. On the Auditory Logic of Sounds; Tutorial on Existential Graphs (IT, Campinas, 12/09)
104. Semiotics as Science (IT, Helsinki, 12/09; IT, Helsinki, 2/11)
103. Two Challenges for Fictionalism in Mathematics (St Petersburg, 11/09)
102. Can Thinking be Critical without Arguments?" (University of Turku, 11/09).
101. Logic in Finland, last 30 years (Chengdu Logic Meeting, China, 10/09)
100. Gricean Intentions, Game Theory, and Linguistic Contexts (IT, Paris, 9/09)
99. Question-answer structures in cognition (IT, La Coruna, 9/09)
98. Where is Semiotics? Peirce's Answer (La Coruna, 9/09)
97. Game Theory and Linguistic Contexts (IT, Conference on Formal Linguistics, Beijing 7/09)
96. Dewey betwixt the one and many-world philosophies (IT, Opole, 6/09)
95. Peirce's development of the quantification theory (Helsinki, 5/09)
94. Comments on Hookway's Peirce's structuralism (Helsinki, 5/09)
93. Semiotics, Pragmaticism (IT, Wuhan, 2/09; Shanghai 5/09; Hongkong 6/09)
92. Is non-visual diagrammatic logic possible? (IT, Lisboa 3/09)
91. One vs. many world philosophers (IT, Helsinki, 1/2009)
90. The Butterfly Effect? The Reception of the Principles of Mathematics by the Pragmatist Philosophers (Perspectives on Russell, Zagreb, 11/08)
89. Esthetic interpretants (Nanjing, 11/08)
88. Logic of cognition (IT, Guangzhou, 11/08)
87. World lines and imperfect information (IT, Beijing, 11/08)
86. Formal methods for cognitive science (IT, Seoul, 10/08)
85. Implicit vs. explicit (ICAI'08, Beijing, 10/08)
84. Peirce-Schiller (IT, Lodz, 9/08)
83. Diagrammatic Logic of Commands (Diagrams, 9/08)
82. Iconic Logic of Metaphors (Seoul, 8/08)
81. Why Pragmaticism is neither Structuralism nor Fictionalism (Seoul, 8/08)
80. Pragmaticism's methodology rethought (IT, Seoul, 8/08)
79. Philosophy of Ludics (IT, Paris, 3/08)
78. Game-theoretic semantics (IT, Renmin U., Beijing, 2/08)
77. Epistemic logic (IT, Renmin U., Beijing, 2/08)
76. Signs & Diagrams (IT, Aarhus, 2/08)
75. Game-theoretic models of linguistic contexts (IT, Lille 3, 1/08)
74. Fixing and revising beliefs (SFY, 1/08)
73. Logic, language and games (IT, Jena 1/2008)
72. To Peirce Hintikka's thoughts (IT, Copenhagen 11/07)
71. Comments on Hookway (IT, São Paulo 11/07)
70. Logic in pragmatism (IT, Babes-Bolyai 9/07; IT, São Paulo 11/07; U Helsinki 6/08)
69. Diagrams (IT, Peking U, 8/07; São Paulo 11/07)
68. Three stages of development in Peirce's logic (Xi'an 8/07)
67. Why is the normativity of logic based on rules? (IT, Opole 6/07)
66. Synthese Library Book Session (IT, Helsinki 6/07)
65. Editing Peirce (IT, U Helsinki 6/07)
64. Women in semiotics: Ladd-Franklin and Welby (IT, Helsinki 6/07)
63. Challenges for existential graphs (U Helsinki 6/07)
62. Pragmaticism as an anti-foundationalist philosophy of mathematics (Brussels, 3/07; Beijing 8/07)
61. Survey of diagrammatic logics II (IT, Helsinki 3/07)
60. Logic in pictures (Tampere 1/2007)
59. Practices in Peirce's theory of meaning (IT, Helsinki 12/06)
58. Survey of diagrammatic logics I (IT, U Helsinki 11/06)
57. On the logic of Peirce (IT, Beijing 10/06)
56. Künne on Frege (IT, U Hamburg 8/06)

55. Peirce and Deacon on meaning and the evolution of language (IT, Copenhagen 8/06)
54. Logic of the image (IT, Peirce and Image, Urbino 6/06)
53. Logic of abduction (IT, Abduction Conf, Lisboa 5/06)
52. Significs, pragmatism, and the origins of analytic philosophy (Granada 4/2006)
51. Proof of pragmatism (IT, U Miami, 11/05)
50. Graphs, games, and pragmatism (IT, UQAM 11/05; Peirce Edition Project, Indianapolis 12/05)
49. IF logic and game-theoretic semantics (IT, UQAM 11/05)
48. Alexander B. Johnson as a precursor of pragmatic theories of meaning (ICHLS'05, Urbana 9/05)
47. Logica utens vs. logica docens: origins and contemporary validity (ESPP'05, Lund 8/05)
46. Mental models and logical diagrams (ESPP'05, Lund 8/05)
45. Diagrams, signs, cognition: Perspectives on Peirce (ESPP'05, Lund 8/05)
44. Relevance theory through pragmatic theories of meaning (CogSci'05, Stresa 7/05)
43. Multimodality in logic and in cognition (Prag'05, Garda 7/05)
42. Logic and mental spaces (SCL'05, Trondheim 6/05, Stockholm 6/05, Helsinki 6/05)
41. Getting closer to iconic logic (E-CAP'05, Lund 6/05)
40. History of semantics in Finland (KTP'05)
39. Significs and early analytic philosophy (IT, APA'05, Chicago 4/05)
38. Moving pictures of thought (IT, U Helsinki 1/05)
37. Life of language (SFY'02, U Turku 1/2005)
36. Peirce's semeiotic and contemporary science (IT, SP'04, Helsinki 12/04)
35. Towards the history of logic and games (IT, LGP'04, Prague 9/04)
- Significs and the origins of analytic philosophy (SIFA'04, Genoa 9/04)
34. Epistemic logics of imperfect information for multi-agent communication (IT, LCMAS'04, Nancy 8/04; LiCS'04, Turku 7/04)
33. Tutorial on independence-friendly logic (IT, VUBrussels 5/04)
32. Evolutionary game-theoretic semantics and its foundational status (EELC'04, VUBrussels 5/04)
31. Early cognitive science: a challenge to analytic philosophy? (XV IPS, Helsinki 5/04)
30. Interdisciplinarity and Peirce's classification of the sciences (IRM'04, Budapest 5/04)
29. Independence-friendly existential graphs (IT, Tallinn Tech 4/04)
28. Peirce's diagrammatic logic in IF perspective (Diagrams'04, U Cambridge 3/04)
27. Compositionality, relevance, and Peirce's logic of existential graphs (CoCoCo'04, U Düsseldorf 2/04)
26. Negation in IF logic (SFY'04, U Helsinki 1/04)
25. Sphere semantics for aspect (SCL'04, U Helsinki 1/2004)
24. Peirce's magic lantern: moving pictures of thought (IT, APA Eastern Division, Washington D.C. 12/03)
23. The semantic+pragmatic web=the semiotic web (IADIS/WWW'03, Algarve 11/03)
22. Wittgenstein on 'one of the most fundamental language games' (IWS'03, Kirchberg 8/03)
21. Historical and Peircean notions of pragmatics (ICHL'03, U Copenhagen 8/03)
20. Reversed interactive epistemology (WCP'03, Istanbul 8/03)
19. Agenda cognitive linguistics: (ICCL'03, Logroño 7/03)
18. Diagrammatic logic in IF perspective (IT, UCLA-Helsinki'03, Helsinki 7/03)
17. Dialogue foundations and informal logic (IL@25, Windsor 5/03)
16. Moving pictures of thought (IT, Helsinki 2/03)
15. Peirce's concept of communication and its contemporary relevance (NRAP'03, Hungarian Acad of Sciences 1/2003)
14. Independence-friendly logic and incomplete information (PILM'02, Nancy 10/02)
13. Diagrammatic logic and game-playing (VRI'02, Liverpool 9/02)
12. Logic, language-games and ludics: Some Wittgensteinian themes in the foundations of logic and computation (LC'02 8/02)
11. Inner and outer knowledge: the case for epistemic logic (ECAP IV, Lund 6/02)
10. Knowledge constructions for artificial intelligence (ISMIS'02, Lyon 6/02)
9. Aspect and strategic meaning (KTP'02, Helsinki 5/02)
8. Philosophical logic and the revolution in informatics (IT, Societas Philosophica Fennica, Helsinki 4/02)
7. Peirce's game-theoretic ideas in logic (IT, Metaphysical Club, Helsinki, 2/02)
6. Semantic games in logic and language (Helsinki 1/2002)
5. Varieties of IFing (ESSLLI'01, Helsinki 8/2001)
4. Games for generalised quantifiers (SuBV, Univ. Amsterdam 12/00)

3. Some remarks on games logic plays (LC'00, Univ. Sorbonne 7/2000)      1. Imperfect information in epistemic logic (ESS-LLI'98, Saarbrücken 8/1998)
2. Informational independence in epistemic logic (LMPS'99, Cracow 8/1999)

### Further Particulars, summary

**h-index: 33.** Peer-reviewed papers: 252; Citations: 3685; Years: 24; Cites/year: 110; h10-index 107. Publications with two or more authors: c.100. (Google Scholar, retrieved 9/2024)

*Erdős Number:* 4 (steps to publications co-authored with Paul Erdős)

*Wittgenstein Number:* 2 (steps to Wittgenstein as Mentor: to G. H. von Wright to Ludwig Wittgenstein).

*Mouton De Gruyter*, Editor-in-Chief, *Peirceana* Book Series, 2019–

Interviewed 2014 in *Peirce: 5 Questions*, Automatic Press/VIP.

Interviewed 2013 in *Philosophy of Logic: 5 Questions*, Automatic Press/VIP, in press.

Interviewed 2010 in *Signs and Meaning: 5 Questions*, Automatic Press/VIP (withdrawn).

Listed in 10/2004 in the *Who's Who in Logic Master List: International Directory of Logicians* (Woods, J. & Gabbay, D., eds, College Publications), published in 2009. Listed among the three youngest scholars in the directory of over 200 entries at 33 years of age.

First Prize in the *Essay Contest of the Charles S. Peirce Society*, 2003, Presented at Eastern APA Meeting, Washington, DC, 12/2003.

### Language Skills

Finnish (native); English (near-native); Swedish (moderate); Estonian (moderate); Chinese/putonghua (fair); German (fair), Latin & Classic Greek (reading).

### Accumulative Summary of Current Research

2024– *Philosophy of Bioengineering*: Continuity, synechism, minds, and meanings

2022– *Theoretical and Ethical AI*: Philosophy of AI; Pragmatist Philosophy of Technology; Clinical reasoning

2020– *Risk and Values in Science; Theoretical and Ethical AI*: Fundamental Uncertainty and Scenario Planning; Anticipation, Abduction, and Economy of Research; Free-energy principle

2018– *Mathematical Logic*: Graphicalizability; Deep inference; History and Philosophy of Notations; Evolution of Human Reasoning

2016– *Scientific Reasoning*: Abduction in Games; Creativity and Scientific Discovery

2014– *History and Philosophy of Science & Technology*: Social and Cognitive Biases; Retroductive reasoning; History of the scientific method

2012– *Philosophy of Cognition and Action*: Intentions, Meanings, Strategic Decisions

2010– *Philosophy of Science*: Logic of Images; Baldwin Effect and Co-evolution of Meaning

- 2008– *Philosophy of Mathematics*: Metaphors in Science; Structuralism; Fictionalism
- 2006– *Philosophy of Language and Pragmatics*: Pragmatic Meaning; Games and Linguistic Meaning; Philosophy of Signs
- 2004– *Philosophy of Language, History of Linguistics*: Relevance Theory; Grice; Significs; Victoria Welby; Christine Ladd-Franklin
- 2002– *Pragmatism and American Philosophy*: Peirce; Logic Diagrams; Logic and Neuroscience; Cognitive Science and Phenomenology
- 2000– *Philosophy of Science; Early Analytic Philosophy*: Quantum Logic; Game Theory; Wittgenstein
- 1998– *History and Philosophy of Logic*: Logic (IF Logic, Modal, Epistemic); Game-Theoretic Semantics; Propositional Attitudes; Possible-Worlds Semantics
- 1996– *Logic and Artificial Intelligence*: Non-monotonic and Non-standard Logics in Knowledge Representation.

## Previous Research Evaluations

Excerpts from the evaluation reports on research grant applications:

- “[H]e is really a genius, he is working admirably well and this project—if successful—can put the name of Estonian Research very high in the world of scholarship [...] It is an ambitious project, extremely relevant and it would be the culmination of a life of high quality research of the main researcher. [...] The main researcher seems to me the most powerful mind in the field of Peirce’s diagrammatic logic. He is an outstanding scholar and his work until now has been always of first quality. I admire him and consider him as the number one in my field, as a very heavy worker and a most creative mind.” (ERC, 2021)
- “A.V. Pietarinen is an absolute expert in this field.” (ERC, 2014)
- “The applicant . . . has a first rank expertise of the topic. He is an internationally approved expert in core fields of analytical philosophy, and active in international journals and conferences.” (Philosophy panel, Academy of Finland, 4/2009)
- “The competence of the applicant is very high. He is clearly one of the leading experts . . . in the world. The international collaborations proposed are extensive and convincing.” (Philosophy Panel Report, 11/2008)
- “The applicant has a very strong record of publication, international work and professional contacts. . . The applicant clearly has considerable expertise and enthusiasm for the project. . . is working with linguists and computer scientists as well as with philosophers and logicians.” (Philosophy Panel Report, 2/2008)
- “The project is ambitious because it has high standards, tackles difficult problems, and is doing so on an international level. Research about pragmatism is still increasing and the general analysis in the application is accurate and promising for further research. There is still much to be discovered and communicated. The project is very clearly presented and the methods and materials are appropriate. The applicant has the appropriate training and impressive achievements in terms of publications and contributions to conferences. He and the researchers have the necessary expertise to carry out this project. The management and division of labour is appropriate and well-planned.” (Philosophy Panel Report, 7/2007)
- “The applicant is a very competent and interesting scholar. He is not just doing important historical work but is applying Peirce’s work to contemporary philosophical problems, that is, he is doing serious and innovative systematic philosophy. This time his aim is to work on theory of meaning. He wants to develop Peirce’s ideas and apply them to new areas of philosophy. As possible areas of application he mentions relevance theory. This is an excellent and ambitious, close to an outstanding, project. The project is clearly significant and the plan very solid. A very strong and well presented research plan for a project that will deal with a wide set of topical problems in a number of ways. The project is very ambitious but given the previous merits of the applicant it will most likely succeed.” (Philosophy

From the European Research Council Evaluation Report (Panel SH4: Human Mind and Its Complexity, 2008):

“The applicant is truly an internationally leading researcher already. The PI offers an outstanding CV, and has internationalized his research in an excellent way. The PI has an excellent track record. He has an important number of publications in peer reviewed top international journals and edited volumes. Most of his publications are on philosophy. This is a truly innovative research approach (not only for a starting grant) which, although inspired by historical work, is particularly appropriate today when great efforts are made to overcome the propositional nature of logic and of mental representations and when various pictorial attempts have not lived up to promises. The PI’s harsh verdict on the disparate nature of current cognitive science is largely true and he presents an excellent unifying idea.”

Research evaluations for professorial posts:

“[His] CV and publication record would entitle him full professorial position at virtually any North American University” (2009 External Assessor Review, rank Full Professor).

“Perhaps the most interesting candidate is Dr Pietarinen, whose interpretation and the knowledge and use of philosophical methodologies, including formal tools, are both deep and highly original.” (2005 External Assessor Review, applied position rank Full Professor).

## References

- 1. (General academic reference)** *John Woods*, FRSC  
Director, The Abductive Systems Group  
The UBC Honorary Professor of Logic  
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- 2. (General scientific and collaborator reference)** *Professor Frederik Stjernfelt*  
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- 3. (Specialist scientific reference)** *Professor Emeritus Park, Woosuk*  
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- 5. (Institutional teaching, research & collegiality reference)** *Professor Rainer Kattel*  
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6. **(Specialist scholarly reference)** *Professor Nathan Houser*  
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7. **(Mentor’s reference)** *Professor Jaakko Hintikka* (Deceased 2015)  
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Ahti-Veikko Pietarinen, Professor, PhD  
September 25, 2024

# Ahti-Veikko J. Pietarinen

## List of Publications\*

### Scientific Peer-Review Publications (under review, in preparation)<sup>1</sup>

#### Under Review/In preparation:

- 2024e. (with D. Stanley, Maine Medical Center) The Logic of Medical Reasoning: An Integrated Inductive, Deductive, and Abductive Approach to Clinical Practices. Submitted 6/2024. *Philosophy, Ethics, and Humanities in Medicine*.
- 2024h. (with M. Beni, V. Shumilina) Developmental Bioelectricity as an Explanatory Framework for Cognition and Meaning: A Biosemiotic cum Free Energy Grasp. Submitted 3/2024. *Biosemiotics*.
- 2024g. (with E. Di Lavore) Optimizing Social Games. In preparation 9/2024.
- 2024f. (with F. Bellucci & D. Chiffi) Denial, Disjunction and other Signs of Logic: A Contribution to the Philosophy of Notation. Submitted 9/2024. *Inquiry* (UK).
- 2024e. (with D. Stanley, Maine Medical Center) Diagnostic Reasoning in Surgical Pathology. Submitted 4/2024. *J. Pathology*.
- 2024d. (with V. Shumilina) Synecism 2.0: Contours of a New Theory of Continuity in Biology. *BioSystems*. R & R 6/2024.

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\*September 25, 2024.

<sup>1</sup>Disclaimer: An updated list of publications and full texts may be found at at the ResearchGate webpage <https://www.researchgate.net/profile/AHTI-Pietarinen2> or Google Scholar [https://scholar.google.com/citations?hl=en&user=b46p6gkAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=b46p6gkAAAAJ&view_op=list_works&sortby=pubdate). No other public or personal legacy web-page, bibliography or repository, including Academia.edu, PhilPapers or PURE systems, provides reliable or up to date bibliographic or bibliometric information, and may not be consulted or used for any evaluation, assessment or reference purposes.

- 2024b. (with M. Roman) On Linear Foundations of Mathematics and Its Anticipation. *Philosophia Mathematica*. Oxford University Press. Submitted, under review 1/2024.
- 2024a. (with M. Shafiei, eds.) *Pragmatism in the Continent: The Story of European Pragmatism*. Springer. In preparation. To appear 2026.
- 2023b. (with M. Beni) TAMING of the Abrupt Emergence: A reconstruction of the continuity argument for enlightened panpsychism. Submitted/under review 12/2023. *Phenomenology and Cognitive Science*.
- 2023a. (with M. Beni) A Free Energy Justification of Norms of Rationality. Submitted/under review 6/24. *Episteme*.
- 2021b. (with F. Bellucci, eds.) *Peirce's Philosophy of Notation*. De Gruyter. In preparation, to appear 2026.
- 2021a. (with Bellucci, F. & Champagne, M.) Philosophy of Notation: An Introduction. [Equal contribution, alphabetical order of authors followed].
2020. (with M. Ma) Brouwer Logic, Graphically. In preparation.
- 2018b. (with J. Green & A. Moktefi, eds.) *Christine Ladd-Franklin's "On the Algebra of Logic"*, Logic PhDs Book Series, College Publications. In preparation.
- 2018a. (with A. Moktefi & J.-M. Chevalier, eds.) *The Second Metaphysical Club and Its Impact on the Development of American Sciences*, Special Issue of *Perspectives on Science*, contracted, on hold.
2003. Peirce's Magic Lantern: Moving Pictures of Thought, *Transactions of the Charles S. Peirce Society*, in preparation, to appear. (Winner of the 2003 Peirce Essay Contest.)

**In press:**

- 2024c. (with V. Shumilina) Three Eras of Computational Logics of Discovery: Deductive Past, Inductive Present, and Abductive Future. In press, chapter in book, SAPERE, Springer Nature. To appear 11/2024.
- 2024b (with Xu Fangzhou) Peirce's Extended Euler Diagrams and the System Atl based on Ladd-Franklin's exclusion relation. LNCS, Diagrams 2024. Published.
- 2024a (with L. Snellman) The Semiotic Roots of Worldviews: Logic, Epistemology, and Contemporary Comparisons. *Semiotica*. In press, final proof submitted 9/2024.

- 2023a (with M. Beni; M. Farina, eds.) Embodied Cognition in Scientific Context. Special Issue of *Frontiers in Psychology*, 2023. Published.
- 2022a. (with M. Shafiei, eds.) *Phaneroscopia and Phenomenology: A Neglected Chapter in the History of Ideas*. LEUS, Springer Nature. In press, to appear 10/2024.
- 2021e. (with F. Bellucci & D. Chiffi) Peirce on Assertions: Introduction to the Special Issue. *Transactions of the Charles S. Peirce Society*. Published.
- 2021c. Charles S. Peirce: “How to Define”. In Pietarinen, A.-V. and M. Shafiei, eds. *Phaneroscopia and Phenomenology*. Springer. In press, 2024. To appear 10/2024.

## **A. Peer-Reviewed Scientific Articles and Major Scientific Publications (accepted / in press / published)**

### **International Peer-Reviewed Scientific Journal Articles, Books and Monographs recently published/accepted:**

- 2019–2024. *Logic of the Future: Peirce’s Writings on Existential Graphs*, c.1900 pages. Three volumes in five books. Boston: Mouton De Gruyter. **Vol. 1: History and Applications**, December 2019. DOI 10.1515/9783110651409. **Vol. 2/1: The Logical Tracts**, April 2021. **Vol. 2/1: The 1903 Lowell Lectures**, May 2021. **Vol. 3/1: Pragmatism**, May 2024. **Vol. 3/2: Correspondence**, December 2024.

This edition is a five-book monograph in three volumes as well as a scholarly edition. It presents the full panorama of Peirce’s graphical logic of existential graphs; his most significant contribution to human thought and the “Logic of the Future”. Nearly 2.000 pages in total, *Logic of the Future* is a comprehensive presentation of Peirce unpublished manuscripts on existential graphs, extensive introductions of 500 pages by the editor, with surveys of the texts and annotations. The impact of the volumes is that the story of the development of modern logic has now to be largely retold.

- 2023b. (with F. Bellucci) Existential Graphs. *Oxford Handbook on Charles S. Peirce*. Ed. by Cornelis De Waal. Oxford: Oxford University Press, 2024. [Equal contribution, alphabetical order of authors followed]
- 2023a. (with M. Beni) Reinvigorating the Nineteenth Century Scientific Method: A Peirce-pective on Science. *Perspectives on Science*, 2023. [Equal contribution, alphabetical order of authors followed]
- 2022g. (with F. Stjernfelt) Semiotics in Logic and Mathematics. In Pelkey, Jamin and Walsh Matthews, Stéphanie (eds.) *Bloomsbury Semiotics Volume 2: Semiotics in the Natural and Technical Sciences*. Bloomsbury

- Academic. pp.13–34. 10.5040/9781350139350.ch-1 [Equal contribution, alphabetical order of authors followed]
- 2022f. (with A. Bobrova) Modular vs. Diagrammatic Reasoning: The Pragmatist Side of Human Understanding. *Pragmatics and Cognition* **29**(1), 111–134. [Equal contribution, alphabetical order of authors followed]
- 2022e. (with D. Stanley) Precision Medicine and Diseases as Natural Kinds: A Dilemma. *Journal for the Evaluation of Clinical Practice* **28**(5), 835–842. 10.1111/jep.13707. [Equal contribution, alphabetical order of authors followed]
- 2022d. (with K. Medianovskyi) On Explainable AI and Abductive Inference. *Philosophies* **2022**, 7(35). <https://doi.org/10.3390/philosophies7020035> [Equal contribution, alphabetical order of authors followed]
- 2022c. Peirce’s Diagrammatic Reasoning and Abduction. In Magnani, Lorenzo (ed.) *Handbook of Abductive Cognition*. Springer, Cham. [https://doi.org/10.1007/978-3-031-10000-0\\_10](https://doi.org/10.1007/978-3-031-10000-0_10)
- 2022b. (with F. Bellucci) Peirce’s Abduction. In Magnani, Lorenzo (ed.) *Handbook of Abductive Cognition*. Springer, Cham. [https://doi.org/10.1007/978-3-031-10000-0\\_11](https://doi.org/10.1007/978-3-031-10000-0_11)
- 2022a. (with F. Bellucci) Imagination, Cognition, and Methods of Science in Peircean Abduction. In Magnani, Lorenzo (ed.) *Handbook of Abductive Cognition*. Springer, Cham. [https://doi.org/10.1007/978-3-030-68436-5\\_6-1](https://doi.org/10.1007/978-3-030-68436-5_6-1)
- 2021m. Peirce on Mathematical Reasoning and Discovery. In M. Danesi (ed.) *Handbook of Cognitive Mathematics*. Springer, Cham. [https://doi.org/10.1007/978-3-031-10000-0\\_12](https://doi.org/10.1007/978-3-031-10000-0_12)
- 2021l. Pragmaticism as a Philosophy of (Cognitive) Mathematics. In M. Danesi (ed.) *Handbook of Cognitive Mathematics*. Springer, Cham. [https://doi.org/10.1007/978-3-030-44982-7\\_22-1](https://doi.org/10.1007/978-3-030-44982-7_22-1)
- 2021k. (with Ma, M.) Peirce’s Dragon-Head Logic (R 501, 1901). *Archive for History of Exact Sciences* **76**, 261–317. 10.1007/s00407-021-00285-0. [Equal contribution, alphabetical order of authors followed]
- 2021j. Peirce’s Diagrammatic Solutions to ‘Peirce’s Puzzle’. *Lecture Notes in Artificial Intelligence*. In Basu A., Stapleton G., Linker S., Legg C., Manalo E., Viana P. (eds) *Diagrammatic Representation and Inference. Diagrams 2021*. Lecture Notes in Computer Science 12909. Springer, Cham. [https://doi.org/10.1007/978-3-030-86062-2\\_23](https://doi.org/10.1007/978-3-030-86062-2_23)
- 2021i. (with N. Haydon) Residuation in Peirce’s Existential Graphs. *Lecture Notes in Artificial Intelligence*. In Basu A., Stapleton G., Linker S., Legg C., Manalo E., Viana P. (eds) *Diagrammatic Representation and*

- Inference. Diagrams 2021*. Lecture Notes in Computer Science 12909. Springer, Cham. [https://doi.org/10.1007/978-3-030-86062-2\\_21](https://doi.org/10.1007/978-3-030-86062-2_21)
- 2021h. (with X. Liu) Jin Yuelin’s Simplification of Venn Diagrams. In Basu A., Stapleton G., Linker S., Legg C., Manalo E., Viana P. (eds) *Diagrammatic Representation and Inference. Diagrams 2021*. Lecture Notes in Computer Science 12909. Springer, Cham. [https://doi.org/10.1007/978-3-030-86062-2\\_26](https://doi.org/10.1007/978-3-030-86062-2_26)
- 2021g. (with X. Liu) Venn Diagrams with “Most”: A Natural Logic Approach. In Basu A., Stapleton G., Linker S., Legg C., Manalo E., Viana P. (eds) *Diagrammatic Representation and Inference. Diagrams 2021*. Lecture Notes in Computer Science 12909. Springer, Cham. [https://doi.org/10.1007/978-3-030-86062-2\\_26](https://doi.org/10.1007/978-3-030-86062-2_26)
- 2021f. (with M. Beni) Aligning the Free-Energy Principle with Peirce’s Logic of Science. *European Journal for Philosophy of Science* 11, pp.94–. <https://doi.org/10.1007/s13194-021-00408-y> [Equal contribution, alphabetical order of authors followed]
- 2021e. (with F. Bellucci & D. Chiffi) Assertion, Conjunction and other Signs of Logic: A Contribution to the Philosophy of Notation. *Transactions of the Charles S. Peirce Society* 57(2), 270–287.
- 2021d. (with M. Beni) Active Inference and Abduction. *Biosemiotics* 14, 499–517. <https://doi.org/10.1007/s12304-021-09432-0>
- 2021c. Pragmaticism as a Logical Study of Consciousness. *Cognitive Semiotics* 14(1), 29–46. <https://doi.org/10.1515/cogsem-2021-2037>
- 2021b. (with F. Bellucci) An Analysis of Existential Graphs. Part II: Beta. *Synthese* 199, 7705–7726. [10.1007/s11229-021-03134-3](https://doi.org/10.1007/s11229-021-03134-3) [Equal contribution, alphabetical order of authors followed]
- 2021a. (with F. Bellucci, D. Chiffi) Beta Assertive Graphs: Proofs of Assertions with Quantification. *Journal of Applied Logics—IfCoLog Journal of Logics and their Applications* 8(2), 353–376.
- 2020s. (with A. Bobrova) Two Cognitive Systems, Two Implications, and Selection Tasks. In Camara J., Steffen M. (eds.). Software Engineering and Formal Methods. SEFM 2019. *Lecture Notes in Computer Science* 12226. Springer, Cham. [https://doi.org/10.1007/978-3-030-57506-9\\_15](https://doi.org/10.1007/978-3-030-57506-9_15)
- 2020r. (with Cerone A., Fazli S., Malone K.L.) Interdisciplinary Aspects of Cognition. In Camara J., Steffen M. (eds.). Software Engineering and Formal Methods. SEFM 2019. *Lecture Notes in Computer Science* 12226. Springer, Cham. [https://doi.org/10.1007/978-3-030-57506-9\\_9](https://doi.org/10.1007/978-3-030-57506-9_9)

- 2020q. Overcoming Substantivism-Determinism with Pragmatist Philosophy of Technology. *Acta Baltica Historiae et Philosophiae Scientiarum* **8**(2), 144–155. <https://doi.org/10.11590/abhps.2020.2.09>
- 2020p. (with F. Bellucci, Liu, X) On Linear Existential Graphs. *Logique & Analyse* **251**, 261–296. <https://doi.org/10.2143/LEA.251.0.3288641>
- 2020o. (with R. Bhattachajee & A. Moktefi) The Representation of Negative Terms with Euler Diagrams. J.-Y. Béziau, et al. (eds.), *Logic in Question*. Basel: Birkhäuser. In press.
- 2020n. (with F. Bellucci & D. Chiffi) Beta Assertive Graphs. In Pietarinen A.-V., Chapman P., Bosveld-de Smet L., Giardino V., Corter J., Linker S. (eds.). Diagrammatic Representation and Inference. Diagrams 2020. *Lecture Notes in Computer Science* **12169**. Springer, Cham. [https://doi.org/10.1007/978-3-030-54249-8\\_49](https://doi.org/10.1007/978-3-030-54249-8_49) [Equal contribution, alphabetical order of authors followed]
- 2020m. (with M. Carrara & D. Chiffi) Some Logical Notations for Pragmatic Assertions. *Logique & Analyse* **251**, 297–315. <http://doi.org/10.2143/LEA.251.0.32886>
- 2020l. Peirce’s Last Graphs: The Beginning of an Era. *Transactions of the Charles S. Peirce Society*. Accepted. [Presidential Address]
- 2020k. (with D. Chiffi) From Knowability to Conjecturability. *Contemporary Pragmatism* **17**(2–3), 205–227. <https://doi.org/10.1163/18758185-01701160>
- 2020j. (with F. Bellucci) Methodetic of Abduction. In Shook, J.R. & Paavola, S., (eds.) *Abduction in Cognition and Action: Logical Reasoning, Scientific Inquiry, and Social Practice*. Dordrecht: Springer, 107–128. [https://doi.org/10.1007/978-3-030-61773-8\\_5](https://doi.org/10.1007/978-3-030-61773-8_5) [Equal contribution, alphabetical order of authors followed]
- 2020i. (with F. Bellucci, A. Bobrova, M. Shafiei, N. Haydon) The Blot. In Diagrammatic Representation and Inference—11th International Conference, Diagrams 2020, Tallinn, Estonia, August 24–28, 2020, Proceedings. *Lecture Notes in Computer Science* **12169**, Springer 2020, ISBN 978-3-030-54248-1 [https://doi.org/10.1007/978-3-030-54249-8\\_18](https://doi.org/10.1007/978-3-030-54249-8_18)
- 2020h. Publish or Peircish. *Transactions of the Charles S. Peirce Society*. **56**(2), 261–290. Doi:10.2979/trancharpeirsoc.56.2.07
- 2020g. (with A. Bobrova) Two Implications and Dual-Process Theories of Reasoning. In: Pietarinen A.-V., Chapman P., Bosveld-de Smet L., Giardino V., Corter J., Linker S. (eds.). Diagrammatic Representation and Inference. Diagrams 2020. *Lecture Notes in Computer Science* **12169**.

Springer, Cham. [https://doi.org/10.1007/978-3-030-54249-8\\_19](https://doi.org/10.1007/978-3-030-54249-8_19)  
[Equal contribution, alphabetical order of authors followed]

2020f. (with F. Bellucci) Peirce on the Justification of Abduction. *Studies in History and Philosophy of Science Part A* **84**, December 2020, 12–19. <https://doi.org/10.1016/j.shpsa.2020.04.003> [Equal contribution, alphabetical order of authors followed]

2020e. (with C. Cristalli) Abstraction and Generalization in the Logic of Science. Cases from the 19th Century Scientific Practice. *HOPOS: The Journal of the International Society for the History of Philosophy of Science* **11**(1), 93–121. <https://doi.org/10.1086/713087> [Equal contribution, alphabetical order of authors followed]

2020d. (with F. Bellucci) Icons, Interrogations, and Graphs: On Peirce’s Integrated Notion of Abduction. *Transactions of the Charles S. Peirce Society* **56**(1), 43–61. [Equal contribution, alphabetical order of authors followed]

2020c. Abduction and Diagrams. *Logic Journal of the IGPL* **29**(4), 447–468. <https://doi.org/10.1093/jigpal/jzz034>

Abductive conclusions are drawn in a special, co-hortative mood (Peirce’s ‘investigand’). They are representative interpretants that represent abduction (or retroduction) as a form of reasoning that can convey a general conception of the truth. The truth is not asserted; abduction merely delivers the idea of a matter of course, rendering that idea comparatively simple and natural, hence assuring us of its justified assertibility. Peirce took all reasoning to be diagrammatic and representable using the graphical method of logic. Yet no examples have previously been found in his large manuscript corpus of what such non-deductive graphs might look like. This paper proposes a new interpretation of a sole exception, a sketch of two graphs from a rejected page drafted in late 1903, which might be the only surviving example of Peirce’s abductive graphs.

2020b. (with D. Chiffi) On the Logical Philosophy of Assertive Graphs. *Journal of Logic, Language, and Information* **29**. 375–397. <https://doi.org/10.1007/s10849->  
[Equal contribution, alphabetical order of authors followed]

We present a graphical logic of assertions (**AGs**) that differs from the graphical logic of Existential Graphs (**EGs**) in that **AGs** talk about assertions explicitly. We extend this intuitionistic logic of **AGs** into a classical graphical logic **CIAG** without a need to introduce polarities. We compare the advantages of these two approaches and point out the nature of a deep inference of their transformation rules. We discuss implications of **AGs** to inferentialism and to the meaning of logical constants.

2020a. (with F. Bellucci) Notational Differences. *Acta Analytica* **35**, 289–314. <https://doi.org/10.1007/s12136-020-00425-1> [Equal contribution, alphabetical order of authors followed]

- 2019k. (with D. Chiffi, M. Proover) Anticipation, Abduction and the Economy of Research: A Normative Stance. *Futures: The Journal of Policy, Planning and Futures Studies* **115**, 102471. <https://doi.org/10.1016/j.futures.2019.102471> [Equal contribution, alphabetical order of authors followed]
- 2019j. (with J. Issayeva) Phaneroscopy and Theory of Signs as Theory of Cognition. In Shafiei, M. and Pietarinen, A.-V. (eds.). *Peirce and Husserl: Mutual Insights on Logic, Mathematics and Cognition*, Dordrecht: Springer, 199–219. [https://doi.org/10.1007/978-3-030-25800-9\\_11](https://doi.org/10.1007/978-3-030-25800-9_11) [Equal contribution, alphabetical order of authors followed]
- 2019i. (with M. Shafiei, F. Stjernfelt) Mutual Insights on Peirce and Husserl. In Pietarinen, A.-V. & M. Shafiei (eds.). *Peirce and Husserl: Mutual Insights on Logic, Mathematics and Cognition*. Dordrecht: Springer, 3–15. [https://doi.org/10.1007/978-3-030-25800-9\\_1](https://doi.org/10.1007/978-3-030-25800-9_1) [Equal contribution, alphabetical order of authors followed]
- 2019h. (with A. Bobrova) Thoughts, Things and Logical Guidance. In Shafiei, M. and Pietarinen, A.-V. (eds.). *Peirce and Husserl: Mutual Insights on Logic, Mathematics and Cognition*, Dordrecht: Springer, 43–58. [https://doi.org/10.1007/978-3-030-25800-9\\_3](https://doi.org/10.1007/978-3-030-25800-9_3) [Equal contribution, alphabetical order of authors followed]
- 2018g. On the Supreme Beauty of Logical Graphs. *Cuadernos de Sistemática Peirceana* 8. Bogota: Centro de Sistemática Peirceana, 2016, 5–40. ISBN 978-958-48-8839-6
- 2019f. (with D. Gabbay, L. Magnani & W. Park, eds.), *Natural Arguments: A Tribute to John Woods on the Occasion of his 80th Birthday*, with introduction. London: College Publications.
- 2019e. (with D. Chiffi) The Extended Gabbay–Woods Schema and Scientific Practices. In *Natural Arguments: A Tribute to John Woods on the Occasion of his 80th Birthday*, with introduction. London: College Publications, 331–348.
- 2019d. (with D. Gabbay, L. Magnani & W. Park, eds.), Preface and Editorial Remarks. In *Natural Arguments: A Tribute to John Woods on the Occasion of his 80th Birthday*, with introduction. London: College Publications, 1–31.
- 2019c. (Guest editor) Special Issue on Jaakko Hintikka, *Logica Universalis* **13**(2).

- 2019b. (with D. Chiffi, M. Carrara & C. De Florio) We Don't Know We Don't Know: Asserting Ignorance. *Synthese*. In press. (Accepted 6/2019, appeared in print 2021) <https://doi.org/10.1007/s11229-019-02300-y> [Equal contribution, alphabetical order of authors followed]
- 2019a. (with D. Chiffi) Risk and Values in Science: A Peircean View. *Axiomathes*, **29**(4), 329–346. <https://doi.org/10.1007/s10516-019-09419-0> [Equal contribution, alphabetical order of authors followed]
- 2018l. (with J. Issajeva) The Heterogeneous and Dynamic Nature of Mental Images: An Empirical Study. *Belgrade Philosophical Annual*. Trends in Philosophy of Cognitive Science **31**, 57–84. [Equal contribution, alphabetical order of authors followed]
- 2018k. (with Ma, M.) A Graphical Deep Inference System for Intuitionistic Logic, *Logique & Analyse* **245**, 73–114. <https://doi.org/10.2143/LEA.245.0.3285706> [Equal contribution, alphabetical order of authors followed]
- A graphical approach to intuitionistic propositional logic is presented. The system GrIn is a deep inference system and it is formulated in terms of Peirce's existential graphs. GrIn is shown to be sound and complete with respect to the class of all Heyting algebras. Moreover, the system GrIn is shown to be equivalent to the Gentzen sequent calculus G3ip via translations between intuitionistic graphs and intuitionistic formulas. We also discuss the intuitionistic interpretation of logical constants proposed by this graphical approach.
- 2018j. (with D. Chiffi & A. Grecucci) Meaning and Affect in Placebo Effect. *Journal of Medicine & Philosophy* **46**(3), 313–329. [10.1093/jmp/jhab002](https://doi.org/10.1093/jmp/jhab002) (Accepted in 8/2018, appeared in print 2021). [Equal contribution, alphabetical order of authors followed]
- This paper presents and defends an integrated view of the placebo effect, termed “affective-meaning-making” model that draws from theoretical reflection, clinical outcomes and neurophysiological findings. We consider the theoretical limitations of those proposals associated with the meaning view on the placebo effect. [...] We point out that a promising way to overcome these limitations is given by grounding the placebo effect on Peirce's theory of meaning, in which the role of the meaning constitution and change is placed in logical and objective structures. We show the connection between our theoretical proposal and the appraisal theory, and integrate it with emotion regulation.
- 2018i. Hintikka Memorial Issue: Introduction and Remarks on Jaakko Hintikka's Logical Philosophy. *Logica Universalis* **13**, 137–145. <https://doi.org/10.1007/s11>
- 2018h. (with M. Champagne) Why Images Cannot be Arguments, But Moving Ones Might. *Argumentation* **34**, 207–236. (Accepted 2018, appeared in print 2020) <https://doi.org/10.1007/s10503-019-09484-0> [Equal contribution, alphabetical order of authors followed]

2018g. Conjectures and Abductive Reasoning in Games. *Journal of Applied Logics—IfCoLog Journal of Logics and Its Applications* **5**(5), 1121–1144.

There is abduction in games. Players deliberating about possible future histories take those positions, which according to the standard common knowledge and belief of rationality will never actually be reached, as the surprising facts that need accommodation. . . . Players are prompted to reason to an antedating action under which such positions would be rendered comprehensible, less surprising, or facile and natural. In games, reasoning abductively means to imaginatively look for where perturbations, such as trembles or quantal responses, could take place. Its conclusion is a conjecture about such perturbations.

2018f. To Peirce Hintikka’s Thoughts. *Logica Universalis* **13**, 241–262. <https://doi.org/10.1007/s10992-018-9450-0>

This paper compares Peirce’s and Hintikka’s logical philosophies and identifies a cross-section of similarities in their thoughts in the areas of action-first epistemology, pragmatic meaning, philosophy of science, and philosophy of logic and mathematics.

2018e. (with Ma, M.) Peirce’s Calculi for Classical Propositional Logic, *The Review of Symbolic Logic* **13**(3), 509–540. (Submitted in 8/2016, first reviewed in 10/2017 and in 3/2018; accepted 8/2018, appeared in print 2020) <https://doi.org/10.1017/S1755020318000187> [Equal contribution, alphabetical order of authors followed]

This paper investigates Charles Peirce’s development of logical calculi for classical propositional logic in 1880–1896. Peirce’s 1880 work on the algebra of logic resulted in a successful calculus for Boolean algebra. This calculus, denoted by **PC**, is here presented as a sequent calculus and not as a natural deduction system. It is shown that Peirce’s aim was to present **PC** as a sequent calculus. The law of distributivity, which Peirce states in 1880, is proved using Peirce’s Rule, which is a residuation, Residuation in **PC**. The transitional systems of the algebra of the copula that Peirce develops since 1880 paved the way to the 1896 graphical system of the alpha graphs. It is shown how the rules of the alpha system reinterpret Boolean algebras, answering Peirce’s statement that logical graphs supply a new system of fundamental assumptions to logical algebra. A proof-theoretic analysis is given for the connection between **PC** and the alpha system.

2018d. (with D. Chiffi) Assertive and Existential Graphs: A Comparison, In: Chapman P., Stapleton G., Moktefi A., Perez-Kriz S., Bellucci F. (eds.) *Diagrammatic Representation and Inference. Diagrams 2018. Lecture Notes in Computer Science* 10871. Springer. [https://doi.org/10.1007/978-3-319-91376-0\\_10](https://doi.org/10.1007/978-3-319-91376-0_10) [Equal contribution, alphabetical order of authors followed]

We present and compare fundamental notational, syntactic and logical features of three new systems of graphical logic: intuitionistic Assertive Graphs (AGs), intuitionistic EGs, and classical AGs. We show that one can have a classical graphical logic corresponding to EGs without having polarities.

2018c. (with Ma, M.) A Weakening of Alpha Graphs: Quasi-Boolean Algebras. In: Chapman P., Stapleton G., Moktefi A., Perez-Kriz S., Bellucci F. (eds.) *Diagrammatic Representation and Inference. Diagrams 2018. Lecture Notes in Computer Science* 10871. Cham: Springer.

[https://doi.org/10.1007/978-3-319-91376-6\\_50](https://doi.org/10.1007/978-3-319-91376-6_50) [Equal contribution, alphabetical order of authors followed]

Graphical logics can also be made weaker than what the Alpha part of Existential Graphs (EGs) are by generalizing algebras from the Boolean to other algebras. This paper shows how a weaker logic of alpha graphs arises from quasi-Boolean algebras. In these generalizations, fundamental notions of EGs such as the Sheet of Assertion and the oval (the cut) acquire important novel interpretations.

2018b. How to Justify Deductive Reasoning: Peirce's Solution. *British Journal for the History of Philosophy*. (Accepted 8/2018).

Peirce's argument for the justification of deductive reasoning is given in its final form in his unpublished 1903 Lowell Lectures. The argument has two parts: the ineliminability of leading principles, and the presence of non-deductive components in deduction. We expose this argument and analyse it in the light of Peirce's theory of three kinds of reasoning, their respective justifications, and the character of leading principles as habits of reasoning. We observe that the element of observation involved in deduction brings in theoretic steps, and identify abductive moments in the derivation of the rules of deductive reasoning. This shows the presence of elements of observation in Peirce's leading principle of inference, which is residuation.

2018a. (with D. Chiffi) Abductive Inference within a Pragmatic Framework. *Synthese* 197, 2507–2523. (Accepted 2018, appeared in print 2020). <https://doi.org/10.1007/s11229-018-1824-6> [Equal contribution, alphabetical order of authors followed]

This paper presents an enrichment of the Gabbay–Woods schema of Peirce's 1903 logical form of abduction with illocutionary acts, which draws from logic for pragmatics and its resources to model justified assertions. It analyses the elements of this enriched schema of abductive reasoning and puts it into the perspective of Peirce's logic and philosophy.

2017l. Semeiotic Completeness in the Theory of Signs. *Semiotica: Journal of the International Association for Semiotic Studies / Revue de l'Association Internationale de Sémiotique* 228, 237–257. <https://doi.org/10.1515/sem-2017-0007>

Peirce's aspired for the completeness of his logic cum the theory of signs, as is found in his 1903 Lowell Lectures and other manuscripts. His semeiotic completeness states that everything that is a consequence in logical critic is derivable in speculative grammar. The present paper exposes why Peirce would fall short of establishing semeiotic completeness and thus not achieve a perfect match between his theories of grammar and critic. Some alternative notions are then proposed.

2017k. (with F. Bellucci) From Mitchell to Carus: 14 Years of Logical Graphs in the Making. *Transactions of the Charles S. Peirce Society* 52(4), 539–575. [10.2979/trancharpeirsoc.52.4.02](https://doi.org/10.2979/trancharpeirsoc.52.4.02). [Equal contribution, alphabetical order of authors followed]

We analyze in detail the steps that took Peirce from his early 1882 proposals to represent logic by graphs to the advent of the full theory of quantification in his 1896 logic of Existential Graphs.

- 2017j. (with Ma, M.) Let Us Investigate! Dynamic Conjecture-Making as the Formal Logic of Abduction, *Journal of Philosophical Logic* **47**(6), 913–945. <https://doi.org/10.1007/s10992-017-9454-x> [Equal contribution, alphabetical order of authors followed]

We present a dynamic approach to Peirce’s original construal of abductive logic as a logic of conjecture making, and provide a new decidable, contraction-free and cut-free proof system for the dynamic logic of abductive inferences with neighbourhood semantics. Our formulation of the dynamic logic of abduction follows the philosophical and scientific track that led Peirce to his late, post-1903 characterization of abductive conclusions as “investigands”, namely invitations to investigate propositions conjectured at the level of pre-beliefs.

- 2017i. (with D. Chiffi) Clinical Equipose and Moral Leeway: An Epistemological Stance. *Topoi* **38**, 447–456. (Accepted 2017, appeared in print 2019) [10.1007/s11245-017-9529-x](https://doi.org/10.1007/s11245-017-9529-x) [Equal contribution, alphabetical order of authors followed]

Clinical equipose (CE) has been proposed as an ethical principle relating uncertainty and moral leeway in clinical research. Although CE has traditionally been indicated as a necessary condition for a morally justified introduction of a new RCT, questions related to the interpretation of this principle remain woefully open. Recent proposals to rehabilitate CE have divided the bioethical community on its ethical merits. A new argument is presented here to illustrate epistemological difficulties in justifying CE as a principle to connect uncertainty and moral leeway in clinical research ethics. This argument is based on the methodology of hypothetical retrospection (HR), uncertainty transduction (UT), and a criticism of implicitly assuming the principle of indifference that can distort received interpretations of CE.

- 2017h. (with F. Bellucci & D. Chiffi) Assertive Graphs. *Journal of Applied Non-Classical Logic* **28**(1), 72–91. [10.1080/11663081.2017.1418101](https://doi.org/10.1080/11663081.2017.1418101) [Equal contribution, alphabetical order of authors followed]

We present a new graphical method of logic that can be used to reason about assertions in a way similar to Peirce’s original method. We propose a new system of Assertive Graphs (AGs), which unlike the tradition that follows Frege involves no *ad hoc* sign of assertion. We show that axioms of intuitionistic logic can be derived from AGs, and argue that AGs analyse and represent assertions and illocutionary content in a way which is motivated both by its logical properties and its historical connection with the ideas that led to the development of the graphical method.

- 2017g. (with D. Chiffi) Fundamental Uncertainty and Values. *Philosophia* **45**(3), 1027–1037. <https://link.springer.com/article/10.1007/s11406-017-9865-5>. [Equal contribution, alphabetical order of authors followed]

We show that while uncertainty transduction appears intuitive in decision contexts it nevertheless fails in important ranges of strategic game-theoretic cases. The methodological reasons behind the failure are examined.

- 2017f. (with Bellucci, F. & A. Moktefi), *Simplex sigillum veri: Peano, Frege, and Peirce on the Primitives of Logic*. *History and Philosophy of Logic*

**39**(1), 80–95, <http://dx.doi.org/10.1080/01445340.2017.1358414>.  
[Equal contribution, alphabetical order of authors followed]

We propose a reconstruction of the constellation of problems and philosophical positions on the nature and number of the primitives of logic in four authors of the nineteenth century logical scene: Peano, Padoa, Frege and Peirce. We argue that the proposed reconstruction forces us to recognize that it is in at least four different senses that a notation can be said to be simpler than another, and we trace the origins of these four senses in the writings of these authors. We conclude that Frege, and even more so Peirce, developed new notations not to make drawing logical conclusions easier but in order to answer the needs of logical analysis.

2017e. (with F. Bellucci) Assertion and Denial: A Contribution from Logical Notations. *Journal of Applied Logics* 25, pp. S3–24. <http://dx.doi.org/10.1016/j.jal.2017.08.001>.  
[Equal contribution, alphabetical order of authors followed]

We show that while Frege’s notation has an *ad hoc* sign of assertion and an *ad hoc* sign of negation, Peirce has a sign of assertion which is also a sign of logical conjunction, and a sign of scope which is also a sign of negation.

2017d. (with Ma, M.) Gamma Graph Calculi for Modal Logics. *Synthese* 195, 3621. <https://doi.org/10.1007/s11229-017-1390-3>. [Equal contribution, alphabetical order of authors followed]

We describe Peirce’s 1903 system of modal gamma graphs, its transformation rules of inference, and the interpretation of the broken-cut modal operator. We show that Peirce proposed the normality rule in his gamma system. We then show how various normal modal logics arise from Peirce’s assumptions concerning the broken-cut notation. By developing an algebraic semantics we establish the completeness of fifteen modal logics of gamma graphs. We show that, besides logical necessity and possibility, Peirce proposed an epistemic interpretation of the broken-cut modality, and that he was led to analyze constructions of knowledge in the style of epistemic logic.

2017c. (with Ma, M.) Graphical Sequent Calculi for Modal Logics. The 9th Workshop on Methods for Modalities, *Electronic Proceedings in Theoretical Computer Science* (EPTCS) **243**, 91–103. [10.4204/EPTCS.243.7](https://doi.org/10.4204/EPTCS.243.7)  
[Equal contribution, alphabetical order of authors followed]

This paper develops graphical calculi for normal modal logics based on a reformulation of the graphical calculus for classical propositional logic. These graphical calculi are of the nature of deep inference.

2017b. (with Ma, M.). Peirce’s Sequent Proofs of Distributivity. *Logic and Its Applications: 7th Indian Conference, Lecture Notes in Computer Science* **10119**, Springer, 168–182. [Equal contribution, alphabetical order of authors followed]

The leading principle (Peirce’s Rule) of Peirce’s calculus **PC** is that of residuation. Thus the law of distributivity, which Peirce states but does not prove in 1880, can be proved using the rule in **PC**. We also give a shorter proof in his 1896 alpha system and remark on the main historical findings, including the fact that Peirce’s preferred method was to present his **PC** as a sequent calculus.

- 2017a. (with Ma, M.) Proof Analysis of Peirce’s Alpha System of Graphs. *Studia Logica* **105**(3), 625–647. 10.1007/s11225-016-9703-y [Equal contribution, alphabetical order of authors followed]

The theory of the Alpha part of Existential Graphs is shown to be a real deep inference system with its deep graphical structure and perfectly symmetrical system of rules of transformation.

- 2016f. (with Ma, M.) A Dynamic Approach to an Interrogative Construal of Abductive Logic. *IfCoLog Journal of Logics and their Applications*, **3**(1), 73–104. [Equal contribution, alphabetical order of authors followed]

A new dynamic logic of conjecture-making is proposed to answer the puzzle of what the logical schema of abduction is, based on interrogative/investigative mood of abductive reasoning.

- 2016e. Extensions of Euler Diagrams in Peirce’s Four Manuscripts on Logical Graphs. In Jamnik, M. et al. (eds.), *Lecture Notes in Artificial Intelligence* **9781**, 139–154.

This paper presents some of the most important and previously unpublished writings by Peirce on Euler diagrams including variants written on a sphere (Ms 479), their novel extensions for negative terms (Ms 481, 1896-7, Ms 1147, 1901), and existentials and shading (Ms 855), among others. We restore Peirce’s original drawings explain the main innovations. As Euler diagrams were not designed to reason about relative terms, Peirce’s interest was not in their mathematical application or problem solving but in showing what the basic elements of syllogistic reasoning are. (These diagrams are not to be contained in my *Logic of the Future* edition.)

- 2016d. (with A. Moktefi) Negative Terms in Euler Diagrams: Peirce’s Solution. In Jamnik, M. et al. (eds.), *Lecture Notes in Artificial Intelligence* **9781**, 286–288. [Equal contribution, alphabetical order of authors followed]

We explain what Peirce’s novel and previously unpublished convex–concave Euler diagrams means by negative terms.

- 2016c. (with F. Bellucci) Charles Sanders Peirce: Logic. *The Internet Encyclopedia of Philosophy*. <http://www.iep.utm.edu/> ISSN 2161-0002. [Equal contribution, alphabetical order of authors followed]

- 2016b. (with F. Bellucci) Existential Graphs as an Instrument of Logical Analysis. Part 1: Alpha. *The Review of Symbolic Logic*, **9**(2), 209–237. 10.1017/S1755020315000362 ISSN 1755-0203. [Equal contribution, alphabetical order of authors followed]

Existential Graphs carry the logical analysis of reasoning the furthest point possible. We investigate the analytic virtues of the Alpha part. We examine proposal that illation is the primitive relation defend the view that this idea constitutes the fundamental motive of philosophy of notation both in algebraical and graphical logic. We explain how Peirce arrived at logical constants that represent both scope and

truth function in his algebras and graphs. We show that Shin's (2002) argument for multiple readings of Alpha graphs is circular.

2016a. 'On the Possibilities of Philosophical Research': Remembering Jaakko Hintikka (1929–2015). *Acta Baltica Historiae et Philosophiae Scientiarum*, **4**(1), 132–155. ISSN 2228-2009

2015g. (with F. Bellucci). H. Paul Grice's Manuscript on 'Peirce's General Theory of Signs'. *International Review of Pragmatics* **7**, 128–175.

We provide the transcription, with introduction, of a significant unpublished manuscript by Grice on Peirce's Theory of Signs, deposited in the H. Paul Grice Papers, The Bancroft Library, University of California, Berkeley.

2015f. Signs Systematically Studied: Invitation to Peirce's Theory. *Sign Systems Studies* **43**(4), 372–398.

2015e. Recent Studies on Signs: Commentary and Perspectives. *Sign Systems Studies* **43**(4), 616–650.

2015d. (with A. Moktefi) On the Diagrammatic Representation of Existential Statements with Venn Diagrams. *Journal of Logic, Language, and Information* **24**(4), 361–374. 10.1007/s10849-015-9228-1

2015c. Peirce and Diagrams: Peirce and Husserl in Professor Stjernfelt's Diagrammatology. *Synthese* **192**, 1073–1088. 10.1007/s11229-015-0658-8

This paper is part of a continuing discussion on the contributions Peirce's diagrammatic epistemology and logic have to a broad range of issues at the intersections of history of philosophy, logic and cognitive sciences.

2015b. The Science to Save Us from Philosophy of Science. *Axiomathes* **25**, 149–166. 10.1007/s10516-014-9261-8

I defend the view that science is not primarily concerned with knowledge and that its method of arriving at proposing hypotheses does not commit us to have stable beliefs about them. Instead, what drives discovery is ignorance that scientists can cleverly exploit, brought to the fore by retroductive inferences. Recent discoveries in sciences that cope with under-structured problem spaces testify its prevalence, and puts paid to epistemic justification of retroduction. I argue that catering well for the right conditions in which to cultivate such ignorance is a key to how uberous retroductive inferences can arise.

2015a. Exploring the Beta Quadrant. *Synthese* **192**, 941–970. 10.1007/s11229-015-0677-5

Existential Graphs is a rich method of analysis in philosophy of logic. Peirce applied its Beta part to the analysis of natural-language expressions, quantificational patterns describing mathematical concepts, and modeling cognitive information processing. We show that in the Beta quadrant, Peirce came close to independence-friendly logic.

2014j. Two Challenges for Fictionalism in Mathematics. *Journal for General Philosophy of Science*, accepted 2014. (Preliminary version published in 2009, *Philosophy, Mathematics, Linguistics: Aspects of Integration*, St. Petersburg: Russian Academy of Sciences, 141–145. ISBN 978-5-9651-0386-7.)

Fictionalism in philosophy of mathematics is seen to face the following objections: mathematical practices, Brouwer’s intuitionism, and the semantics of non-standard meaning. I trace the philosophy of mathematical practices back to scholastic realism and the fallibility of mathematical practices, from which follows the inviability of the metaphysical modalisation of mathematical entities, which lies at the heart of substantive fictionalism. Another challenge is Brouwer’s languageless conception of mathematics. Third, fictionalism and its offshoot of figuralism fail to analyse the semantics of the specific tropes on which they nevertheless rest their arguments.

2014i. On the Conceptual Underpinnings of Organisational Semiotics. *Information Systems Frontiers*, accepted 2014. ISSN 2155-5028.

2014h. Editorial Preface, Special Issue on Peirce’s Logic and Philosophy of Language. *Synthese* **192**, 877–879. ISSN 0039-7857. 10.1007/s11229-014-0656-2

2014g. (with J.-M. Chevalier) The Second Metaphysical Club and Its Impact to the Development of the Sciences in the US, *Commens Working Papers no. 2*, Commens: Digital Companion to C. S. Peirce, ISSN 2342-4532; *Perspectives on Science*, to appear.

This memorandum documents some of the most noteworthy facts concerning the Metaphysical Club meetings, which were predominantly presided over by Charles Peirce, and which took place at Johns Hopkins University from October 1879 until March 1885. The Club held the total of 43 meetings, and 110 presentations, of which 33 were principal papers. These facts, some of which are highlighted in the document that follows, testify that the club had an enormous impact on the development of American sciences and methodology.

2014f. (with F. Bellucci). New Light on Peirce’s Conceptions of Retroduction, Deduction and Scientific Reasoning. *International Studies in the Philosophy of Science* **28**(4), 353–373. 10.1080/02698595.2014.979667

We revise the model of the logic of science and find that deduction is divided not only into two kinds (corollarial and theorematic) but also into two sub-stages: logical analysis and mathematical reasoning, where the latter is either corollarial or theorematic. The upshot is that it is not induction alone that is science’s self-correcting method but the full cycle (abduction-deduction-induction) is.

2014e. Two Papers on Existential Graphs by Charles S. Peirce. *Synthese* **192**, 881–922. 10.1007/s11229-014-0498-y

2014d. *Natural Propositions Naturalized?* *Cognitive Semiotics* **7**(2), 297–303. De Gryuter. 10.1515/cogsem-2014-0015 ISSN 1662-1425.

2014c. Misrepresentation in “Misrepresentation in Context” in Context. *Foundations of Science* **19**(4), 381–386.

2014b. A Scholastic-Realist Modal-Structuralism. *Philosophia Scientiae* **18**(3), 127–138. ISSN 1281-2463.

How are we to understand the talk about properties of structures the existence of which is conditional upon the assumption of the reality of those structures? Mathematics is not about abstract objects, yet unlike fictionalism, modal-structuralism respects the truth of theorems and proofs. But it is nominalistic with respect to possibilities. The problem is that, for fear of reducing possibilities to actualities, the second-order modal logic that claims to axiomatise modal existence has no real semantics. There is no cross-identification of higher-order mathematical entities and thus we cannot know what those entities are. I suggest that a scholastic notion of realism, interspersed with cross-identification of higher-order entities, can deliver the semantics without collapse.

2014a. Logical and Linguistic Games from Peirce to Grice to Hintikka. *Theorema* XXXIII/2, 121–136. ISSN 0210-1602.

Pragmatistic conception of logic is virtually that of Hintikka’s game-theoretic semantics (GTS), including the idea of players “feigned in our make-believe”. Peirce was interested in logic as a theory of normative, conventional, habitual and strategic action. Later Grice erected his theory of conversation on Peircean background. But cooperation is a property of model-building games and an integral part of Peirce’s method. Cooperative model-building resorts to the same theoretical construct as the strictly competitive semantic games do. The two kinds of games, the semantic and the model-construction games, are two sides of the same conceptual coin. General principles governing mathematical practices are related to model-building activities.

2013b. Pragmaticism Revisited: Co-Evolution and the Methodology of Social Sciences. *Cognitio* **14**(1), 123–136.

This paper proposes a new interpretation of Peirce’s theory of pragmaticism, as catering a general methodological approach to a multiplicity of issues arising in contemporary social and behavioural sciences. My interpretation deflects methodological individualism but integrates co-evolution, abduction and triadic forms of emergence. It follows that pragmaticism is the methodologically pluralistic theory while the pragmatism of Peirce’s contemporaries becomes its degenerated, ‘one-world’ offshoot.

2013a. Christine Ladd–Franklin’s and Victoria Welby’s Correspondence with Charles Peirce. *Semiotica* **196**, 139–161. ISSN 0037-1998.

2012. Peirce and the Logic of Image. *Semiotica* **192**, 251–261. ISSN 0037-1998.

Peirce divided hypoicons into images, diagrams and metaphors. For diagrams, he developed a logical theory of graphs: many-dimensional linguistic expressions analysing meaning by virtue of the iconicity of logical form. Images are elementary constituents of qualitative space. I argue that the interpretation of images corresponds to the interpretation of non-logical vocabularies. This raises the question of whether images are also linguistic, in other words whether the simple qualities they partake of are the simple qualities of some propositional content. Peirce favoured a picture theory of

language that takes images to interpret elementary characters of objects that constitute propositions. He did not ascribe images with properties of propositions as that would have rendered them non-hypoiconic.

- 2011b. Existential Graphs: What the Diagrammatic Logic of Cognition Might Look Like? *History and Philosophy of Logic* **32**, 265–281. ISSN 0144-5340. (Translated in Chinese (2014), by Liu, Xinwen, *Philosophical Analysis* **5**(1), 15–35 and in Russian, (2014), by E. Lisanyuk and A. Bobrova, with introduction. Preliminary version published in 2008, *Proceedings of the 7th International Conference on Logic and Cognition*, Guangzhou: Sun Yat-Sen University.)

This paper is a systematic and historical study on the diagrammatic logic of Existential Graphs. It brings out a number of hitherto unknown historical and logical facts concerning both the genesis and the reception of Existential Graphs a century ago.

- 2011a. Moving Pictures of Thought II: Graphs, Games, and Pragmatism’s Proof. *Semiotica* **186**, 315–331. ISSN 0037-1998. (Translated in Portuguese as (2013) “Grafos, Jogos e a Prova do Pragmatismo”, in Lafayette de Moraes & João Queiroz, *A lógica de Diagramas de Charles Sanders Peirce: Implicações em Ciência Cognitiva, Lógica e Semiótica*, Editora UFJF, 83-104.)

Here a reconstruction of Proof of Pragmatism is presented for the first time ever. The argument draws both on unpublished manuscript material and an application of modern game-theoretic semantics and pragmatics to the analysis of the pragmatistic theory of meaning.

- 2010b. An Iconic Logic for Metaphors. *Journal of Cognitive Science*, accepted in 2010. (Preliminary version published in 2008, *Proceedings of the 6th International Conference of Cognitive Science*, Yonsei University: The Korean Society for Cognitive Science, 317–320.)

I sketch a theory of metaphors that takes metaphoric meaning to be a matter of iconic (diagrammatic) forms of logic. As icons in general, metaphors evoke similarity considerations and representations of parallelism in another media. I argue that the existence of metaphors is a strong argument for the fundamentally iconic modes of logic operative in cognition and reasoning. Such modes stand in stark contrast to a number of prevailing theories in philosophy of mind, language and cognition, including language of thought hypothesis, meaning holism, and conceptual metaphor theories.

- 2010a. Peirce’s Pragmatic Theory of Proper Names. *Transactions of the Charles S. Peirce Society* **46**, 341–363. ISSN 0009-1774.

I refute earlier claims in the literature according to which Peirce’s theory of names was an anticipation of new theories of reference. I show in which senses his theory spells out (i) a non-descriptive theory of the denotation of proper names wider than what is provided by causal-historical theories and (ii) a unique non-substitutional theory of quantification.

2009c. Significs and the Origins of Analytic Philosophy. *Journal of the History of Ideas* **70**(3), 467–490. ISSN 0022-5037.

Based on unpublished correspondence and material from the Welby Fonds, I investigate and evaluate the significance and relevance of the Significs Movement to the development of linguistic analysis in early analytic philosophy.

2009b. Sphere Semantics for Aspect, *Studies in Logic* **1**(3), 19–31. ISSN 1674-3202. (Preliminary version published in *Proc. 20th Scandinavian Conference of Linguistics*, Department of General Linguistics, Publications No. 36, University of Helsinki, 2004.  
[http://www.ling.helsinki.fi/kielitiede/20scl/.](http://www.ling.helsinki.fi/kielitiede/20scl/)) 1

I introduce sphere semantics, which derives from Tarski’s geometry of solids, and apply it to aspectual phenomena in natural language. Sphere semantics is particularly suitable for the analysis of the English progressive. The approach has the following virtues: (i) It extends interval-based semantics but omits its pitfalls, (ii) it solves the imperfective puzzle, while (iii) the proposed solution needs no appeal to the strategy of eventual outcomes.

2009a. Esthetic Interpretants: Pragmaticism, Semiotics, and the Meaning of Art. *Chinese Semiotic Studies*, De Gryuter, 223–229. ISSN 2198-9605.

2008c. Diagrammatic Logic of Existential Graphs: A Case Study of Commands. *Lecture Notes in Artificial Intelligence* **5223**, Berlin: Springer-Verlag, 404–407. ISSN 0302-9743.

I suggest an application of diagrammatic logic of commands to the cases where (i) minimal reaction time to commands is of essence, (ii) a full comprehension of the meaning of imperatives (‘search for their objects’) is needed, and (iii) an effective discrimination of commands from other non-declarative moods is critical.

2008b. The Place of Logic in Pragmatism, *Cognitio* **9**(1), 247–260. ISSN 1518-7187.

Contemporary discussion neglects the logical roots of pragmatistic philosophy as a symptom language as a universal medium of expression. My thesis is that the two presuppositions concerning the role of logic in pragmatism—universalism and calculism—delineate pragmatism and pragmaticism. I conclude that the latter, Peirce’s original formulation, is methodologically the more tolerant of the two and hence in fact embraces pluralism over and above pragmatism.

2008a. The Proof of Pragmatism: Comments on Christopher Hookway, *Cognitio* **9**(1), 85–92. ISSN 1518-7187.

Hookway’s paper on the middle proof of pragmatism mentions the logic of existential graphs. I argue that behind Peirce’s restatement of the principle of pragmatism (“The possible is what can become actual”) is the logic of modalities he developed in the Gamma part of his theory of Existential Graphs.

2007. On Historical Pragmatics and Peircean Pragmatism, *Linguistics and the Human Sciences* **2**(1), 123–143. ISSN 1742-2906.

Historical pragmatics constitutes both the subject matter and methodology. This paper relates the scientific methodology of historical pragmatics to the 19th century linguistic philosophy. In particular, (i) Peirce's theory of signs is related to the study of meaning change, and (ii) his opinions on hypothesis selection to historical research to historical pragmatics. My conclusion is that historical pragmatics is hermeneutic, but that economic and evolutionary considerations square it from the hermeneutic circle.

2006d. Interdisciplinarity and Peirce's Classification of the Sciences: A Centennial Reassessment, *Perspectives on Science* **14**(2), 127–152. ISSN 1063-6145.

Three theses are defended: (1) Studies on interdisciplinarity pertain to the intermediate class of Peirce's classification of all science, the sciences of review (retrospective science), ranking below the sciences of discovery (heuristic sciences) and above practical science (the arts). (2) Scientific research methods adopted by interdisciplinary inquiries are cross-categorical. Making them converge to an increasing extent with the sciences of discovery, especially the methodic of normative logic, is one of the future challenges for studies on interdisciplinarity. (3) The overall structure of Peirce's classification, were it to be applied in today's situation, would not, in any major respect, be radically different from what it was designed to reflect a hundred years ago, in spite of the virtually exponential creation and production of new domains and the massive increase in investment in research and scientific publication. Accordingly, charges that the sciences of discovery are becoming ever more fragmented are not new.

2006c. Peirce's Contributions to Possible-Worlds Semantics, *Studia Logica* **82**(3), 345–369. ISSN 0039-3215.

Here it is shown that by 1906, Peirce had contemplated versions of possible-worlds and game-theoretic semantics to interpret his new systems of modal logic, but instead of accessibility relation decided in favour of a continuity interpretation.

2006b. The Evolution of Semantics and Language-Games for Meaning, *Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems* **7**(1), 79–104. ISSN 1572-0381.

2006a. Peirce, Habermas and Strategic Dialogues: From Pragmatism to the Pragmatics of Communication, *LODZ Papers in Pragmatics* **1**(1), 197–222. ISSN 1895-6106.

2005b. Cultivating Habits of Reason: Peirce and the Logica Utens vs. Logica Docens Distinction, *The History of Philosophy Quarterly* **22**(4), 357–372. ISSN 0740-0675.

Contemporary logic and cognitive science have partially revived the old idea of the possibility of theorizing about the nature of the instinctive faculty of logic, the logica utens. This paper sets the agenda and argues that the logic of discovery, abduction and imaginative and iconic thought are parts of the puzzle.

2005a. Compositionality, Relevance and Peirce's Logic of Existential Graphs, *Axiomathes* **15**(1), 513–540. ISSN 1122-1151.

2004c. Peirce’s Diagrammatic Logic in IF Perspective, *Lecture Notes in Artificial Intelligence* **2980**, Berlin: Springer-Verlag, 97–111. ISSN 0302-9743.

2004b. Grice in the Wake of Peirce, *Pragmatics & Cognition* **12**(2), 395–415. ISSN 0929-0907.

This paper argues for the truth of the hypothesis that Grice was guided by the principles of Peirce’s theory in his formulation of the theory of meaning and the logic of conversation. [Postscript 2011: This hypothesis was later confirmed when it was found in the Grice archives that in late 40s at Oxford he had held a lecture course “Peirce’s General Theory of Signs”.]

2004a. Multi-agent Systems and Game Theory—a Peircean Manifesto, *International Journal of General Systems* **33**(4), 394–414. ISSN 0308-1079.

2003e. Logic, Language-Games and Ludics, *Acta Analytica* **18**(30/31), 89–123. ISSN 0353-5150.

2003d. Games as Formal Tools versus Games as Explanations in Logic and Science, *Foundations of Science* **8**(1), 317–364. ISSN 1233-1821.

Games comprise a widely used method in a broad intellectual realm(including, but not limited to, philosophy, logic, mathematics,cognitive science, artificial intelligence, computation, linguistics,physics, economics). Each discipline advocates its own methodology and a unified understanding is lacking. A number of game theories in formal studies are critically surveyed. Games as explanations for logic is assessed, and the relevance of a conceptual analysis of games to cognition discussed. It is suggested that the evolution plays an important part in the game-theoretic concept of meaning.

2003c. What Do Epistemic Logic and Cognitive Science Have To Do with Each Other? *Cognitive Systems Research*, **4**(22), 169–190. ISSN 1389-0417.

A number of possibilities arise from the question: (i) new quantified versions of multi-agent epistemic logic capture locutions involving object identification, giving rise to applications in representing knowledge in multi-agent systems and parallel processing. (ii) The framework of game-theoretic semantics for the ensuing logics enjoys increased cognitive plausibility as the true semantics for epistemic notions. (iii) Recent findings in cognitive neuroscience pertaining to awareness and explicit versus implicit processing contribute to logical studies. These three connections are explored from both logical and cognitive perspectives. Neuroscientific research suggests new epistemic logics that handle unconscious and unaware information processing in the brain, making formalism thus amenable to knowledge representation in complex multi-agent configurations.

2003b. A Note on the Structural Notion of Information in Extensive Games, *Quality & Quantity* **37**(1), 91–98. ISSN 0033-5177.

2003a. Peirce’s Game-Theoretic Ideas in Logic, *Semiotica* **144**(14), 33–47. ISSN 0037-1998.

- 2002d. Propositional Logic of Imperfect Information: Foundations and Applications, *Notre Dame Journal of Formal Logic* **42**(4), 193–210. ISSN 0029-4527 (Copyright 2003).
- 2002c. Quantum Logic and Quantum Theory in a Game-Theoretic Perspective, *Open Systems & Information Dynamics* **9**(3), 273–290. ISSN 1230-1612.  
 “The first to explicitly raise the possibility of some fundamental connections between extensive form games of imperfect information, quantum logic and quantum mechanics”. “[Pietarinen] is the first to have studied the similarities between the logic of games of imperfect information and quantum theory ... There does not seem to be any evidence that von Neumann noticed a formal connection between these two kinds of ‘indeterminism’ ” (Y. Pelosse 2015, The Intrinsic Quantum Nature of Nash Equilibrium Mixtures, *Journal of Philosophical Logic*).
- 2002b. Knowledge Constructions for Artificial Intelligence, *Lecture Notes in Artificial Intelligence* **2366**, Springer, 303–311. ISSN 0302-9743.
- 2002a. Games and Logics of Knowledge for Multi-Agent Systems, *Lecture Notes in Artificial Intelligence* **2313**, Springer, 214–223. ISSN 0302-9743.
- 2001d. What is a Negative Polarity Item?, *Linguistic Analysis* **31**(3–4), 165–200 (Copyright 2003). ISSN 0098-9053.
- 2001c. Intentional Identity Revisited, *Nordic Journal of Philosophical Logic* **6**(2), 144–188. ISSN 0806-6205. (Discontinued)
- 2001b. Most Even Budgeted Yet: Some Cases for Game-Theoretic Semantics in Natural Language, *Theoretical Linguistics* **27**(1), 20–54. ISSN 0301-4428.
- 2001a. (with G. Sandu) Partiality and Games: Propositional Logic, *Logic Journal of the Interest Group in Pure and Applied Logic (IGPL)* **9**(1), 107–127. ISSN 1367-0751.
- 2000b. Logic and Coherence in the Light of Competitive Games, *Logique et Analyse* **43**(171-172), 371–391. ISSN 0024-5836.
- 2000a. (with G. Sandu) Games in Philosophical Logic, *Nordic Journal of Philosophical Logic* **4**(2), 143–173. ISSN 0806-6205. (Discontinued)

**Articles in International Scientific Compilations and Scientific Conference Proceedings with a Peer-Review Practice**

- 2017c. (with J.-V. Gustafsson) Is Ethical Normativity Similar to Logical Normativity?, in West, D. and Anderson, M. (eds.), *Habit: Before and Beyond Consciousness*, Studies in Applied Philosophy, Epistemology and Rational Ethics (SAPERE 31), Dordrecht: Springer, 123–142. ISBN-13: 978-3319459189 2 [Equal contribution, alphabetical order of authors followed]

We examine ethics-related aspects of Hintikka’s analogy that have previously gone unnoticed. They are: (1) the possibility of introducing and applying a novel distinction to ethics to distinguish two fundamentally different kinds of ethical rules, the definitory and the strategic rules; (2) the use of these rules to illustrate a fundamental shortcoming in the modern conception of normative ethics; (3) the possibility to separate two conceptions of ethics from each other based on the type of rules that they aim to formulate; (4) the radically different yet unexplored idea of treating ethical rules as strategic rules; and (5) taking Peirce’s habits as strategic rules of interaction at work in both ethical and logical conduct.

- 2017b. (with F. Bellucci) Habits of Reasoning. On the Grammar and Critics of Logical Habits, in West, D. and Anderson, M. (eds.), *Habit: Before and Beyond Consciousness*, Studies in Applied Philosophy, Epistemology and Rational Ethics (SAPERE 31), Dordrecht: Springer, 265–282. ISBN-13: 978-3319459189 2 [Equal contribution, alphabetical order of authors followed]

We explain the grammar and the critics of the habits of reasoning in Peirce’s 1903 Lowell Lectures and the Syllabus. We can derive a soundness result concerning his logic as semeiotic: an argument is valid if for any object that the premises represent, the conclusion represents it as well, which in semeiotic terms translates to a sign being a valid argument if for any object that the sign represents, the interpretant sign represents it as well. The perfect adherence of the grammar to the critics is evidenced by the un-eliminability of leading principles. Just as a logical leading principle is an un-eliminable element of reasoning, because any attempt to use it as a premise engenders an infinite regress, so a logical representative interpretant is a habit that cannot be rendered a sign. The logical representative interpretant is a principle not itself a premise, a rule not itself subject to rules, a habit not itself a sign.

- 2017a. (with F. Bellucci) Two Dogmas of Diagrammatic Reasoning: A View from Existential Graphs, in K. Hull & R. K. Atkins (eds.), *Peirce on Perception and Reasoning: From Icons to Logic*, Routledge, 174–195. ISBN 978-1138215016. 2 [Equal contribution, alphabetical order of authors followed]

Two dominant ideas have prevailed in the recent research on diagrammatic reasoning and representation. That diagrams, especially logical diagrams, are visual in senses in which symbolic notations are not, and that logical diagrams are iconic in senses in which symbolic notations are not. We submit both of these claims under critical scrutiny. We use Peirce’s theory of Existential Graphs, the mainstay of diagrammatic reasoning in both its historical and systematical senses, as the testing ground. We show that neither of these claims is well founded.

- 2016d. Answers to Philosophy of Logic: 5 Questions, in Lupher, T. & Adajian, T. (eds.), *Philosophy of Logic: 5 Questions*, Automatic Press/VIP, 139–152 (submitted in 2013). ISBN 978-87-92130-56-3
- 2016c. What Your Computer Still Cannot Know: A Refutation of Bringsjord’s Refutation of Searle’s Refutation of Bostrom and Floridi. In J. Seibt, M. Nørskov, & S. Schack Andersen (eds.), *What Social Robots Can and Should Do*, 280–292. Amsterdam: IOS Press.
- 2016b. (with F. Bellucci) The Iconic Moment: Towards a Theory of Diagrammatic Imagination, in J. Redmond et al. (eds.), *Epistemology, Knowledge and the Impact of Interaction*, Dordrecht: Springer, 463–481. [2](#) [Equal contribution, alphabetical order of authors followed]  
 We propose that imagination is a vital part of abduction and scientific discovery in senses not predominantly visual but based on a special diagrammatic imagery of icons.
- 2016a. Is there a General Diagram Concept?, in Krämer, S. and C. Ljungberg (eds.), *Thinking in Diagrams: The Semiotic Basis of Human Cognition*, Berlin: Mouton de Gruyter, 121–138. [2](#)
- 2014g. Answers to 10 Questions on Philosophy of Signs, Special Issue of the Peirce Centennial, *Signs & Media* **9**, Chengdu: Chinese Semiotics Association.
- 2014f. A Road to the Philosophy of Iconic Communication, in A. Benedek & K. Nyíri (eds.), *Visual Learning 4: Emotion, Expression, Explanation*, Frankfurt/M.: Peter Lang Verlag. [1](#)
- 2014e. Answers to Peirce: 5 Questions, in Pietarinen, A.-V. & Stjernfelt, F. (eds.), *Peirce: 5 Questions*, Automatic Press/VIP, 207–223. ISBN 978-87-92130-52-5
- 2014d. Diagrams or Rubbish, in T. Thellefsen & B. Sorensen (eds.), *Peirce in His Own Words*, De Gruyter, 115–120. [2](#)
- 2014c. Guessing at the Unknown Unknowns, in Nakajima, T. & Baba, T. (eds.), *Contemporary Philosophy in the Age of Globalization: Hawai’i Conference, Vol. 3*, Tokyo: Institute for Advanced Study on Asia, 87–100. ISSN 2188-1367
- 2014b. (with Moktefi, A. & Bellucci, F.) Diagrammatic Autarchy: Linear Diagrams in the 17th and 18th Century, in Burton, J. & Choudhury, L. (eds.), *Diagrams, Logic and Cognition: Proceedings of the First International Workshop on Diagrams, Logic and Cognition*, CEUR Workshop Proceedings **1132**, 31–35. [1](#)

2014a. (with Bellucci, F. & Moktefi, A.) Continuity, Connectivity and Regularity in Spatial Diagrams for N Terms, in Burton, J. & Choudhury, L. (eds.), *Diagrams, Logic and Cognition: Proceedings of the First International Workshop on Diagrams, Logic and Cognition*, CEUR Workshop Proceedings **1132**, 23–30. [1](#)

2012c. The Ups and Downs of Analytic Philosophy, *The Yearbook of the Chinese Association of Analytic Philosophy*. (Preliminary version published in the *Proceedings of the Sixth National Conference on Analytic Philosophy in China*, Taiyuan: Shanxi University Press, 17–26, 2010.)

Has analytic philosophy accomplished what it was set out to do in the late 19th and early 20th century? I address the question from three points of view: (i) That the terms ‘analytic’ and ‘continental’ have become misnomers; (ii) that analytic philosophy has transmogrified into exegetic forms of ‘rational reconstruction’ driven by ‘intuitions’; (iii) that analytic philosophy is and has been ‘narrow’ in both the positive and negative senses of the term.

2012b. Peirce and Deacon on the Meaning and Evolution of Language, in F. Stjernfelt & T. Schilhab (eds.), *New Perspectives on the Symbolic Species*, Dordrecht: Springer, 65–80. ISBN 978-94-007-2336-8. [2](#)

2012a. Why is the Normativity of Logic Based on Rules?, in C. De Waal & K. P. Skowronski (eds.), *The Normative Thought of Charles S. Peirce*, Fordham: Fordham University Press, 172–184. ISBN 978-0-8232-4244-3. [1](#)

Peirce took logic to be a normative science. What does this mean? Rules govern self-controlled action, all communication is in signs, logical thought and habits are self-controlled, and logic is semeiotic. Self-controlled agents have normative ideals in the mind as they converse upon the meaning of intellectual signs and purports. Habits are many-world entities that link situations to actions, and the rules of meaning-constitutive practices and activities provide the logical and strategic structure for habits. I argue that normativity not grounded in rules governing meaning-constitutive practices is inconsistent. The argument lies in the core of the proof of pragmatism and manifests a model-theoretic view of logic.

2011c. Remarks on the Peirce-Schiller Correspondence, in E. H. Oleksy & W. Oleksy (eds.), *Transatlantic Encounters: Philosophy, Media, Politics*, Frankfurt am Main: Peter Lang, 61–70. ISSN 1610-6814, ISBN 978-3-631-61728-1. [1](#)

The correspondence reveals, among others, that Peirce and Schiller, quite surprisingly, shared a common enemy in the emerging ‘Russellisation’ of logic that is hyperformal, non-interpreted in its language, non-anthropological in its epistemology, and suggesting an empiricist dogma of distinguishing logical from extra-logical things. At the end, however, Schiller is an actualist pluralist while Peirce a many-worlds philosopher about the reality of modalities and a pluralist about methodology.

2011b. A Hedgehog Who Thought He Was a Fox: Dewey betwixt the One and Many-World Philosophies, in L. A. Hickman, M. C. Flamm, K. P.

Skowronski & J. A. Rea (eds.), *The Continuing Relevance of John Dewey: Reflections on Aesthetics, Morality, Science, and Society*, Amsterdam: Rodopi, 225–241. ISBN 978-90-420-3232-3. [2](#)

I argue for a new interpretation of John Dewey’s logic and metaphysics that sees his thinking pulling into two opposing directions: His sound appreciation of meta-systematic perspective to scientific inquiry failed to reconcile with his ‘one-world’ presupposition about the theory of meaning. Ultimately, then, Dewey missed the promising opportunity of evaluating problematic situations with respect to unactualized possibilities.

2011a. Principles and Practices of Neurath’s Picture Language, in O. Pombo, S. Rahman & J.M. Torres (ed.). *Otto Neurath and the Unity of Science* (Logic, Epistemology, and the Unity of Science 18), Dordrecht: Springer, 71–82. ISBN 978-94-007-0142-7. [2](#)

Neurath’s vision for new graphical communication through ISOTYPE is extremely interesting from the point of view of modern philosophy of language. This paper brings to the fore the key presuppositions of his picture language for the first time. I argue for the surprising conclusion that Neurath was in fact a calculist about meaning. Therefore, his vision for new ‘multimodal’ modes of communication suggests that the Unity of Science Programme might have surpassed the logical empiricists’ attempts— if only it had been continued towards the logic of images, which Neurath did not do.

2010f. How to Analyse Rigid Designation? World Lines and Imperfect Information, in Arrazola, Xabier and María Ponte (eds.), *Proceedings of the Second ILCLI International Workshop on Logic and Philosophy of Knowledge, Communication and Action*, San Sebastian: University of the Basque Country Press, 351–369. ISBN 978-84-9860-443-6.

Informationally independent extensions of first-order epistemic logics (Pietarinen 2002a, 2002b, 2003) throw new light on the philosophical question of the identity of the objects of our knowledge. This paper defines a match between quantifier independence on epistemic modalities and imperfect information in the associated semantic games. A uniform domains assumption for the new logics is singled out. It is then pointed out how ‘logical pragmatics’ emerges: what is transcendental with respect to quantification are the ways in which trans-world identities are given. Trans-world identities, in turn, are results of player-level knowledge. Consequently, rigid designation is not a primitive notion of how objects behave in modal contexts but a degenerate form of world-line identities, themselves constitutive of objects of agent’s specific knowledge.

2010e. The Question–Answer Structures in Cognition, *Proceedings of the 10th World Congress in Semiotics*, La Coruña, Spain, in press.

2010d. Challenges for Existential Graphs, in M. Bergman et al. (eds.), *Ideas in Action: Proceedings of the Applying Peirce Conference*, Nordic Studies in Pragmatism 1. Helsinki: Nordic Pragmatism Network, 288–303, ISSN-L 1799-3954.

2010c. Is Non-Visual Diagrammatic Logic Possible? In A. Gerner (ed.), *Diagrammatology and Diagram Praxis*, King's College: College Publications, pp. 73–85. ISBN 978-1-84890-007-3. [1](#)

I propose a new kind of logic that has no visual and no written appearance: no symbols, no marks, no language. How is that conceivable? The answer builds upon a wide understanding of diagrammatic logic. Peirce's category of diagrams was not confined to visual forms of representation. My case study here concerns developing a propositional part of diagrammatic logic based—instead of spatial signs of graphs—on auditory signs of sounds.

2010b. Which Philosophy of Mathematics is Pragmatism? M. Moore (ed.), *New Essays on Peirce's Mathematical Philosophy*, Chicago, IL: Open Court, 59–79. ISBN 978-0-8126-9681-3. [1](#)

Pragmatism was Peirce's original philosophy of mathematics which significantly differs from all the 20th century foundational approaches, including platonism, the axiomatic method, logicism, intuitionism, structuralism and quasi-empiricism. I demonstrate the key differences and identify pragmatism as a anti-foundationalist philosophy of diagrammatic mathematical practices.

2010a. Why Pragmatism is Neither Structuralism nor Fictionalism, in Myunghyung Lee (ed.), *Proceedings of the XXII World Congress of Philosophy*, Seoul: Korean Philosophical Association. ISBN 13 978-1-889680-83-5.

2009b. Two Challenges for Fictionalism in Mathematics, *Philosophy, Mathematics, Linguistics: Aspects of Integration*, St. Petersburg: Russian Academy of Sciences, 141–145. ISBN 978-5-9651-0386-7.

2009a. Pragmatism as an Anti-Foundationalist Philosophy of Mathematics, B. Van Kerkhove, R. Desmet & J.P. Van Bendegem (eds), *Philosophical Perspectives on Mathematical Practices*, London: College Publications, 305–333. ISBN 978-1-90987-59-8. [1](#)

2008d. Implicit vs. Explicit in Epistemic Logic and Cognitive Neuroscience, *Proceedings of the First International Conference on Advanced Intelligence*, Beijing: Posts & Telecom Press of China.

2008c. An Iconic Logic of Metaphors, *Proceedings of the 6th International Conference of Cognitive Science*, Yonsei University: The Korean Society for Cognitive Science, 317–320.

2008b. Who Plays Games in Philosophy? B. Hale (ed.), *Philosophy Looks at Chess*, Chicago, IL: Open Court, 119–136. ISBN 0-8126-9633-6. [1](#)

2008a. (with O. Majer and T. Tulenheimo) Introduction to Logic and Games, O. Majer, A.-V. Pietarinen & T. Tulenheimo (eds), *Games: Unifying Logic, Language, and Philosophy*, Dordrecht: Springer, ix–xxiii. ISBN: 978-1-4020-9373-9. [2](#) [Equal contribution, alphabetical order of authors followed]

- 2007e. Getting Closer to Iconic Logic, G. Dodig-Crnkovic and Susan Stuart (eds) *Computing, Philosophy, and Cognitive Science: The Nexus and the Liminal*, Cambridge: Cambridge Scholars Publishers, 53–74. ISBN 1847180906. [1](#)
- Visual and non-symbolic representational systems are increasingly important in logic, computing and cognitive sciences. Peirce proposed a logic for representing and reasoning about “actions of the mind in thought” using iconic signs, amounting to the diagrammatic logic of Existential Graphs. I explore the key notions of his systems and place them into the context of our cognitive and computational realm. I argue that a diagrammatic logic needs to be expanded in multiple ways in order to attain a comprehensive logic of icons.
- 2007d. Abductive Issues in the Proof of Pragmaticism, O. Pombo & A. Gerner (eds), *Abduction and the Process of Scientific Discovery*, Lisboa: Centro de Filosofia das Ciências da Universidade de Lisboa, 303–320.
- 2007c. The Semantics/Pragmatics Distinction from the Game-theoretic Point of View, A.-V. Pietarinen (ed.), *Game Theory and Linguistic Meaning*, Oxford: Elsevier, 229–242. ISBN 9780080447155. [2](#)
- I examine the conceptual interplay between semantic and pragmatic aspects of linguistic meaning from the game-theoretic standpoint. I give a negative result: that which is semantic and that which is pragmatic in language cannot be distinguished by rule-governed and structural features of game theory. The difference lies in whether players entertain epistemic relationships with respect to the solution concepts and strategy profiles in the game-theoretic analysis of linguistic meaning.
- 2007b. Semantic Games and Generalised Quantifiers, A.-V. Pietarinen (ed.), *Game Theory and Linguistic Meaning*, Oxford: Elsevier, 183–206. ISBN 9780080447155. [2](#)
- I marry generalised quantifiers with game-theoretic semantics, defining game rules for a range of generalised quantifiers. Game semantics is argued to surpass relational semantics in that it provides (i) a generic method of dealing with context-dependent quantifiers in terms of strategic content and (ii) a general semantics for branching generalised quantifiers.
- 2007a. An Invitation to Games and Language, A.-V. Pietarinen (ed.), *Game Theory and Linguistic Meaning*, Oxford: Elsevier, 1–16. ISBN 9780080447155. [2](#)
- 2006c. Independence-friendly Logic and Incomplete Information, J. van Benthem et al. (eds), *The Age of Alternative Logics: Assessing Philosophy of Logic and Mathematics Today*, Dordrecht: Springer, 243–260. ISBN 1402050119. [2](#)
- 2006b. (with Snellman, L.) On Peirce’s Late Proof of Pragmaticism, T. Aho & A.-V. Pietarinen (eds), *Truth and Games*, Acta Philosophica Fennica **79**, Helsinki: Societas Philosophica Fennica, 275–288. ISBN 951-9264-57-4. [1](#)

- 2006a. Evolutionary Game-theoretic Semantics and Its Foundational Status, N. Gontier, J.P. Van Bendegem & D. Aerts (eds), *Evolutionary Epistemology, Language and Culture: A Nonadaptationist Systems-theoretical Approach* (Theory & Decision Library B), Dordrecht: Springer, 429–452. ISBN 140203394X. [2](#)
- 2005g. The Composition of Concepts and Peirce’s Pragmatic Logic, E. Machery, M. Werning & G. Schurtz (eds), *The Compositionality of Concepts and Meanings: Foundational Issues*, Frankfurt: Ontos-Verlag, 247–270. ISBN 3937202528. [1](#)
- 2005f. Relevance Theory through Pragmatic Theories of Meaning, *XXVII Annual Conference of the Cognitive Science Society*, Alpha: Lawrence Erlbaum, 1767–1772. ISBN 0-9768318-1-3. [2](#)
- 2005e. Early Cognitive Science: A Challenge to Analytic Philosophy? H.J. Koskinen, S. Pihlström & R. Vilkkio (eds), *Science – A Challenge to Philosophy*, Frankfurt am Main: Peter Lang, 327–346. ISBN 3-631-54260-7. [1](#)
- 2005d. Charles S. Peirce, C. Routledge & S. Chapman (eds), *Key Thinkers in Linguistics and the Philosophy of Language*, Edinburgh: Edinburgh University Press, 203–204. ISBN 0748617574. [2](#)
- 2005c. Ludwig Wittgenstein, C. Routledge & S. Chapman (eds), *Key Thinkers in Linguistics and the Philosophy of Language*, Edinburgh: Edinburgh University Press, 271–278. ISBN 0748617574. [2](#)
- 2005b. Some Games Logic Plays, D. Vanderveken (ed.), *Logic, Thought and Action*, Dordrecht: Springer, 409–431. ISBN 1-4020-2616-1. [2](#)
- 2005a. Diagrammatic Logic and Game-playing, G. Malcolm (ed.), *Multidisciplinary Approaches to Visual Representations and Interpretations* (Studies in Multidisciplinarity **2**), Amsterdam: Elsevier, 115–133. ISBN 0-444-51463-5. [2](#)
- 2004h. Sphere semantics for aspect, *Proc. 20th Scandinavian Conference of Linguistics*, Department of General Linguistics, Publications No. 36, University of Helsinki.  
<http://www.ling.helsinki.fi/kielitiede/20scl/>.
- 2004g. Agenda cognitive linguistics: C. S. Peirce and the emergence of the common ground, *Text Processing and Cognitive Technologies* **9**, 208–214.

- 2004f. Extending defeasible reasoning and defeasible Prolog, R. López de Mantaras, & L. Saitta (eds), *Frontiers in Artificial Intelligence and Applications, Proceedings of the 16th European Conference on Artificial Intelligence*, Amsterdam: IOS Press, 1075–1076. ISBN 1-58603-452-9. [1](#)
- 2004e. Evolutionary game theory and the semantic/pragmatic change, *Proc. 1st Int. Workshop on Emergence and Evolution of Linguistic Communication*, Kanazawa: Japanese Society for Artificial Intelligence, 15–20. ISBN 4-915905-14-4.
- 2004d. Logic, phenomenology and neuroscience in cahoots? G. Büchel, B. Klein & T. Roth-Berghofer (eds), *Proc. 1st Int. Workshop on Philosophy and Informatics, CEUR Workshop Proceedings 112*, Frankfurt am Main: Deutsche Bibliothek. ISSN 1613-0073. [1](#)
- 2004c. Towards cognitive informatics: awareness in the brain, logic and cognitive neuroscience, Y. Wang, *Cognitive Informatics: Exploring the Natural Intelligence*, MIT Press. [2](#)
- 2004b. (with Sandu, G.) IF logic, game-theoretical semantics, and philosophy of science, S. Rahman, J. Symons, D. Gabbay & J.P. Van Bendegem (eds), *Logic, Epistemology and the Unity of Science*, Dordrecht, Kluwer, 105–138. ISBN 1-4020-2807-5. [2](#)
- 2004a. Semantic games in logic and epistemology, S. Rahman, J. Symons, D. Gabbay & J.P. Van Bendegem (eds), *Logic, Epistemology and the Unity of Science*, Dordrecht: Springer, 57–103. ISBN 1-4020-2807-5. [2](#)
- 2003f. The semantic + pragmatic web = the semiotic web, *Proc. Int. IADIS/WWW Conference*, Trier: IADIS Press, 981–984. ISBN 972-98947-1-X. [1](#)
- 2003e. What are multi-agent systems trying to accomplish? Towards pragmatic game-theoretic agenda, C. Delrieux and J. Legris (eds), *Computer Modeling of Scientific Reasoning*, Bahia Blanca: Ediuns, 165-177. ISBN 9879281896.
- 2003d. On Wittgenstein’s ‘One of the most fundamental language-games’, W. Löffler & P. Weingartner (eds), *Knowledge and Belief: Papers of the 26th Int. Wittgenstein Symposium*, Kirchberg am Wechsel: Austrian Ludwig Wittgenstein Society, 277–279.
- 2003c. Peirce’s theory of communication and its contemporary relevance, K. Nyíri (ed.), *Mobile Learning: Essays on Philosophy, Psychology and Education*, Vienna: Passagen Verlag, 81–98. ISBN 3-85165-603-2. [1](#)

- 2003b. (with T. Janasik & G. Sandu) Anaphora and extensive games, M. Andronis, E. Debenport, A. Pycha and K. Yoshimura (eds), *Chicago Linguistic Society 38: The Main Session*, Chicago: Chicago Linguistic Society, 285–295. ISBN 0-914203-62-2. [1](#)
- 2003a. (with G. Sandu) Informationally independent connectives, G. Mints and R. Muskens (eds), *Games, Logic, and Constructive Sets*, Stanford: CSLI Publications, 23–41. ISBN 1575864495. [1](#)
- 2002f. Awareness in logic and cognitive neuroscience, *Proceedings of the First IEEE International Conference on Cognitive Informatics*, Los Alamitos: IEEE Computer Society Press, 155–162. ISBN 0769517242. [1](#)
- 2002e. Some useful social metaphors in logic, *Int. Conference on Artificial Intelligence*, Las Vegas: CSREA Press, 1278–1282. ISBN 1-892512-27-01.
- 2002d. Negotiation games and conflict resolution in logical semantics, P. Bouquet (ed.), *Meaning Negotiation*, Menlo Park: AAAI Press, 25–31. ISBN 1-57735-162-2. [1](#)
- 2002c. Possible-worlds ontology for the semantic web, in *Proc. 11th WWW Conference (WWW2002)*, Honolulu: Hawaji.
- 2002b. Diagrammatic representations in logical systems: graphs, games and discourse, *Proc. 6th WSEAS Int. Conf. on Systems*, WSEAS Press. ISBN 960-8052-63-7.
- 2002a. The semantic web and epistemic logic, *Advances in Infrastructure for Electronic Business, Science and Education on the Internet*, L'Aquila: Telecom Italia. ISBN 88-85280-62-5.
- 2001e. A logic of parallel processing and parallel processing of logic, *Proc. 1st WSES Int. Conf. on Automation and Information*, WSEAS Press. ISBN 960-8052-63-7.
- 2001d. Reasoning about focussed knowledge in multi-agent systems, C. Lin & C. Yan (eds), *Proc. 3rd Int. Conf. Cognitive Science (ICCS'2001)*, Beijing: University of Science and Technology of China Press (USTC). ISBN 7312012841.
- 2001c. The role of epistemic logic in cognitive science, C. Lin & C. Yan (eds), *Proc. 3rd Int. Conf. Cognitive Science (ICCS'2001)*, Beijing: University of Science and Technology of China Press (USTC). ISBN 7312012841.

- 2001b. Game theory and multi-agent systems, *Advances in Infrastructure for Electronic Business, Science and Education on the Internet*, L'Aquila: Telecom Italia. ISBN 88-85280-62-5.
- 2001a. Varieties of IFing, G. Sandu & M. Pauly (eds), *Proc. ESSLLI 2001 Workshop on Logic and Games*, Helsinki: University of Helsinki.
2000. (with G. Sandu) Intentional identity as an independence phenomenon, O. Majer (ed.), *Topics in Conceptual Analysis and Modelling*, Prague: Filosofia, 163–180. ISBN 80-7007-136-2.
- 1998b. Impossible worlds and logical omniscience: A note on MacPherson's logic of belief, *Cognitive Science Research Paper*, ISSU **478**, University of Sussex, ISSN 1350-3162.
- 1998a. Imperfect information in epistemic logic, Kruijff-Korabayova, I., (ed.), *Proc. 3rd ESSLLI Student Session*, the 10th European Summer School of Logic, Language and Information, Saarbrücken, Germany, 223–234.

### Articles in Peer-Reviewed Finnish Journals

- 2012b. Tieteen syvin olemus (The Essence of Science), *Tiedepolitiikka* 11/2012. [1](#)
- 2012a. Semiotiikka – aikamme kolmas kulttuuri? *Synteesi* 1/2012, 15-18, ISSN 0359-5242. [1](#)
2010. Miten kysymys vapaasta tahdosta tulisi asettaa? (How to Ask the Question about Free Will?) *Synteesi* 2/2010. ISSN 0359-5242. [-/1](#)
- 2006b. Kuinka pragmatismi todistetaan (How to Prove Pragmaticism), *Ajatus* **63**, 119–138. ISSN 0355-1725. [ERIH+/2](#)
- 2006a. Semantiikan historiaa Suomessa vuosina 1900–1950 (The history of semantics in Finland in 1900–1950), *Virittäjä* **110**, 70–89. ISSN 0042-6806. [ERIH+/2](#)
- 2005c. Logiikkaa kuvina (Logic in pictures), *niin & näin: Filosofinen Aikakauslehti* **12**, 51–55, Tampere University Press. ISSN 1237-1645. [ERIH+/1](#)
- 2005b. Logiikan tila ja tulevaisuus (The state and the future of logic), *niin & näin: Filosofinen Aikakauslehti* **12**, 43–48, Tampere University Press. ISSN 1237-1645. [ERIH+/1](#)
- 2005a. (with P. Raatikainen & R. Vilkkö) Logiikan virta, *niin & näin: Filosofinen Aikakauslehti* **12**, 20–25, Tampere University Press. ISSN 1237-1645. [ERIH+/1](#)

2003. Wienin piiri, kieli ja signifistiikka (Vienna Circle, language, and significs), *Ajatus* **60**, 327–353. ISSN 0355-1725. [ERIH+/2](#)
- 2002b. Filosofinen logiikka ja informatiikan vallankumous (Philosophical logic and the revolution of informatics), *Ajatus* **59**, 139–154. ISSN 0355-1725. [ERIH+/2](#)
- 2002a. Semanttiset pelit logiikassa ja kielessä (Semantic games in logic and language), *Ajatus* **59**, 223–227. ISSN 0355-1725. [ERIH+/2](#)

### Articles in Finnish Compilations and Conference Proceedings with a Peer-Review Practice

- 2012b. Voiko ajattelu olla kriittistä ilman argumentteja? (Can Thinking be Critical without Arguments?) Ritola, Juha (ed.), *Argumentaatio*, Reports from the Department of Philosophy, Turku: University of Turku.  
I argue that critical thinking may be allied with logic and argumentation theory only if it takes place in the contexts of the discovery of arguments.
- 2012a. Yhden vs. monen maailman filosofit (One vs. Many-world Philosophers), Kotkavirta, J. et al. (eds.), *Maailma*, Jyväskylä: SoPhi. (Proceedings of the Annual Colloquium of the Finnish Philosophical Society.) ISBN 978-951-39-4279-3.
2010. Ajatusten liikkuvat kuvat: representaatio logiikassa (Representation in logic: Moving pictures of thought), T. Knuuttila & A. P. Lehtinen (eds.), *Representaatio: Tiedon kivijalasta tieteiden työkaluksi*, Gaudeamus: Helsinki University Press, 94–108. ISBN 978-952-495-137-1. [2](#)
- 2009c. Uskomusten muodostaminen ja muokkaaminen (Fixing and Revising Beliefs), Pietarinen, A.-V., Pihlström, S. & Toppinen P. (eds), *USKO: Philosophical Studies from the Department of Philosophy 22*, Helsinki: University of Helsinki, 77–82. ISSN 1458-8331.
- 2009b. (with L. Snellman) Tieteestä taiteeseen: Käytännöt Peircen merkitysteoriassa, (Practices in Peirce’s Theory of Meaning), E. Hannula & U. Oksanen (eds.), *Murtuvat merkit: Semiotiikan teoreettisen ja soveltavan tutkimuksen näkökulmia*, Helsinki: Helsinki University Press, 150–165. ISBN 978-951-570-764-2. [2](#)
- 2009a. Huomioita kuvallisen logiikan filosofiasta (Notes on the philosophy of iconic logic), L. Haaparanta, T. Klemola, J. Korkavirta & S. Pihlström (eds.) *Kuva, Acta Philosophica Tampicensia* **5**, Tampere: Tampere University Press, 253–262. ISBN 978-951-44-7769-0. [1](#)

2008. Matematiikan ja logiikan filosofia, Hintikan tapaan (Philosophy of mathematics and logic, according to Hintikka), Juha Manninen & Risto Vilkkio (eds.), *Ajattelun välineet ja maailmat: Kirjoituksia Jaakko Hintikan filosofiasta*, Helsinki: Helsinki University Press, 19–28. ISBN 978-952-495-103-6. [2](#)
2005. Kielellisen merkityksen elämä (The life of linguistic meaning), J. Haukioja & J. Räikkä (ed.), *Elämän merkitys (The Meaning of Life)*, Kuopio: UNIpress, 157–166. ISBN 951-579-214-2. [1](#)
2004. (with Sandu, G.) Kielto ja kierto (Negation and reversal), H. Gylling, S. Albert Kivinen & R. Vilkkio (eds), *Kielto (Negation)*, Helsinki: Helsinki University Press, 115–125. ISBN 951-570-583-5. [2](#)

## C. Scientific Monographs and Edited Collections

### Monographs and Edited Collections with International Publishers:

- 2006–. (ed. by The Peirce Research Centre, dir. A.-V. Pietarinen) *The Correspondence of Charles S. Peirce*. 3 volumes. (Vol. 1: *The Peirce–James Correspondence*, ed. by M. Bergman & H. Rydenfelt; Vol. 2: *The Johns Hopkins Era*, ed. by J.-M. Chevalier, N. Houser & A.-V. Pietarinen; Vol. 3: *The Chicago Connection*, in preparation.
2019. (ed. with M. Shafiei), *Peirce and Husserl: Mutual Insights on Logic, Mathematics and Cognition*. Dordrecht: Springer.
2017. (ed.) *Logical Universalis*, Special Issue on Hintikka’s Logical Thought.
2015. (ed.), Peirce’s Theory of Signs, Guest Editor, *Sign Systems Studies* **43**(4).
- 2014b. (ed. with F. Stjernfelt & F. Bellucci) *Peirce: Five Questions*, Automatic Press/VIP.
- 2014a. (ed.), *Peirce’s Logic*, Special Issue of *Synthese*. Completed 12/2014. [3](#)
2010. (ed. with M. Bergman, S. Paavola & H. Rydenfelt) *Ideas in Action: Proceedings of the Applying Peirce Conference*, Nordic Studies in Pragmatism **1**. Helsinki: Nordic Pragmatism Network. ISSN-L 1799-3954.
2009. (ed. with O. Majer & T. Tulenheimo) *Games: Unifying Logic, Language, and Philosophy* (Logic, Epistemology and the Unity of Science Series **15**), Dordrecht: Springer. ISBN: 978-1-4020-9373-9. [2](#)

2007. (ed.) *Game Theory and Linguistic Meaning*. (Current Research in the Semantics/Pragmatics Interface **18**). Oxford: Elsevier Science. ISBN-13: 978-0-09-044715-5. ISBN-10: 0-08-044715-5. [2](#)
- 2006b. (ed. with T. Aho), *Truth and Games*. Acta Philosophica Fennica **79**, Helsinki: Societas Philosophica Fennica. *vi*+322 pages. ISBN 951-9264-57-4. ISSN 0355-1792. [2](#)
- 2006a.** *Signs of Logic: Peircean Themes on the Philosophy of Language, Games, and Communication*. (Synthese Library **329**). Dordrecht: Springer. ISBN 1-4020-3728-7. [2](#)

Excerpts from reviews:

- “A ground-breaking contribution . . . impressive in its scope and depth.”
- “A ‘must-have’ for both the Peircean scholar and any other philosopher who wishes to relate Peirce’s thinking on language and logic to other major thinkers and logical themes of the twentieth century (and beyond)”
- “Cutting edge philosophy”
- “This magisterial work . . . performed the valuable service of demonstrating the extent that Peirce’s logic admits of systematic expression . . . Even more impressive is the success of Signs of Logic in establishing Peirce’s remarkable prescience as anticipator of developments ranging from game-theoretic logic to dialogue logic, from Gricean pragmatics to the economics of cognitive practice, and so on.”
- “Combining precision and perspective, mathematical detail and philosophical architectonics, the work presents one of the best available accounts of Peirce’s kinetic thought.”

2004. (with T. Tulenheimo) *Introduction to IF Logic*. ESSLLI 2004 Lecture Notes. University Henri Poincaré, Nancy, European Association for Logic, Language and Information. *v*+103 pages.

## Finnish Scientific Monographs

2010. (in Finnish) *Ei-klassiset logiikat* (Non-classical Logics), mimeograph, 120 pages.

- Peer Refereed publications (A & C) in total: **229**

## B. Book Reviews and Notices

2014. Applying Peirce in Tallinn & Helsinki, *Sign Systems Studies* **42**(2-3), 417–420.

- 2003b. Book Notice of Recanati, F., *Oratio obliqua, oratio recta: An essay on metarepresentation*, *Language*, **79**(3), 665. ISSN 0097-8507.
- 2003a. Book Notice of Lycan, W.G., *Philosophy of language: A Contemporary Introduction*, *Language* **79**(2), 444. ISSN 0097-8507.
- 2002c. Book Review of Bechtel, William et al., *Philosophy and the Neurosciences: A Reader*, *The Linguist list* **13.1888**.
- 2002b. Book Notice of Moss, L.S., et al., (eds.), *Logic, Language and Computation*, *Language* **77**(2), 396. ISSN 0097-8507.
- 2001a. Book Review of Yourgrau, P., *Gödel Meets Einstein: Time Travel in the Gödel Universe*, *The Review of Metaphysics*, **55**(1), 170–172. ISSN 0034-6632.
- 2001b. Book Review of Wooldridge, M., *Reasoning about Rational Agents*, in *Journal of Autonomous and Multi-Agent Systems* **4**(4), 391–394. ISSN 1387-2532.
- 2001a. Book Notice of Smiley, T., (ed.), *Philosophical Logic*, *Language* **76**(3), 959–960. ISSN 0097-8507.
- 2000e. Book Notice of Künne, W., Newen, A., Anduschus, M., (eds), *Direct Reference, Indexicality, and Propositional Attitudes*, *Language* **76**(2), 481–482. ISSN 0097-8507.
- 2000d. Book Notice of Forget, D., Hirschbühler, P., Martineau, F. and Rivero, M.-L., (eds), *Negation and Polarity: Syntax and Semantics*, *Language* **76**(1), 200–201. ISSN 0097-8507.
- 2000c. Book Review of von Heusinger, K. and Egli, U.: (eds), *Reference and Anaphoric Relations*, *Lingua*, **110**(12), 949–956. ISSN 0024-3841.
- 2000b. Book Review of Hintikka, J., *Lingua Universalis vs. Calculus Ratiocinator: An Ultimate Presupposition of Twentieth-Century Philosophy*, *Lingua* **110**(7), 503–509. ISSN 0024-3841.
- 2000a. Book Review of Szabolcsi, A., (ed.), *Ways of Scope Taking*, *Lingua* **110**(5), 383–390. ISSN 0024-3841.
- 1999e. Book Review of Bacharach, M.O.L. et al. (eds.), *Epistemic Logic and the Theory of Games and Decisions*, in *Economics and Philosophy* **15**(2), 318–324. ISSN 0266-2671.
- 1999d. Book Notice of Hintikka, J., *Paradigms for Language Theory and Other Essays*, *Language* **75**(4), 845–846. ISSN 0097-8507.
- 1999c. Book Notice of Liu, F.-H., *Scope and Specificity*, *Language* **75**(4), 865–866. ISSN 0097-8507.

1999b. Book Review of Hintikka, J., Language, Truth and Logic in Mathematics, *Journal of Logic, Language and Information* **8**, 121–124. ISSN 0925-8531.

1999a. Book Review of Hintikka, J., Paradigms for Language Theory and Other Essays, *Journal of Logic, Language and Information* **8**, 124–127. ISSN 0925-8531.

## D. Publications Intended for Professional Communities

### Professional Op-Eds and Blog Entries (reviewed):

2015b. Seven Wonders of Thought, *Nurkse School Ideas Bank—opinions, op-eds, reflections by the staff of RNS*. <http://www.ttu.ee/public/s/sotsiaalteaduskond/Instituudid/> Revised and republished 2020 in *Filosofia Maravilhosa: Journal of the Brazilian Academy of Philosophy*. In press.

2015a. Exhaustive Ballot and Insincere Voting: The TUT Case, *Nurkse School Ideas Bank—opinions, op-eds, reflections by the staff of RNS*. (Also translated in Estonian) <http://nurkseschool.tumblr.com/post/122402499041/exhaustive-ballot-and-insincere-voting>

### Encyclopedia Articles and Entries (reviewed):

2011. Alexander Bryan Johnson, in J. R. Shook (ed.), *Dictionary of Early American Philosophers*, Thoemmes Continuum Press. ISBN: 978-184-371-182-7. [2](#)

2009. Pietarinen, Ahti-Veikko, Dictionary Entry in Gabbay, Dov M. and John Woods (eds.), *The International Directory of Logicians—Who’s Who in Logic*, London: College Publications, 271–273. ISBN 978-190-498-790-1. [1](#)

2006b. Game theory, in A. Grayling, A. Pyle & N. Goulder (eds), *The Continuum Encyclopedia of British Philosophers*, London: Thoemmes Continuum, 1180. ISBN 1843711419. [2](#)

2006a. Significs, in A. Grayling, A. Pyle & N. Goulder (eds), *The Continuum Encyclopedia of British Philosophers*, London: Thoemmes Continuum, 2931–2932. ISBN 1843711419. [2](#)

2004. Endoporeutic method, in J. Queiroz (ed.), *Digital Encyclopedia of Charles S. Peirce*. Commens: Digital Companion to C. S. Peirce, ISSN 2342-4532.

2003–. Quotes for *The Commens Dictionary of Peirce’s Terms: Peirce’s Terminology in His Own Words*, Commens: Digital Companion to C. S. Peirce, ISSN 2342-4532.

### Professional Manuals

- 2015-. (with J. Nikulainen) Peirce EG L<sup>A</sup>T<sub>E</sub>Xpackage with documentation. Software and E-print.
2012. Memorandum to the President of Charles S. Peirce Society, including Guide to the Charles Peirce Material at Harvard Libraries by Ahti-Veikko Pietarinen, U. of Helsinki, March 29, 2012. E-print.

## Translations & Transcriptions

2020. (with J. Nikulainen) Pietarinen, Juhani, Heidegger’s Black Notebooks (1931–1941): Ponderings on Technology, National Socialism and Judaism. *Acta Baltica Historiae et Philosophiae Scientiarum* **8**(2). DOI:10.11590/abhps.2020.2.10
2018. (ed., with J. Nikulainen) Hintikka, J., Super Models, *Logica Universalis*.
2018. (tr., with J. Nikulainen) Hintikka, J., Perspectives on the Logical Study of Language, *Logica Universalis*.
2018. (ed., in Finnish) *Pragmatismmin klassikoita (Pragmatism: Classical Writings)*, to appear, Helsinki University Press. [2](#)
2015. Division of Signs by Charles S. Peirce, *Sign Systems Studies* **43**(4), 651–662.
2005. (in Finnish, with L. Snellman) Translations of Peirce’s manuscripts 654, 686, 849, with introduction, *niin & näin: Filosofinen Aikakauslehti* **45**, 37–41, Tampere University Press. ISSN 1237-1645. [1](#)
- 2004-. Over 300 Transcriptions of Peirce’s Manuscripts [www.helsinki.fi/~pietarin/](http://www.helsinki.fi/~pietarin/) and to appear.

## G. Doctoral Thesis, Master’s Theses

2001. *Semantic Games in Logic and Language*, doctoral dissertation, University of Helsinki, 10/2001, Yleisjäljennös Oy, ISBN 952-91-4025-8 (pbk), ISBN 952-10-0184-4 (pdf).
- 1997b. Episteeminen logiikka ja tietämyksen esittäminen (‘Epistemic Logic and Knowledge Representation’), MPhil Thesis, Department of Computer Science, University of Turku, Finland, 9/1997.
- 1997a. Valehtelijan paradoksi ja totuusmääritelmät IF-logiikassa (‘Liar Paradox and Truth-Definitions in IF-logic’), MPhil Thesis, Department of Philosophy, University of Turku, Finland, 9/1997.

- Publications item count total: **272**

September 25, 2024