

Current Drafts and Recent Papers.

- (1) Alexander Gheorghiou and David Pym. NEGATION-AS-FAILURE IN THE BASE-EXTENSION SEMANTICS FOR INTUITIONISTIC PROPOSITIONAL LOGIC. Submitted, 2022. [Manuscript](#).
- (2) Alexander Gheorghiou and David Pym. From Proof-theoretic Validity to Base-extension Semantics for Intuitionistic Propositional Logic. Submitted, 2022. [Manuscript](#).
- (3) Alexander Gheorghiou and David Pym. Proof-theoretic Semantics and Tactical Proof. [Manuscript](#).
- (4) M. Bujorianu, T. Caulfield, and D. Pym. Modelling and Control of Complex Cyber-Physical Ecosystems. In Proc. 1st IFAC Workshop on Control of Complex Systems (COSY 2022). [Manuscript](#).
- (5) Albesë Demjaha, Simon Parkin, and David Pym. The boundedly rational employee: Security economics for behaviour intervention support in organizations. To appear, *Journal of Computer Security*, 2022. [Manuscript](#).
- (6) David Pym, Eike Ritter, and Edmund Robinson. Proof-theoretic Semantics in Sheaves (Extended Abstract). *Scandinavian Logic Symposium*, Bergen, June 2022. [Manuscript](#). [SLSS 2022 Abstracts Booklet](#).
- (7) Alexander Gheorghiou and David Pym. Generalizing Rules via Algebraic Constraints (Extended Abstract). *Scandinavian Logic Symposium*, Bergen, June 2022. [Manuscript](#). [SLSS 2022 Abstracts Booklet](#).
- (8) Alexander Gheorghiou and David Pym. Reductive Logic, Proof-search, and Coalgebra (Extended Abstract). To appear, Proc. Coalgebraic Methods in Computer Science (Short papers Technical Report, Helle Hvid Hansen and Fabio Zanasi, editors), 2022. This is an extended abstract of the paper in *Samson Abramsky on Logic and Structure in Computer Science and Beyond* (see below). [Manuscript](#).
- (9) Alexander Gheorghiou and David Pym. Semantics ex Proof and Refutation (Extended Abstract). Presented (by Alexander Gheorghiou) at *Bilateralism & Proof-Theoretic Semantics*, Ruhr University Bochum, March 17-18, 2022. [Manuscript](#).
- (10) Alexander Gheorghiou and David Pym. Semantical Analysis of the Logic of Bunched Implications. Submitted, 2022. [Manuscript](#).
- (11) Alexander Gheorghiou and David Pym. Generalizing Rules via Algebraic Constraints. [Working draft](#), 2022.
- (12) T. Caulfield, M.-C. Ilau, and D. Pym. Engineering Ecosystem Models: Semantics and Pragmatics. In *Proc. 13th SIMUtools 2021*. Springer, 2021. [Manuscript](#). [Springer Link](#).
- (13) T. Caulfield, M.-C. Ilau, and D. Pym. Metamodelling for Ecosystems Security. In *Proc. 13th SIMUtools 2021*. Springer, 2021. [Manuscript](#). [Springer Link](#).
- (14) A. Baldwin, T. Caulfield, M.-C. Ilau, and D. Pym. Modelling Organizational Recovery. In *Proc. 13th SIMUtools 2021*. Springer, 2021. [Manuscript](#). [Springer Link](#).
- (15) A. Demjaha, D. Pym, and T. Caulfield. Found in Translation: Co-design for Security Modelling. In *Proc. 11th STAST 2021*. Springer, 2021. [Manuscript](#).
- (16) Alexander Gheorghiou, Simon Docherty, and David Pym. Reductive Logic, Proof-search, and Coalgebra: A Perspective from Resource Semantics. Revised version to appear, *Samson Abramsky on Logic and Structure in Computer Science and Beyond*, Alessandra Palmigiano and Mehrnoosh Sadrzadeh (editors), *Outstanding Contributions to Logic*, Springer, 2021. [Manuscript](#).
- (17) David Pym and Will Venters. Modelling interfaces in the decentralized Internet of Things. International Conference on Information Systems (ICIS), India (Online), 2020. [Presentation](#). [Manuscript](#).
- (18) Diana Costa, James Brotherston, and David Pym. Graph Decomposition and Local Reasoning. [Manuscript](#).
- (19) Paul Brunet and David Pym. Pomsets with Boxes: Protection, Separation, and Locality in Concurrent Kleene Algebra. [Manuscript](#).
- (20) Didier Galmiche, Pierre Kimmel, and David Pym. A Substructural Epistemic Resource Logic: Theory and Modelling Applications. *Journal of Logic and Computation*, 29(8), 1251-1287, 2019. doi.org/10.1093/logcom/exz024. Published: 19 January 2020. [Manuscript](#).
- (21) David Pym. Resource semantics: logic as a modelling technology. *ACM SIGLOG News*, April 2019, Vol. 6, No. 2., 5–41. [Manuscript](#).
- (22) David Pym. Reductive logic & proof-theoretic semantics: a coalgebraic perspective. To appear: *Proc. Proof-theoretic Semantics: Assessment and Future Perspectives*, P. Schroeder-Heister and T. Piecha (editors), Third Tübingen Conference on Proof-theoretic Semantics, 27-30 March 2019. [Manuscript](#). [Proceedings](#).
- (23) Albesë Demjaha, Simon Parkin, and David Pym. You've left me no choices: Security economics to inform behaviour intervention support in organizations. To appear: *Proc. 9th Workshop on Socio-technical Aspects in Security*, Luxembourg City, 2019. LNCS, 2019, Springer. Recipient of 'Best Paper' award. [Manuscript](#).
- (24) C. Ioannidis, D. Pym, J. Williams, and I. Gheyas. Resilience in Information Stewardship. *European Journal of Operational Research* 274(2), 638-653, April 2019. [Manuscript](#).
- (25) Albesë Demjaha, Tristan Caulfield, M. Angela Sasse, and David Pym. 2 Fast 2 Secure: A Study of Post-Breach Security Changes. In: *Proc. 4th European Workshop on Usable Security, EuroUSEC 2019*, IEEE 2019. Stockholm, Sweden, June 20, 2019. To appear: IEEE Xplore. [Manuscript](#).
- (26) Simon Docherty and David Pym. Resource Reasoning in Duality-theoretic Form: Stone-type Dualities for Bunched and Separation Logics. *Proc. Topology, Algebra and Categories in Logic (TACL) 2019*. [Manuscript](#).
- (27) Baldwin, A., Gheyas, I., Ioannidis, C., Pym, D. and Williams, J. (2017). Contagion in cyber security attacks. *Journal of the Operational Research Society* 68(7): 780-791. [Manuscript](#).
- (28) David Pym. The Origins of Cyberspace. To appear: *The Oxford Handbook of Cybersecurity*, P. Cornish (editor). [Manuscript](#).

- (29) Thomas Cattermole, Simon Docherty, David Pym, and Angela Sasse. Asset-oriented access control through object-oriented principles. [Manuscript](#).
- (30) Simon Docherty and David Pym. STONE-TYPE DUALITIES FOR SEPARATION LOGICS. To appear: *Logical Methods in Computer Science*. [Manuscript](#).
- (31) Simon Docherty and David Pym. Intuitionistic Layered Graph Logics: Semantics and Proof Theory. To appear: *Logical Methods in Computer Science*. [Manuscript](#).
- (32) Jonathan Spring and David Pym. Towards Scientific Incident Analysis. To appear, *Proc. GameSec 2018*, LNCS. [Manuscript](#).
- (33) Tristan Caulfield, Christos Ioannidis, and David Pym. Dynamic Pricing for Ransomware. Working draft: [Manuscript](#).
- (34) Didier Galmiche, Pierre Kimmel, and David Pym. A Substructural Epistemic Resource Logic: Theory and Modelling Applications. To appear, *Journal of Logic and Computation*, 2019. [Manuscript](#).
- (35) Simon Docherty and David Pym. Modular Tableaux Calculi for Separation Theories. To appear: *Proc. FOSSACS 2018*. [Manuscript](#).
- (36) Jonathan Spring, Tyler Moore, and David Pym. Practicing a Science of Security: A Philosophy of Science Perspective. To appear: *NSPW '17, Oct 1-4, 2017, Santa Cruz, California, USA*. ACM, 2017. [Manuscript](#).
- (37) David Pym, Jonathan Spring, and Peter O'Hearn. Why Separation Logic Works. *Philos. Technol.* (2018). <https://doi.org/10.1007/s13347-018-0312-8>. [Manuscript](#).
- (38) Tristan Caulfield, Michelle Baddeley, and David Pym. Social Learning in Systems Security Modelling. In *Social Simulation Conference*, 2016. [Manuscript](#).