

James Cheney

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Research interests

Programming languages, logic, scientific databases, provenance, security, verification.

Education

Doctor of Philosophy, Computer Science, 2004, Cornell University, Ithaca, NY.

Master of Science, Mathematics, 1998, Carnegie Mellon University, Pittsburgh, PA.

Bachelor of Science, Computer Science and Mathematics, 1998, Carnegie Mellon University, Pittsburgh, PA.

Experience

Reader, Laboratory for Foundations of Computer Science, University of Edinburgh. August 2015–present.

Royal Society University Research Fellow, Laboratory for Foundations of Computer Science, University of Edinburgh. October 2008–December 2016.

Instructor, Elements of Programming Languages, University of Edinburgh, 2015–2017.

Instructor, Logic Programming, University of Edinburgh, 2009–2011, 2014.

Instructor, Distributed Systems, University of Edinburgh, 2014.

Instructor, Querying and Storing XML, University of Edinburgh, 2013.

Visiting researcher, Toyota Technological Institute, Chicago, Summer 2009.

Postdoctoral researcher, Database Group, University of Edinburgh. 2004–2008.

Awards

2016 ACM SIGMOD Test-of-Time Award for the paper “Provenance management in curated databases” (SIGMOD 2006) with P. Buneman and A. Chapman

Funding

Mechanising the Metatheory of SQL with Nulls, with Wilmer Ricciotti, £65,893, *Research Institute on Verified Trustworthy Software Systems*, UK National Cyber Security Centre.

Small grant for research visit travel costs, £2300, GCHQ

Skye: Bridging Theory and Practice for Scientific Data Curation, €1,995,181, ERC Consolidator Grant. September 2016–August 2021.

Declarative Programming for Data Science, studentship in the Edinburgh Centre for Doctoral Training in Data Science, £80,000 co-funded by LogicBlox, Inc.

A Diagnostics Approach to Advanced Persistent Threat Detection (ADAPT), \$720,102, Defense Advanced Research Projects Agency, with David Archer (Galois, Inc.), Hoda Eldardiry (Xerox PARC), and Alan Fern (Oregon State University). July 2015–June 2019.

Foundations of Language-Based Provenance Security (renewal), £392,531, European Office of Aerospace Research and Development, US Air Force Office of Scientific Research. July 2014–June 2018.

Google Faculty Research Award, *Language-Integrated Provenance*, \$56,925, with Paul Anderson. September 2014–August 2015.

Royal Society University Research Fellowship (extension) *Nominal abstract syntax: automata, mechanised metatheory, and type theory*, £247,973, December 2013–December 2016.

A Theory of Least Change for Bidirectional Transformations, £395,170 (out of £704,188 total), EPSRC (EP/K020218/1), with Perdita Stevens (PI), James McKinna and Jeremy Gibbons (Oxford), March 2013–November 2016.

Provenance-based Security for Configuration Languages, with Paul Anderson, Microsoft Research PhD Studentship, awarded 2013.

DIACHRON – Managing the Evolution and Preservation of the Data Web, €435,837 (out of €4,989,996 total), with S. Viglas (Edinburgh PI) and P. Buneman, EU FP7 Integrating Project (601043), April 2013–March 2016.

Foundations of Language-Based Provenance Security, £72,942, European Office of Aerospace Research and Development, US Air Force Office of Scientific Research. January 2013–June 2014.

Google Faculty Research Award, *Synchronized Database Wikis*, \$38,613, with S. Lindley. January–December 2012.

Google Faculty Research Award, *Database Wikis*, \$81,679, with S. Lindley. January–December 2011.

University of Edinburgh IDEA Lab Proof of Principle Prototyping Project, *Database Wiki*, £15,500, with P. Buneman and H. Müller and S. Lindley. April–July 2010.

Royal Society University Research Fellowship, *Mechanising metatheory with nominal logic programming*, £415,068, October 2008–December 2013. (Success rate $32/592 = 5.4\%$)

UK eScience Institute Theme Programme on *Principles of Provenance*, £54,060, with P. Buneman (University of Edinburgh) and B. Ludaescher (University of California, Davis). April 2008–May 2009.

Consultancy

Scoping study on data provenance, National Physical Laboratory, July 2017–March 2018. With A. Chapman (Southampton) and J. Davidson (Glasgow).

Research Leadership

PC co-chair, 8th workshop on Bidirectional Transformations, 2019.

General chair, 18th International Symposium on Principles and Practice of Declarative Programming (PPDP 2016), September 5-7, 2016

Local organizer, 26th International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR 2016), Edinburgh, September 6–8, 2016.

Local organizer, 23rd International Static Analysis Symposium (SAS 2016), September 8–11, 2016.

Co-organizer, Workshop on Provenance-Based Security and Transparent Computing, Washington, DC, June 6, 2016.

Program committee co-chair, 15th International Symposium on Database Programming Languages (DBPL 2015), Pittsburgh, Pennsylvania, October 27, 2015.

Local organizer, 7th USENIX Workshop on Theory and Practice of Provenance, in cooperation with ACM SIGPLAN and SIGMOD, Edinburgh, UK, July 8-9, 2015.

Co-organizer, Dagstuhl Seminar on Programming Languages for Big Data, December 15–19, 2014.

Program committee co-chair, First Workshop on Cross-model Language Design and Implementation (XLDI 2012), Copenhagen, Denmark, September 9, 2012.

Co-organizer, Dagstuhl Seminar on Principles of Provenance, February 27–March 2, 2012.

Member, W3C Provenance Incubator Group (co-author of final report) and W3C Provenance Interchange Working Group (contributor to PROV-O ontology and editor of PROV-CONSTRAINTS recommendation).

Program committee co-chair, 4th International Workshop on Logical Frameworks and Metalanguages, Theory and Practice (LFMTP 2009), August 2, 2009, Montreal, Canada.

Program committee chair, 1st Workshop on Theory and Practice of Provenance (TAPP 2009), February 23, 2009, San Francisco, CA.

Steering committee chair, Workshop on Theory and Practice of Provenance (TAPP), 2012–present.

Theme Leader, UK eScience Institute Theme Programme on *Principles of Provenance*, 2008–2009.

Professional Service

PC member, CPP 2018, PADL 2018, POPL 2018, PPDP 2017, SIGMOD 2017, Haskell Symposium 2016, IPAW 2016, FOIKS 2016, APLAS 2015, BICOD 2015, POST 2015, ICALP 2015, IFIP 2014, CIKM 2014, POPL 2014, BNCOD 2013, LFMTP 2013, IEEE BigData 2013, CSF 2013, ICDT 2013, ICALP 2012, PODS 2012, ICLP 2011, Haskell Symposium 2010, ICFP 2010, WWW 2009, POPL 2009, CIKM 2008, WebDB 2007, DBPL 2005

External review committee member, POPL 2012, ICFP 2016

Co-editor, special issue of the Journal of Functional Programming on Programming Languages for Big Data

Co-editor, special issue of ACM Transactions on Internet Technology on provenance

Co-editor, special issue of the Journal of Functional Programming on ICFP 2010

Referee, Communications of the ACM, Information Processing Letters, Journal of Computer and System Sciences, Journal of Functional Programming, Journal of Logic and Computation, Journal of Logical and Algebraic Methods in Programming, Journal of Symbolic Logic, Journal of the ACM, Logical Methods in Computer Science, Mathematical Structures in Computer Science, Science of Computer Programming, Theoretical Computer Science, Theory and Practice of Logic Programming, Transactions on Computational Logic, Transactions on Database Systems, Transactions on Information Systems, Transactions on Internet Technology, Transactions on Programming Languages and Systems, Transactions on Software Engineering Methodology, VLDB Journal

Reviewer, Independent Research Fund Denmark, European Research Council, French National Research Agency; Icelandic Research Fund; Israeli Science Foundation; Royal Society International Exchanges Committee; UK Engineering and Physical Sciences Research Council

LFCS Seminar organizer, September 2011–August 2013

Supervision

Postdoctoral research assistants

Sidahmed Benabderrahmane, 2017–present

Ghita Berrada, 2016–present

Adria Gascon, 2015–2016 (part time); moved to fellowship at The Alan Turing Institute

Jan Stolarek, 2015–present

Wilmer Ricciotti, 2014–present

Roly Perera, 2013–14 (full time) and 2015–2018 (part time), now at University of Glasgow

Sam Lindley, 2010–11; now a senior researcher on the EPSRC ABCD project

PhD students

Second supervisor, Alessandro Spinuso, (2011–2018), with M. P. Atkinson (lead supervisor). Part-time.

Supervisor, Ben Kavanagh, (2009–present), with P. Wadler (co-supervisor). Part-time, completion expected 2018.

Supervisor, Weili Fu (2014–present), with P. Anderson (co-supervisor). Completion expected 2018

Supervisor, Stefan Fehrenbach (2014–present). Completion expected 2018.

Supervisor, Sheung Chi (Arthur) Chan (2015–present). Completion expected 2019.

Supervisor, Rudi Horn (2016–present).

Supervisor, Frank Emrich (2017–present).

Habilitation examination

Jury member, Dr. Slawomir Staworko, Habilitation a diriger des recherches, Université de Lille, December 2015

PhD examination

Internal examiner, Fabian Peternek, PhD. Computer Science, University of Edinburgh 2017. Topic: “Graph Compression using Graph Grammars”.

Internal examiner, Danel Ahman, PhD. Computer Science, University of Edinburgh 2017. Topic: “Fibred Computational Effects”.

External examiner, Jesus Dominguez, PhD. Computer Science, King’s College London 2016. Topic: “Comparing Combinatory Reduction Systems and Nominal Rewrite systems with atom substitution”.

Internal examiner, YuHui Lin, PhD. Computer Science, University of Edinburgh 2015. Topic: “The Use of Rippling to Automate Event-B Invariant Preservation Proofs”.

Internal examiner, Gavin Keighren, PhD. Computer Science, University of Edinburgh 2014. Topic: “Restricting Information Flow in Security APIs by Typing”.

Internal examiner, John Hewson, PhD. Computer Science, University of Edinburgh 2013. Topic: “Constraint-Based Specifications for System Configuration”.

External examiner, Gareth Smith, PhD. Computer Science, Imperial College, London, 2011. Topic: “Local Reasoning about Web Programs”.

Internal examiner, Ezra Cooper, PhD. Computer Science, University of Edinburgh, 2009. Topic: “Programming Language Features for Web Application Development”.

MSc students

Rudi Horn, MRes (distinction). Centre for Doctoral Training in Pervasive Parallelism, University of Edinburgh, 2017. Topic: “Language integrated incremental relational lenses”.

Osama Almurshed, MSc. Computer Science, 2017. Topic: “Survey Management Application LinksSurvey: Evaluating Links Web Programming Language”.

Jie Li, MSc. Computer Science, 2017. Topic: “Evaluating Web Programming Languages”.

Jiehua Zeng, MSc. Computer Science, 2017. Topic: “Evaluating Links, a Web Programming Language”.

Valentin Caloean, MSc. Computer Science (merit), 2016. Topic: “Parsing And Interpreting The Puppet Configuration Language”.

Wen Shi, MSc. Informatics (distinction), University of Edinburgh, 2015. Topic: “Evaluating XML/tree constraint solving algorithms”

Zhuowei Yang, MSc. Informatics, University of Edinburgh, 2015. Topic: “Database Wiki: Role-based access control model”.

Mingjun Han, MSc. Informatics, University of Edinburgh, 2014. Topic: “Improving access control policies for DBWiki”.

Shasha Song, MSc. Informatics, University of Edinburgh, 2013. Topic: “Database Wiki: Bidirectional synchronization”.

Danlin Gu, MSc. Artificial Intelligence, University of Edinburgh, 2013. Topic: “DBWiki: Image Annotation”.

Rustam Aliyev, MSc. Computer Science, University of Edinburgh, 2012. Topic: “Database Wiki: Query Optimization”.

Mindaugas Tvaronavičius, MSc. Informatics, University of Edinburgh, 2012. Topic: “Update History Visualization in a Database Wiki”.

Jiayan Qin, MSc. Informatics, University of Edinburgh, 2012. Topic: “Data visualization based on embedded query for Database Wiki”.

Haoli Qu, MSc. Informatics, University of Edinburgh, 2011. Topic: “Chart/graph-based visualization and geospatial visualization for Database Wiki data”.

Hui Li, MSc. Informatics, University of Edinburgh, 2011. Topic: “Query optimization for a Database Wiki”.

Snehal Waychal, MSc. Informatics, University of Edinburgh, 2011. Topic: “Database Wiki: provenance, querying and visualization”.

Tom Bo Liu, MSc. Informatics, University of Edinburgh, 2010. Topic: “Design and implementation of XML access control for a Web database”.

Publications

Journal articles

1. Jan Stolarek and James Cheney. Language-integrated provenance in Haskell. *The Art, Science and Engineering of Programming*, 2(3):A11, 2018.
2. Stefan Fehrenbach and James Cheney. Language-integrated provenance. *Science of Computer Programming*, 155:103–145, 2018. **Invited special issue on best papers of PPDP 2016.**
3. Roly Perera and James Cheney. Proof-relevant π -calculus: a constructive approach to concurrency and causality. *Mathematical Structures in Computer Science*, to appear. **Invited special issue on best papers of FMTP 2015.**
4. James Cheney, Jeremy Gibbons, James McKinna, and Perdita Stevens. On principles of Least Change and Least Surprise for bidirectional transformations. *Journal of Object Technology*, volume 16, no. 1 (February 2017), 3:1–31, 2017. **Invited special issue on best papers of BX 2015.**
5. James Cheney and Alberto Momigliano. α Check: A mechanized metatheory model-checker. *Theory and Practice of Logic Programming*, 17(3):311–352, 2017.
6. James Cheney. A simple sequent calculus for nominal logic. *Journal of Logic and Computation* 26(2):699–726, 2016.
7. Luc Moreau, Paul Groth, James Cheney, Simon Miles and Timothy Lebo. The rationale of PROV. *Journal of Web Semantics*, 35 (2015) 235–257.
8. Timothy McPhillips, Tianhong Song, Tyler Kolisnik, Steve Aulenbach, Khalid Belhajjame, R. Kyle Bocinsky, Yang Cao, James Cheney, Fernando Chirigati, Saumen Dey, Juliana Freire, Christopher Jones, James Hanken, Keith W. Kintigh, Timothy A. Kohler, David Koop, James A. Macklin, Paolo Missier, Mark Schildhauer, Christopher Schwalm, Yaxing Wei, Mark Bieda, and Bertram Ludscher. YesWorkflow: A User-Oriented, Language-Independent Tool for Recovering Workflow Information from Scripts. *International Journal of Digital Curation*, 10(1):298–313, 2015.
9. Umut A. Acar, Amal Ahmed, James Cheney and Roly Perera. A core calculus for provenance. *Journal of Computer Security*, 21:919–969, 2013. **Invited special issue on best papers of POST 2012.**
10. James Cheney. Revisiting “Forward Node-Selecting Queries over Trees”. *Transactions on Database Systems* 38(2):13, 2013.
11. Loreto Bravo, James Cheney, Irimi Fundulaki and Ricardo Segovia. Consistency and repair for XML write-access control policies. *VLDB Journal*, 21(6):843–867, 2012.
12. Paul Groth, Yolanda Gil, James Cheney and Simon Miles. Requirements for Provenance on the Web. *International Journal of Digital Curation*, 7:1:39–56, 2012.
13. James Cheney, Michael Norrish, and René Vestergaard. Formalizing adequacy for higher-order abstract syntax: a case study. *Journal of Automated Reasoning*, 49(2):209–239, 2012.
14. James Cheney. A dependent nominal type theory. *Logical Methods in Computer Science*, 8(1):A8, 2012.
15. James Cheney, Amal Ahmed, and Umut A. Acar. Provenance as dependency analysis. *Mathematical Structures in Computer Science*, 21(6):1301–1337, 2011.
16. Christian Urban, James Cheney and Stefan Berghofer. Mechanizing the Metatheory of LF. *ACM Transactions on Computational Logic*, 12(2):A15, 2011.
17. James Cheney. Equivariant unification. *Journal of Automated Reasoning*, 45(3):267–300, 2010.
18. James Cheney, Laura Chiticariu, and Wang-Chiew Tan. Provenance in databases: Why, how, and where. *Foundations and Trends in Databases*, 1(4):379–474, 2009.

19. Peter Buneman, James Cheney, and Stijn Vansummeren. On the expressiveness of implicit provenance in query and update languages. *ACM Transactions on Database Systems*, 33(4):28, November 2008. **Invited special issue on best papers of ICDT 2007.**
20. James Cheney and Christian Urban. Nominal logic programming. *ACM Transactions on Programming Languages and Systems*, 30(5):26, August 2008.
21. James Cheney. Completeness and Herbrand theorems for nominal logic. *Journal of Symbolic Logic*, 71(1):299–320, 2006.

Conference papers

1. Wilmer Ricciotti and James Cheney. Explicit auditing. *Proceedings of the 15th International Conference on Theoretical Aspects of Computing*, to appear.
2. Rudi Horn, Roly Perera and James Cheney. Incremental relational lenses. *Proceedings of the 23rd International Conference on Functional Programming (ICFP 2018)*, PACM:PL 2(ICFP):74:1–74:28, 2018.
3. Wilmer Ricciotti and James Cheney. Strongly normalizing audited computation. *Proceedings of the 26th EACSL Annual Conference on Computer Science Logic (CSL 2017)*, p. 36:1–36:21, 2017.
4. Wilmer Ricciotti, Jan Stolarek, Roly Perera and James Cheney. Imperative functional programs that explain their work. *Proceedings of the 22nd International Conference on Functional Programming (ICFP 2017)*, PACM:PL 1(ICFP):14:1–14:28, 2017.
5. Weili Fu, Roly Perera, Paul Anderson and James Cheney. μ Puppet: A declarative subset of the Puppet configuration language. *Proceedings of the 31st European Conference on Object-Oriented Programming (ECOOP 2017)*, p. 12:1–12:27, 2017.
6. Stefan Fehrenbach and James Cheney. Language-integrated provenance. *Proceedings of the 18th International Symposium on Principles and Practice of Declarative Programming (PPDP 2016)*, p. 214–227, 2016.
7. Roly Perera, Deepak Garg and James Cheney. Causally consistent dynamic slicing. *Proceedings of the 27th International Conference on Concurrency Theory (CONCUR 2016)*, p. 18:1–18:15, 2016.
8. James Cheney, Alberto Momigliano and Matteo Pessina. Advances in Property-Based Testing for α Prolog. *Proceedings of the 10th International Conference on Tests and Proofs, TAP 2016*, p. 37–56, 2016.
9. Faris Abou-Saleh, James Cheney, Jeremy Gibbons, James McKinna, and Perdita Stevens. Notions of bidirectional computation and entangled state monads. *Proceedings of the 2015 International Conference on Mathematics of Program Construction (MPC 2015)*, p. 187–214, 2015.
10. Harry Halpin and James Cheney. Dynamic provenance for SPARQL Update. *Proceedings of the 2014 International Semantic Web Conference (ISWC 2014)*, p. 425–440, 2014.
11. James Cheney and Amal Ahmed and Umut A. Acar. Database queries that explain their work. *Proceedings of the 2014 ACM SIGPLAN Conference on Principles and Practice of Declarative Programming (PPDP 2014)*, p. 271–282, 2014.
12. James Cheney, Sam Lindley and Philip Wadler. Query shredding: efficient relational evaluation of queries over nested multisets. *Proceedings of the ACM SIGMOD 2014 Conference on Management of Data (SIGMOD 2014)*, pages 1027–1038, 2014.
13. James Cheney, Sam Lindley, Gabriel Radanne and Philip Wadler. Effective quotation: relating approaches to language-integrated query. *Proceedings of the ACM SIGPLAN 2014 Workshop on Partial Evaluation and Program Manipulation (PEPM 2014)*, pages 15–26, 2014.
14. James Cheney, Sam Lindley and Philip Wadler. A practical theory of language-integrated query. *Proceedings of the 18th International Conference on Functional Programming (ICFP 2013)*, pages 403–416, 2013.

15. Roly Perera, Umut A. Acar, James Cheney, and Paul Blain Levy. Functional programs that explain their work. *Proceedings of the 17th International Conference on Functional Programming (ICFP 2012)*, pages 365–376, 2012.
16. Umut Acar, Amal Ahmed, James Cheney, and Roly Perera. A core calculus for provenance. *Proceedings of the 1st Conference on Principles of Security and Trust (POST 2012)*, pages 410–429, 2012.
17. James Cheney and Christian Urban. Mechanizing the metatheory of mini-XQuery. *Proceedings of the 1st Conference on Certified Programs and Proofs (CPP 2011)*, pages 280–295, 2011.
18. James Cheney. A formal foundation for provenance security. *Proceedings of the 24th IEEE Computer Security Foundations Symposium (CSF 2011)*, pages 281–293, 2011.
19. James Cheney. Satisfiability algorithms for conjunctive queries over trees. *Proceedings of the 14th International Conference on Database Theory (ICDT 2011)*, pages 150–161, 2011.
20. Michael Benedikt and James Cheney. Destabilizers and independence of XML updates. *Proceedings of the VLDB Endowment (VLDB 2010)*, 3(1):906–917, 2010.
21. James Cheney, Stephen Chong, Nate Foster, Margo Seltzer, and Stijn Vansummeren. Provenance: a future history. In *Proceedings of Onward! 2009*, p. 957-964, 2009.
22. Michael Benedikt and James Cheney. Schema-based independence analysis for XML updates. *Proceedings of the VLDB Endowment (VLDB 2009)*, 2(1):61–72, 2009.
23. Michael Benedikt and James Cheney. Semantics, types and effects for XML updates. In *Proceedings of the International Symposium on Database Programming Languages (DBPL 2009)*, pages 1–17, 2009.
24. Robert I. McKay, Xuan Hoai Nguyen, James R. Cheney, MinHyeok Kim, Naoki Mori, and Tuan Hao Hoang. Estimating the distribution and propagation of genetic programming building blocks through tree compression. In *Proceedings of the 11th Annual conference on Genetic and Evolutionary Computation (GECCO 2009)*, pages 1011–1018, New York, NY, USA, 2009. ACM.
25. James Cheney. FLUX: Functional Updates for XML. In *Proceedings of the 13th ACM SIGPLAN International Conference on Functional Programming (ICFP 2008)*, pages 3–14, 2008.
26. Christian Urban, James Cheney, and Stefan Berghofer. Mechanizing the metatheory of LF. In *Proceedings of the 23rd Annual IEEE Symposium on Logic in Computer Science (LICS 2008)*, pages 45–56, 2008.
27. James Cheney. Regular expression subtyping for XML query and update languages. In *Proceedings of the 17th European Symposium on Programming (ESOP 2008)*, number 4960 in LNCS, pages 32–46, 2008.
28. James Cheney, Amal Ahmed, and Umut A. Acar. Provenance as dependency analysis. In *Proceedings of the 11th International Symposium on Database Programming Languages (DBPL 2007)*, number 4797 in LNCS, pages 139–153, Vienna, Austria, September 2007. Springer-Verlag.
29. Loreto Bravo, James Cheney, and Iriini Fundulaki. Repairing inconsistent XML write-access control policies. In *Proceedings of the 11th International Symposium on Database Programming Languages (DBPL 2007)*, number 4797 in LNCS, pages 98–112, Vienna, Austria, September 2007. Springer-Verlag.
30. James Cheney and Alberto Momigliano. Mechanized metatheory model-checking. In *Proceedings of the 9th ACM SIGPLAN international symposium on Principles and practice of declarative programming (PPDP 2007)*, pages 75–86, New York, NY, USA, 2007. ACM Press.
31. Peter Buneman, James Cheney, and Stijn Vansummeren. On the expressiveness of implicit provenance in query and update languages. In *International Conference on Database Theory (ICDT 2007)*, number 4353 in Lecture Notes in Computer Science, pages 209–223. Springer-Verlag, 2007.
32. James Cheney. The semantics of nominal logic programs. In *Proceedings of the 22nd International Conference on Logic Programming (ICLP 2006)*, number 4079 in LNCS, pages 361–375. Springer-Verlag, 2006.

33. Peter Buneman, Adriane P. Chapman, and James Cheney. Provenance management in curated databases. In *Proceedings of the 2006 SIGMOD Conference on Management of Data (SIGMOD 2006)*, pages 539–550, Chicago, IL, 2006. ACM Press. **2016 ACM SIGMOD Test-of-Time award.**
34. James Cheney. Tradeoffs in XML compression. In *Proceedings of the 2006 IEEE Data Compression Conference (DCC 2006)*, pages 392–401. IEEE Press, 2006.
35. James Cheney. Scrap your nameplate (functional pearl). In Benjamin Pierce, editor, *Proceedings of the 10th International Conference on Functional Programming (ICFP 2005)*, pages 180–191, Tallinn, Estonia, September 2005. ACM Press.
36. James Cheney. A simpler proof theory for nominal logic. In *Proceedings of the 2005 Conference on Foundations of Software Science and Computation Structures (FOSSACS 2005)*, number 3441 in LNCS, pages 379–394. Springer-Verlag, 2005.
37. Christian Urban and James Cheney. Avoiding equivariant unification. In *Proceedings of the 2005 Conference on Typed Lambda Calculus and Applications (TLCA 2005)*, number 3461 in LNCS, pages 74–89. Springer-Verlag, 2005.
38. James Cheney. Equivariant unification. In *Proceedings of the 2005 Conference on Rewriting Techniques and Applications (RTA 2005)*, number 3467 in LNCS, pages 74–89, 2005.
39. Murdoch J. Gabbay and James Cheney. A sequent calculus for nominal logic. In *Proceedings of the 19th Annual IEEE Symposium on Logic in Computer Science (LICS 2004)*, pages 139–148, Turku, Finland, 2004.
40. James Cheney. The complexity of equivariant unification. In *Proceedings of the 31st International Colloquium on Automata, Languages and Programming (ICALP 2004)*, volume 3142 of LNCS, pages 332–344. Springer-Verlag, 2004.
41. James Cheney and Christian Urban. Alpha-Prolog: A logic programming language with names, binding and alpha-equivalence. In *Proceedings of the 20th International Conference on Logic Programming (ICLP 2004)*, number 3132 in LNCS, pages 269–283. Springer-Verlag, 2004.
42. James Cheney and Ralf Hinze. A lightweight implementation of generics and dynamics. In *Proceedings of the 2002 ACM SIGPLAN workshop on Haskell (Haskell Workshop 2002)*, pages 90–104, 2002.
43. Dan Grossman, Greg Morrisett, Trevor Jim, Michael Hicks, Yanling Wang, and James Cheney. Region-based memory management in Cyclone. In *Proceedings of the 2002 ACM Conference on Programming Language Design and Implementation (PLDI 2002)*, pages 282–293, Berlin, Germany, June 2002. ACM Press.
44. Trevor Jim, Greg Morrisett, Dan Grossman, Michael Hicks, James Cheney, and Yanling Wang. Cyclone: A safe dialect of C. In *Proceedings of the USENIX Annual Technical Conference (USENIX 2002)*, pages 275–288, Monterey, CA, June 2002. USENIX.
45. James Cheney, Carl Lagoze, and Peter Botticelli. Toward a theory of information preservation. In P. Constantopolous and I. T. Sølvsberg, editors, *Proceedings of the 5th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2001)*, volume 2163 of *Lecture Notes in Computer Science*, pages 340–351, Darmstadt, Germany, September 2001. Springer-Verlag.
46. James Cheney. Compressing XML with multiplexed hierarchical models. In *Proceedings of the 2001 IEEE Data Compression Conference (DCC 2001)*, pages 163–172, Snowbird, UT, March 2001. IEEE Press.

Workshop and demonstration papers

1. Sheung Chi Chan, James Cheney, Ashish Gehani, Ripduman Sohan, and Hassaan Irshad. Expressiveness benchmarking for system-level provenance. In *Proceedings of the 9th USENIX Workshop on Theory and Practice of Provenance (TaPP 2017)*, 2017.

2. Rui Abreu, Dave Archer, Erin Chapman, Hoda Eldardiry, James Cheney, and Adria Gascon. Provenance segmentation. In *Proceedings of the 8th USENIX Workshop on Theory and Practice of Provenance (TaPP 2016)*, 2016.
3. Roly Perera and James Cheney. Proof-relevant π -calculus. In *Proceedings of the 10th International Workshop on Logical Frameworks and Metalanguages, Theory and Practice (LFMTP 2015)*, 46–70, 2015.
4. James Cheney, Jeremy Gibbons, James McKinna, and Perdita Stevens. Towards a principle of least surprise for bidirectional transformations. In *Proceedings of the Fourth International Workshop on Bidirectional Transformations (BX 2015)*, CEUR-WS 1396:66-80, 2015.
5. Stefan Fehrenbach and James Cheney. Language-integrated provenance in Links. In *Proceedings of the 7th USENIX Workshop on Theory and Practice of Provenance (TaPP 2015)*, 2015.
6. James Cheney and Roly Perera. An analytical survey of provenance sanitization. In *Proceedings of the 2014 International Provenance and Annotation Workshop (IPAW 2014)*, LNCS 8628, pages 113–126, 2014.
7. James Cheney, James McKinna, Perdita Stevens and Jeremy Gibbons. Towards a Repository of Bx Examples. In *Proceedings of the Third International Workshop on Bidirectional Transformations (BX 2014)*, pages 87–91, 2014.
8. James Cheney, James McKinna, Perdita Stevens, Jeremy Gibbons, Faris Abou-Saleh: Entangled State Monads. In *Proceedings of the Third International Workshop on Bidirectional Transformations (BX 2014)*, pages 108–111, 2014.
9. James Cheney, Umut A. Acar and Roly Perera. Towards a theory of self-explaining computation. In *search of elegance in the theory and practice of computation: a Festschrift in honour of Peter Buneman*, LNCS 8000, pages 193–216, 2013.
10. Eric Griffis, Paul Martin and James Cheney. Semantics and Provenance for Processing Element Composition in Dispel Workflows, WORKS 2013.
11. Alessandro Spinuso, James Cheney, Malcolm Atkinson. Provenance for seismological processing pipelines in a distributed streaming workflow. In *BigProv 2013*.
12. Raghu Rajkumar, Nate Foster, Sam Lindley, James Cheney: Lenses for Web Data. In *Proceedings of the Second International Workshop on Bidirectional Transformations (BX 2013)*, ECEASST 57, 2013.
13. James Cheney. Static Enforceability of XPath-Based access control policies. In *Proceedings of the 14th International Symposium on Database Programming Languages (DBPL 2013)*, available at <http://arxiv.org/abs/1309.1334>, 2013.
14. Paul Anderson and James Cheney. Toward provenance-based security for configuration languages. In *TAPP 2012*.
15. Peter Buneman, James Cheney, and Egor Kostylev. Hierarchical models of provenance. In *TAPP 2012*.
16. Sam Lindley and James Cheney. Row-based effect types for database integration. In *Proceedings of the 7th ACM SIGPLAN Workshop on Types in Language Design and Implementation (TLDI 2012)*, pages 91–102, ACM.
17. James Cheney, Sam Lindley and Heiko Mueller. Using Links to prototype a Database Wiki. In *Proceedings of the 2011 Symposium on Database Programming Languages*. Informal proceedings.
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