Curriculum Vitae

Harley Eades III, Ph.D.
Assistant Professor
School of Computer and Cyber Sciences
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Augusta, GA 30912
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EDUCATION:

Doctor of Philosophy in Computer Science, August 2014.
University of Iowa, IA
Dissertation Title: The Semantic Analysis of Advanced Programming Languages

Masters of Science in Computer Science, May 2013.
University of Iowa, IA

Bachelor of Science in Applied Mathematics and Computer Science, May 2009.
Millikin University

WORK EXPERIENCE:

2014, August – Present: Assistant Professor
Augusta University School of Computer and Cyber Sciences
- Research, teaching, service

AWARDS/RECOGNITION:

- Recognized for Scholarship at the Annual Celebration of Faculty, Augusta University, 2018.
- The Graduate College Summer Fellowship, University of Iowa, 2013.
- The Strategic Initiative Funds Fellowship, University of Iowa, 2011.
- Mathematics and Computer Science Award, Millikin University, 2009.
- Mathematics and Computer Science Award, Millikin University, 2008.
- Mathematics and Computer Science Award, Millikin University, 2007.

PROFESSIONAL ORGANIZATION MEMBERSHIPS:

- ACM Special Interest Group on Logic and Computation (2014–Present)
- ACM Special Interest Group on Programming Languages (2014–Present)
- Eurpoean Association of Theoretical Computer Science (2011–Present)

NATIONAL AND INTERNATIONAL SERVICE:

- Chair (2019–2020), First Annual Southeast Regional Programming Languages Seminar (SERPL).
- Programming Committee Member (2017–Present), The International Workshop on Graphical Models for Security (GraMSec).
- Programming Committee Member (2013), The Seventh ACM SIGPLAN Workshop on Programming Languages meets Program Verification (PLPV).
- Reviewer (2019), NSF Hardware and Software Foundations SMALL competition.
- Reviewer (2019), NSF Formal Methods in the Field (FMitF) competition,
- Reviewer (2018), 11th Conference on Intelligent Computer Mathematics (CICM 2018).
- Reviewer (2018), Advances in Modal Logic (AiML).
- Reviewer (2018), Seventh Workshop on Mathematically Structured Functional Programming (MSFP).
- Reviewer (2018), Logical Methods in Computer Science (Journal).
- Reviewer (2016), Sixteenth International Workshop on Logic and Computational Complexity (LCC).
- Reviewer (2016), Advances in Modal Logic (AiML).
- Reviewer (2016), The Thirty-First Annual ACM/IEEE Symposium on Logic in Computer Science (LICS).
- Reviewer (2015), Workshop on Logic, Language, Information and Computation (Wollic).
- Reviewer (2015), Logica Universalis (Journal).
- Reviewer (2015), The 13th International Conference on Typed Lambda Calculi and Applications (TLCA).
- Reviewer (2015), Logical Methods in Computer Science (Journal).
- Reviewer (2014), The 7th International Joint Conference on Automated Reasoning (IJCAR).
- Reviewer (2014), Joint Meeting of the Twenty-Third EACSL Annual Conference on Computer Science Logic (CSL) and the Twenty-Ninth Annual ACM/IEEE Symposium on Logic in Computer Science (LICS).
- Reviewer (2013), Logical Methods in Computer Science (Journal).
- Reviewer (2013), The 11th International Conference on Typed Lambda Calculi and Applications (TLCA).
- Reviewer (2013), The 19th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS).
- Reviewer (2013), The 23rd International Conference on Rewriting Techniques and Applications (RTA).
- Reviewer (2012), The 6th International Joint Conference on Automated Reasoning (IJCAR).

UNIVERSITY/COLLEGE SERVICE:

- Member of the Graduate School of Augusta University (Spring 2019 – Present)
- SCCS Masters in Computer Science Proposal Committee (Spring 2019)

- SCCS Faculty Search (Spring 2019)
- SCCS Faculty Affairs Committee (2018)
- CURS Faculty Advisory Committee (2017–Present)
- S-STEM Workgroup (2017–2018)
- CS Education Endorsement Workgroup (2017–2018)
- SCCS Faculty Affairs Committee, Augusta University (2017–Present)
- IT Advisory Committee: Research Advisory Subcommittee (2016–Present)
- Curriculum and Academic Policies Augusta University, (2016–2018)
- HULL Faculty Affairs Committee (2016–2017)
- HULL ABET Assessment Committee (2015–2017)
- HULL Computer Science Curriculum Committee (2015)
- HULL Undergraduate Curriculum Committee, Augusta University (Fall 2015)
- Internal Advisory Committee for the Cyber Institute (2014–2016)

TEACHING EXPERIENCE:

- Mathematical Structures in Computer Science (Undergraduate)
- Theory of Computation (Undergraduate)
- Programming Languages Concepts (Undergraduate)
- Introduction to Category Theory in Computer Science (Graduate)

REFEREED JOURNAL PUBLICATIONS

Constructive Temporal Logic, Categorically. Valeria de Paiva and Harley Eades III. IFCoLog Journal of Logic and its Applications. 01 February 2017. Volume 4, Number 4, Special Issue Dedicated to the Memory of Grigori Mints. 21 pages in length.

Dualized Simple Type Theory. Harley D. Eades III, Aaron Stump, Ryan McCleeary. Logical Methods in Computer Science, 15 August 2016. Volume 12, Issue 3. 47 pages in length. DOI: 10.2168/LMCS-12(3:2)2016

Equational Reasoning about Programs with General Recursion and Call-by-value Semantics. Garrin Kimmell, Aaron Stump, Harley D. Eades III, Peng Fu, Tim Sheard, Stephanie Weirich, Chris Casinghino, Vilhelm Sjoberg, Nathan Collins and Ki Yung Ahn. Special Issue on Advanced Programming Techniques for Construction of Robust, General and Evolutionary Programs. Progress in Informatics, pages 19-46, March 2013, journal version of PLPV'12 paper.

REFEREED CONFERENCE AND WORKSHOP PUBLICATIONS

Dialectica Categories for the Lambek Calculus. Valeria de Paiva and Harley Eades III. In In Sergei Artemov and Anil Nerode, editors, Proceedings of the Symposium of Logical Foundations of Computer Science (LFCS), Deerfield Beach, Florida, United States, Jan. 8-11, volume 1073 of Lecture Notes in Computer Science, pages 256-272. Springer International Publishing, 2018. DOI: 10.1007/978-3-319-72056-2_16. Acceptance rate: 56%.

Multiple Conclusion Linear Logic: Cut Elimination and More. Harley D. Eades III and Valeria de Paiva. In Sergei Artemov and Anil Nerode, editors, Proceedings of the Symposium of Logical Foundations of Computer Science (LFCS), Deerfield Beach, Florida, United States, Jan. 4-7, volume 9537 of Lecture Notes in Computer Science, pages 90-105. Springer International Publishing, 2016. DOI: 10.1007/978-3-319-27683-0_7. Acceptance rate: 57%.

On Linear Logic, Functional Programming, and Attack Trees. Harley Eades III, Jiaming Jiang, and Aubrey Bryant. To appear: The Fifth International Workshop on Graphical Models for Security (GraMSec), co-located with Computer Security Foundations, in conjunction with the Federated Logic Conference. July 2018. 15 pages in length.

Extended Abstract: On the Lambek Calculus with an Exchange Modality. Jiaming Jiang, Harley Eades III, and Valeria de Paiva. To appear: The Joint Workshop on Linearity & TLLA, co-located with Third International Conference on Formal Structures for Computation and Deduction (FCSD) in conjunction with the Federated Logic Conference. July 2018. 8 pages in length.

Extended Abstract: Explaining Type Errors. Brent Yorgey, Richard A. Eisenberg, and Harley D. Eades III. Off the Beaten Track (OBT). Associated with The 45th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL). January 2018. 2 pages in length.

Introducing a New Project on The Combination of Substructural Logics and Dependent Type Theory. Harley Eades III. International Workshop on Trends in Linear Logic and Applications (TLLA) affiliated with the Second International Conference on Formal Structures for Computation and Deduction (FSCD). 31 July 2017. 2 pages in length.

Abstract: Dialectica categories for the Lambek calculus. Valeria de Paiva and Harley D. Eades III. Association for Symbolic Logic (ASL) Spring Meeting jointly held with the Annual Meeting of the Pacific Division of the American Philosophical Association. April 2017. 2 pages in length.

Abstract: On Linear Modalities for Exchange, Weakening, and Contraction. Harley D. Eades III and Jiaming Jiang. Workshop on Linear Logic, Mathematics, and Computer Science. Associated with Linear Logic: Interaction, Proofs, and Computation (LL2016). November 2016. 2 pages in length.

Extended Abstract: Reconsidering Intuitionistic Duality. Aaron Stump, Harley D. Eades III, and Ryan McCleeary. Workshop on Control Operators and their Semantics (COS). Affiliated with Rewriting, Deduction, and Programming (RDP). June 2013. 5 pages in length.

Hereditary Substitution for the $\lambda\Delta$-Calculus. Harley D. Eades III and Aaron Stump. In Ugo de'Liguoro and Alexis Saurin, editors, Proceedings First Workshop on Control Operators and their Semantics, Eindhoven, The Netherlands, June 24-25, 2013 , volume 127 of Electronic Proceedings in Theoretical Computer Science, pages 45-65. Open Publishing Association, 2013.

LFSC for SMT Proofs: Work in Progress. Aaron Stump, Andrew Reynolds, Cesare Tinelli, Austin Laugesen, Harley D. Eades III, Corey Oliver and Ruoyu Zhang. Proof Exchange For Theorem Proving (PxTP). 2012. 7 pages in length.

Irrelevance, heterogeneous equality, and call-by-value dependent type systems. Vilhelm Sjoberg, Chris Casinghino, Ki Yung Ahn, Nathan Collins, Harley D. Eades III, Peng Fu, Garrin Kimmell, Tim Sheard, Aaron Stump, and Stephaine Weirich. In J. Chapman and P. B. Levy, editors, Proceedings Fourth Workshop on Mathematically Structured Functional Programming, Tallinn, Estonia, 25 March 2012, volume 76 of Electronic Proceedings in Theoretical Computer Science, pages 112-162. Open Publishing Association, 2012.

Equational Reasoning about Programs with General Recursion and Call-by-value Semantics. Garrin Kimmell, Aaron Stump, Harley D. Eades III, Peng Fu, Tim Sheard, Stephanie Weirich, Chris Casinghino, Vilhelm Sjoberg, Nathan Collins and Ki Yung Ahn. The Sixth ACM SIGPLAN Workshop Programming Languages meets Program Verification (PLPV), pages 15-26, 2012.

Hereditary Substitution for Stratified System F. Harley D. Eades III and Aaron Stump. International Workshop on Proof-Search in Type Theories (PSTT), 2010. Affiliated with the Federated Logic Conference (FLoC). 7 pages in length.

Full Intuitionistic Linear Logic (FILL). Harley D. Eades III and Valeria de Paiva. Entry in Encyclopedia of Proof Systems. Presented as a Poster at the 25th jubilee edition of the International Conference on Automated Deduction (CADE). `http://proofsystem.github.io/Encyclopedia/`. 2015.

INVITED SPEAKER PRESENTATIONS

The Three Perspectives of Computation. Harley D. Eades III. Department of Mathematical Sciences Colloquium Speaker. October 2016. Length: 55min.

A New Foundation of Attack Trees in Monoidal Categories. Harley D. Eades III. Computer Science Department Colloquium Speaker. The University of Iowa. September 2016. Length: 60min.

OTHER RESEARCH CONTRIBUTIONS

Lambek Calculus. Harley D. Eades III and Valeria de Paiva. Entry in Encyclopedia of Proof Systems. `http://proofsystem.github.io/Encyclopedia/`. 2016.

Two-sided Linear Sequent Calculus. Elaine Pimentel and Harley D. Eades III. Entry in Encyclopedia of Proof Systems. `http://proofsystem.github.io/Encyclopedia/`. 2015.

Constructive Modal Logic S4 (CS4). Harley D. Eades III and Valeria de Paiva. Entry in Encyclopedia of Proof Systems. `http://proofsystem.github.io/Encyclopedia/`. 2015.

Full Intuitionistic Logic. Harley D. Eades III and Valeria de Paiva. Entry in Encyclopedia of Proof Systems. `http://proofsystem.github.io/Encyclopedia/`. 2015.

GRANTS/FUNDING

Percent Funded: 43%
Total Funded: $84,484

Title	CAREER: Developing the Theory of Resource-Sensitive Type Systems
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$550,000
Type	External
PI(s)	Harley Eades III
Beginning/Ending Dates	March 2020 - February 2025
Status (Unfunded, Funded, Pending)	Pending

Title	NSF Student Travel Grant for 2019 Southeast Regional Programming Languages Seminar (SERPL)
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$5,000
Type	External
PI(s)	Harley Eades III and Clément Aubert
Beginning/Ending Dates	March 2019 - February 2020
Status (Unfunded, Funded, Pending)	Funded

Title	CAREER: Developing the Theory of Resource-Sensitive Dependent Type Systems
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$642,591
Type	External
PI(s)	Harley Eades III
Status (Unfunded, Funded, Pending)	Unfunded

Title	IIAP: Verifying Information Flow Secure Programs using Graded Dependent Types
Funding Organization	Augusta University's Cyber Institute
$ Amount Requested	$9,263
Type	Internal
PI(s)	Harley Eades III
Beginning/Ending Dates	November 2017 - July 2018
Status (Unfunded, Funded, Pending)	Funded

Title	CAREER: Tenli: A Platform that Takes the Verification of Resource Dependent Systems Seriously
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$500,272
Type	External
PI(s)	Harley Eades III
Status (Unfunded, Funded, Pending)	Unfunded

Title	Disco: A Programming Environment for Discrete Mathematics Education
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$299,254
Type	External (Collaborative)
PI(s)	Harley Eades III and Brent Yorgey
Status (Unfunded, Funded, Pending)	Unfunded

Title	CRII:SHF: A New Foundation for Attack Trees Based on Monoidal Categories
Funding Organization	National Science Foundation (NSF)
$ Amount Requested	$70,221
Type	External
PI(s)	Harley Eades III
Beginning/Ending Dates	March 2016 - February 2019
Status (Unfunded, Funded, Pending)	Funded