GRIGORY FEDYUKOVICH	
Current Position	**Assistant Professor (Tenure Track)**: Computer Science Department at Florida State University
Research interests	**Automated Program Verification**: • Synthesis of Proofs for Program Verification: Inductive Invariants for Safety, Ranking Functions for Termination, Existential Recurrence Sets for Non-Termination; • Solving Constrained Horn Clauses Using Syntax, Data, and Frequency Distributions; • Verification of Security Properties such as Non-Interference **Regression/Incremental Verification**: • Program Equivalence and Program Simulation; • Function Summarization based on Craig Interpolation **Program Synthesis**: • Functional (Skolem) Synthesis via Lazy Quantifier Elimination; • Enumerative Synthesis for Automatic Parallelization of Loops; • Synthesis of Secure Programs via Eliminating Timing Side-Channel Leaks
Email / Web	grigory@cs.fsu.edu www.cs.fsu.edu/~grigory

AFFILIATION HISTORY	
Aug 2019 - …	**Assistant Professor (Tenure Track)**: Computer Science Department at Florida State University
Oct 2017 - Aug 2019	**PostDoc:** Computer Science Department at Princeton University; **Supervised by:** Prof. Aarti Gupta; **Projects**: Syntax-guided Techniques in Automated Formal Verification, Verification and Synthesis for Security
Jan 2016 - Oct 2017	**PostDoc:** Paul G. Allen School of Computer Science & Engineering at University of Washington (UW), Seattle, USA; **Supervised by:** Prof. Rastislav Bodík; **Projects**: Automatic Parallelization of Single Pass Array-handling Programs; Horn-based Verification of Functional Programs, Probabilistic SyGuS-based Invariant Synthesis

Oct 2010 – Dec 2015	**PhD**: Faculty of Informatics, Università della Svizzera italiana (USI), Lugano, Switzerland; **Supervised by:** Prof. Natasha Sharygina; **Thesis:** Automated Incremental Software Verification
Apr 2010 – Oct 2010	**Internship**: School of Computing, National University of Singapore, Singapore; **Project**: Verification of Quantified Properties over Lists in Coq
Jun 2009 – Mar 2010	**Internship**: Logic and Semantics group at Tallinn Institute of Cybernetics, Estonia; **Project**: A Coq Formalization of an Analysis and Optimization of While
2007 – 2009	**Software Engineer (Java EE)**: Reksoft, Saint Petersburg, Russia
2003 – 2008	**Specialist Degree (Diplom)**: Department of Computer Science, Faculty of Mathematics and Mechanics, Saint Petersburg State University, Russia

COLLABORATION	
2019	**Topic**: Environment Invariants for Hardware Verification **Collaboration** with: Prof Aarti Gupta, Prof Sharad Malik, Princeton University, USA **Publication**: VMCAI 2020 **Tool Development**: Grain
2019	**Topic**: Fold/Unfold Transformations for Fixpoint Logic **Collaboration** with: Prof Naoki Kobayashi, University of Tokyo, Japan **Publication**: TACAS 2020 **Tool Development**: Mu2CHC
2018 – …	**Topic**: Solving Constrained Horn Clauses Using Syntax and Data **Collaboration** with: Dr Kumar Madhukar, Sumanth Prabhu, TCS Research, Pune, India **Publications**: FMCAD 2018, CAV 2019 **Tool Development**: FreqHorn
2015 – …	**Topic**: Synthesis from Skolemized Proofs of Realizability **Collaboration** with: Dr. Michael W. Whalen, University of Minnesota, USA **Publication**: TACAS 2018 **Tool Development**: AE-VAL, JSyn

2016 – …	**Topic**: SMT-based Incremental Bounded Model Checking **Collaboration** with: Dr. Hana Chockler, King's College, London, UK and Prof. Natasha Sharygina, USI, Switzerland **Publications**: TACAS 2017, SAT 2017, LPAR 2018 **Tool Development**: HiFrog
2012 – …	**Topic**: CHC-based Model Checking **Collaboration** with: Prof. Arie Gurfinkel, University of Waterloo, Canada **Publications**: NFM 2014, LPAR 2015, CAV 2016 **Tool Development**: Niagara, Spacer
2014 – 2015	**Topic**: Partial Interpolation Framework **Collaboration** with: Prof. Jan Kofroň, Charles University, Czech Republic **Publication**: FASE 2016 **Tool Development**: eVolCheck, PVAIR
2010 – 2013	EU project **PINCETTE**: number 257647, supported by European Community under the call FP7-ICT-2009-5; **Topic**: Validating Changes and Upgrades in Networked Software; **Collaboration** with: University of Oxford, IBM Israel, University of Milano Bicocca, VTT Finland, Israel Aerospace Industries Ltd., ABB Schweiz, and ABB Germany **Publications**: FMCAD 2012, TACAS 2013, LPAR 2013, ISSTA 2014 **Tool Development**: eVolCheck, FunFrog

GRANTS AND FELLOWSHIPS	
2018	**University of Tokyo – Princeton Strategic Partnership Grant,** 10 000 USD to support a new research collaboration with Prof Naoki Kobayashi
2016	**Postdoc Award**, University of Washington, 23 000 USD for a project on Horn-based Symbolic Model Checking
2015	**Early Postdoc.Mobility Fellowship**, Swiss National Science Foundation, ~100 000 USD for 18 months in University of Washington

SERVICE	
2020	**Program Committee Member:** International Conference on Formal Methods in Computer-Aided Design (FMCAD), the 7th Workshop on Horn Clauses for Verification and Synthesis (HCVS), 12th Working Conference on Verified Software: Theories, Tools, and Experiments (VSTTE), 22nd International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI 2021)

	Grant Proposal Reviewer: National Science Foundation **(**NSF) **Journal Reviewer:** Journal of Logical and Algebraic Methods in Programming (JLAMP), Transactions on Software Engineering (TSE) **Sub-reviewer**: International Conference on Computer Aided Verification (CAV)
2019	**Program Chair:** The 6th Workshop on Horn Clauses for Verification and Synthesis (HCVS), Student Forum at the International Conference on Formal Methods in Computer-Aided Design (FMCAD), 2nd International Competition on Satisfiability of Constrained Horn Clauses (CHC-COMP) **Program Committee Member:** International Conference on Computer Aided Verification (CAV), Seventh International Workshop on Verification and Program Transformation (VPT) **Journal reviewer:** ACM Transactions on Software Engineering and Methodology (TOSEM, two times), Software Quality Journal **Sub-reviewer**: NASA Formal Methods Symposium (NFM), International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2020)
2018	**Program Chair:** Workshop on Verification and Synthesis for Software Evolution (VSSE) **Program Committee Member:** The 16th International Symposium on Automated Technology for Verification and Analysis (ATVA) **Artifact Evaluation Committee Member:** International Conference on Computer Aided Verification (CAV) **Organization Committee Member:** 1st International Competition on Satisfiability of Constrained Horn Clauses (CHC-COMP) **Journal reviewer:** ACM Transactions on Programming Languages and Systems (TOPLAS), ACM Transactions on Software Engineering and Methodology (TOSEM) **Sub-reviewer**: International Conference on Formal Methods in Computer-Aided Design (FMCAD), 25th International Symposium on Model Checking of Software (SPIN), International Conference on Computer Aided Verification (CAV)

2017	**Local Organization Chair**: The 17th International Conference on Runtime Verification (RV) **Program Committee Member:** The 17th International Conference on Runtime Verification (RV), the 4th Workshop on Horn Clauses for Verification and Synthesis (HCVS) **Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2018), The 13th Haifa Verification Conference (HVC), International Conference on Formal Methods in Computer-Aided Design (FMCAD), the 24th Static Analysis Symposium (SAS), International Conference on Software Engineering and Formal Methods (SEFM), International Conference on Computer Aided Verification (CAV)
2016	**Program Chair:** Workshop on Verification and Synthesis for Software Evolution (VSSE) **Program Committee Member:** International Journal on Software Tools for Technology Transfer (STTT, Selected Papers at TACAS), Journal of Automated Reasoning (JAR, Selected Papers at VSTTE) **Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2017), International Symposium on Formal Methods (FM), International Conference on Formal Methods in Computer-Aided Design (FMCAD), Conference on Verified Software: Theories, Tools, and Experiments (VSTTE), International Conference on Computer Aided Verification (CAV), 3rd Workshop on Horn Clauses for Verification and Synthesis (HCVS)
2015	**Sub-reviewer**: International Conference on Formal Methods in Computer-Aided Design (FMCAD), Journal of Automated Reasoning (JAR, Special Issue on Interpolation Techniques for Program Verification and Synthesis), International Conference on Computer Aided Verification (CAV), International Symposium on Formal Methods (FM), NASA Formal Methods Symposium (NFM)
2014	**Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2015), International Conference on Formal Methods in Computer-Aided Design (FMCAD), Ershov Informatics Conference (PSI), International Conference on Computer Aided Verification (CAV) **Organization Committee Member:** Workshop on Validation Strategies for Software Evolution (VSSE)
2013	**Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2014), International Conference on Formal Methods in Computer-Aided Design (FMCAD), Workshop on Validation Strategies for Software Evolution (VSSE) **Organization Committee Member:** International Conference on Computer Aided Verification (CAV)

2012	**Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2013), International Conference on Formal Methods in Computer-Aided Design (FMCAD), Conference on Design, Automation and Test in Europe (DATE), International Symposium on Games, Automata, Logics and Formal Verification (GandALF), Working Conference on Verified Software: Theories, Tools, and Experiments (VSTTE), International Conference on Computer Aided Verification (CAV)
2011	**Sub-reviewer**: International Conference on Formal Methods in Computer-Aided Design (FMCAD), International Conference on Formal Methods and Models for System Design (MEMOCODE)
2010	**Sub-reviewer**: International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2011) **Organization Committee Member:** International Conference on Formal Methods in Computer-Aided Design (FMCAD), Alpine Verification Meeting (AVM)

SOFTWARE	
2019 - …	**AdtInd**, SMT-based theorem prover
2017 - …	**FreqHorn / FreqTerm**, SyGuS-based Constrained-Horn-Clause solver and a termination / non-termination prover
2014 - …	**AE-VAL**, Functional synthesizer for linear arithmetic (via lazy quantifier elimination and extracting Skolem functions)
2016 - 2017	**Rosette/Unbound**, Constrained-Horn-Clause-based Invariant Synthesizer for functional programs in Racket
2013 - 2016	**Niagara**, Constrained-Horn-Clause-based incremental model checker for C
2010 - 2018	**HiFrog / FunFrog / eVolCheck**, incremental SAT/SMT-based bounded model checker for C with function summarization, automated detection of recursion depth, checking assertion dependencies, support for flexible interpolation, and upgrade checking capabilities

JOURNAL PUBLICATIONS AND BOOK CHAPTERS	
2019	Pavel Jancík, Jan Kofroň, Leonardo Alt, Grigory Fedyukovich, Antti E. J. Hyvärinen, Natasha Sharygina: **Exploiting partial variable assignment in interpolation-based model checking**. FMSD 55(1): 33-71

2017	Grigory Fedyukovich, Ondrej Sery, Natasha Sharygina: **Flexible Framework for Incremental Upgrade Checking**. STTT, 19(5): 517-534
2015	Hana Chockler, Daniel Kroening, Leonardo Mariani, Natasha Sharygina (editors) **Validation of Evolving Software.** (4 chapters)

PEER REVIEWED CONFERENCE PUBLICATIONS	
2020	Naoki Kobayashi, Grigory Fedyukovich and Aarti Gupta: **Fold/Unfold Transformations for Fixpoint Logic**, TACAS (2), 195-214
2020	Hongce Zhang, Weikun Yang, Grigory Fedyukovich, Aarti Gupta and Sharad Malik: **Synthesizing Environment Invariants for Modular Hardware Verification**, VMCAI, to appear
2019	Dmitry Mordvinov and Grigory Fedyukovich: **Property Directed Inference of Relational Invariants**, FMCAD: 152-160
2019	Grigory Fedyukovich and Aarti Gupta: **Functional Synthesis with Examples**, CP: 547–564
2019	Weikun Yang, Grigory Fedyukovich, and Aarti Gupta **Lemma Synthesis for Automating Induction over Algebraic Data Types**, CP: 600-617
2019	Grigory Fedyukovich, Sumanth Prabhu, Kumar Madhukar, Aarti Gupta: **Quantified Invariants via Syntax-Guided Synthesis**, CAV: 259-277
2019	Grigory Fedyukovich, Arie Gurfinkel and Aarti Gupta **Lazy but Effective Functional Synthesis**, VMCAI: 92-113
2018	Sepideh Asadi, Martin Blicha, Grigory Fedyukovich, Antti Hyvärinen, Karine Even-Mendoza, Natasha Sharygina and Hana Chockler: **Function Summarization Modulo Theories**, LPAR: 56-75
2018	Grigory Fedyukovich, Sumanth Prabhu, Kumar Madhukar, Aarti Gupta: **Solving Constrained Horn Clauses Using Syntax and Data**, FMCAD: 170-178
2018	Grigory Fedyukovich, Yueling Zhang, Aarti Gupta: **Syntax-Guided Termination Analysis.** CAV (1): 124-143
2018	Lauren Pick, Grigory Fedyukovich, Aarti Gupta: **Exploiting Synchrony and Symmetry in Relational Verification**. CAV (1) 2018: 164-182
2018	Andreas Katis, Grigory Fedyukovich, Huajun Guo, Andrew Gacek, John Backes, Arie Gurfinkel, Michael Whalen:

	Validity-Guided Synthesis of Reactive Systems from Assume-Guarantee Contracts. TACAS (2): 176-193 invited for a Special Issue of Journal of Automated Reasoning (JAR)
2018	Grigory Fedyukovich, Rastislav Bodík: **Accelerating Syntax-Guided Invariant Synthesis**. TACAS (1): 251-269
2017	Grigory Fedyukovich, Samuel Kaufman, Rastislav Bodík: **Sampling Invariants from Frequency Distributions**. FMCAD: 100-107 invited for a Special Issue of the Formal Methods in Systems Design (FMSD) journal
2017	Antti Eero Johannes Hyvärinen, Sepideh Asadi, Karine Even-Mendoza, Grigory Fedyukovich, Hana Chockler, Natasha Sharygina: **Theory Refinement for Program Verification**. SAT: 347-363
2017	Grigory Fedyukovich, Maaz Bin Safeer Ahmad, Rastislav Bodík: **Gradual Synthesis for Static Parallelization of Single-Pass Array-Processing Programs**. PLDI: 572-585
2017	Dmitry Mordvinov, Grigory Fedyukovich: **Synchronizing Constrained Horn Clauses**. LPAR: 338-355
2017	Leonardo Alt, Sepideh Asadi, Hana Chockler, Karine Even-Mendoza, Grigory Fedyukovich, Antti Eero Johannes Hyvärinen, Natasha Sharygina: **HiFrog: SMT-based Function Summarization for Software Verification**. TACAS (2): 207-213
2016	Grigory Fedyukovich, Rastislav Bodík: **Approaching Symbolic Parallelization by Synthesis of Recurrence Decompositions**. SYNT@CAV: 55-66
2016	Grigory Fedyukovich, Arie Gurfinkel, Natasha Sharygina: **Property Directed Equivalence via Abstract Simulation**. CAV (2): 433-453
2016	Pavel Jancík, Leonardo Alt, Grigory Fedyukovich, Antti Eero Johannes Hyvärinen, Jan Kofroň, Natasha Sharygina: **PVAIR: Partial Variable Assignment InterpolatoR**. FASE: 419-434
2015	Grigory Fedyukovich, Arie Gurfinkel, Natasha Sharygina: **Automated Discovery of Simulation Between Programs.** LPAR: 606-621
2015	Leonardo Alt, Grigory Fedyukovich, Antti Eero Johannes Hyvärinen, Natasha Sharygina: **A Proof-Sensitive Approach for Small Propositional Interpolants**. VSTTE: 1-18
2015	Grigory Fedyukovich, Andrea Callia D'Iddio, Antti Eero Johannes Hyvärinen, Natasha Sharygina: **Symbolic Detection of Assertion Dependencies for Bounded Model Checking**. FASE: 186-201

2014	Grigory Fedyukovich, Natasha Sharygina: **Towards Completeness in Bounded Model Checking Through Automatic Recursion Depth Detection**. SBMF: 96-112
2014	Fabrizio Pastore, Leonardo Mariani, Antti Eero Johannes Hyvärinen, Grigory Fedyukovich, Natasha Sharygina, Stephan Sehestedt, Ali Muhammad: **Verification-aided Regression Testing**. ISSTA: 37-48
2014	Grigory Fedyukovich, Arie Gurfinkel, Natasha Sharygina: **Incremental Verification of Compiler Optimizations**. NFM: 300-306
2013	Simone Fulvio Rollini, Leonardo Alt, Grigory Fedyukovich, Antti Eero Johannes Hyvärinen, Natasha Sharygina: **PeRIPLO: A Framework for Producing Effective Interpolants in SAT-based Software Verification**. LPAR: 683-693
2013	Grigory Fedyukovich, Ondrej Sery, Natasha Sharygina: **eVolCheck: Incremental Upgrade Checker for C**. TACAS: 292-307 best student contribution award, invited for a Special Issue of Software Tools for Technology Transfer (STTT) journal
2012	Ondrej Sery, Grigory Fedyukovich, Natasha Sharygina: **Incremental Upgrade Checking by Means of Interpolation-based Function Summaries**. FMCAD: 114-121
2012	Ondrej Sery, Grigory Fedyukovich, Natasha Sharygina: **FunFrog: Bounded Model Checking with Interpolation-based Function Summarization.** ATVA: 203-207
2011	Ondrej Sery, Grigory Fedyukovich, Natasha Sharygina: **Interpolation-Based Function Summaries in Bounded Model Checking**. HVC: 160-175

TALKS AND SEMINARS	
2020 (TBA)	Invited seminar **Functional Synthesis with Examples**. UBC, Canada. Host: Prof. Julia Rubin
2020	Invited seminar **Functional Synthesis with Examples**. University of Waterloo, Canada. Host: Prof. Arie Gurfinkel
2019	Invited seminar **Functional Synthesis with Examples**. USI, Switzerland. Host: Prof. Natasha Sharygina
2019	Invited seminar **Functional Synthesis with Examples**. Ludwig Maximilian University of Munich, Germany, Host: Prof. Gidon Ernst
2019	Conference talk **Property Directed Inference of Relational Invariants**. FMCAD, San Jose, USA

2019	Conference talk **Functional Synthesis with Examples**. CP, Stamford, USA
2019	Invited seminar **Quantified Invariants via Syntax-Guided Synthesis**. USI, Switzerland. Host: Prof. Natasha Sharygina
2019	Conference talk **Quantified Invariants via Syntax-Guided Synthesis**. CAV, NYC, USA
2019	Invited seminar **Quantified Invariants via Syntax-Guided Synthesis**. University of Tokyo, Japan. Host: Prof. Naoki Kobayashi
2019	Invited seminar **Synthesizing Proofs for Program Verification.** Australian National University, Australia. Host: Prof. Tony Hosking
2019	Workshop talks **Report on the Second CHC-Comp**. HCVS and TOOLympics at ETAPS, Prague, Czech Republic
2019	Invited seminar **Synthesizing Proofs for Program Verification**. Aarhus, Denmark. Host: Prof. Magnus Madsen
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of Queensland, Australia. Host: Prof. Ian Hayes
2019	Invited seminar **Synthesizing Proofs for Program Verification**. Aalto University, Finland. Host: Prof. Petteri Kaski
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of Victoria, Canada. Host: Prof. Bruce Kapron
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of Iowa, USA. Host: Prof. Cesare Tinelli
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of California at Santa Cruz, USA. Host: Prof. Lindsey Kuper
2019	Invited seminar **Synthesizing Proofs for Program Verification**. Texas A&M University at College Station, USA. Host: Prof. Jeff Huang
2019	Invited seminar **Synthesizing Proofs for Program Verification**. Florida State University, USA. Host: Prof. Viet Tung Hoang
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of Ohio, USA. Host: Prof. David Juedes
2019	Invited seminar **Synthesizing Proofs for Program Verification**. University of Lisbon, Portugal. Host: Prof. Joao Marques Silva

2019	Conference talk **Lazy but Effective Functional Synthesis**. VMCAI, Cascais, Portugal
2018	Invited seminar **Synthesizing Proofs for Program Verification**. University of Waterloo, Canada. Host: Prof. Arie Gurfinkel
2018	Invited seminar **Synthesizing Proofs for Program Verification**. University of Pennsylvania, USA. Host: Prof. Rajeev Alur
2018	Conference talk **Solving Constrained Horn Clauses Using Syntax and Data**. FMCAD, Austin, USA
2018	Invited seminar **Synthesizing Proofs for Program Verification**. University of Texas at Austin, USA. Host: Prof. Isil Dillig
2018	Invited seminar **Synthesizing Proofs for Program Verification**. Academia Sinica, Taipei, Taiwan. Host: Prof. Yu-Fang Chen
2018	Invited seminar **Synthesizing Proofs for Program Verification**. University of Maryland at College Park, USA. Host: Prof. David Van Horn
2018	Invited seminar **Syntax-Guided Termination Analysis**. TCS Research, Pune, India. Hosts: Sumanth Prabhu, Kumar Madhukar
2018	Conference talk **Syntax-Guided Termination Analysis**. CAV, Oxford, UK
2018	Invited seminar **Sampling Invariants from Frequency Distributions**, Saint Petersburg State University, Russia. Host: Dmitry Mordvinov
2018	Invited seminar **Sampling Invariants from Frequency Distributions**, New York University, USA. Host: Prof. Thomas Wies
2018	Invited seminar **Sampling Invariants from Frequency Distributions**, Yale University, USA. Host: Prof. Ruzica Piskac
2018	Conference talk **Accelerating Syntax-Guided Invariant Synthesis**. TACAS, Thessaloniki, Greece
2018	Invited talk **Property Directed Equivalence via Abstract Simulation**, Dagstuhl Seminar 18151 on Program Equivalence, Dagstuhl, Germany
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, USI, Switzerland. Host: Prof. Natasha Sharygina
2017	Invited seminar **Sampling Invariants from Frequency Distributions**, Charles University, Prague, Czech Republic. Host: Prof. Jan Kofroň

2017	Conference talk **Sampling Invariants from Frequency Distributions**, FMCAD, Vienna, Austria
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, Macquarie University, Sydney, Australia. Host: Prof. Franck Cassez
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, SRI International, Menlo Park, USA. Host: Dr. Jorge Navas
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, KTH, Stockholm, Sweden. Host: Prof. Philipp Haller
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, IMDEA Software Institute, Madrid, Spain. Host: Dr. Pedro López García
2017	Conference talk **Gradual Synthesis for Static Parallelization of Single-Pass Array-Processing Programs**, PLDI, Barcelona, Spain
2017	Invited seminar **Synchronizing Constrained Horn Clauses**, University of California at San Diego, USA. Host: Prof. Ranjit Jhala
2017	Conference talk **Synchronizing Constrained Horn Clauses**, LPAR, Maun, Botswana
2017	Invited seminar **Automated Incremental Software Verification**, Tsinghua University, Beijing, China. Host: Prof. Fei He
2017	Invited seminar **SMT-based Function Summarization for Incremental Software Verification**, University of Massachusetts Lowell, USA. Host: Prof. Jay McCarthy
2017	Invited seminar **SMT-based Function Summarization for Incremental Software Verification**, USI, Switzerland. Host: Prof. Natasha Sharygina
2016	Invited seminar **Automated Incremental Software Verification**, Seoul National University, Seoul, Korea. Host: Prof. Chung-Kil Hur
2016	Invited seminar **Automated Incremental Software Verification**, Hong Kong University of Science and Technology, Hong Kong. Host: Prof. S.C. Cheung
2016	Invited seminar **Witnessing Existential Quantifiers with AE-VAL**, USI, Switzerland. Host: Prof. Natasha Sharygina
2016	Workshop talk **Gradual Synthesis for Static Parallelization**. PLSE Retreat, Leavenworth, USA
2016	Workshop talk **What's Reusable in Program Analysis**. TAPAS at SAS, Edinburgh, UK

2016	Conference talk **Property Directed Equivalence via Abstract Simulation**, CAV, Toronto, Canada
2016	Workshop talk **Approaching Symbolic Parallelization by Synthesis of Recurrence Decompositions**. SYNT at CAV, Toronto, Canada
2016	Invited seminar **Property Directed Equivalence via Abstract Simulation**, USI, Switzerland. Host: Prof. Natasha Sharygina
2016	Invited seminar **Automated Incremental Software Verification**, UW, Seattle, USA
2015	Conference talk **Automated Discovery of Simulation Between Programs**, LPAR, Suva, Fiji
2015	Workshop talk **AE-VAL: Horn clause-based Skolemizer for Forall-Exists-formulas**, HCVS at CAV, San Francisco, USA
2015	Workshop talk **Incremental Proof-Based Verification of Compiler Optimizations**, AVM, Attersee, Austria
2015	Conference talk **Symbolic Detection of Assertion Dependencies for Bounded Model Checking**, FASE, London, UK
2014	Conference talk **Towards Completeness in Bounded Model Checking Through Automatic Recursion Depth Detection**, SBMF, Maceio, Brazil
2014	Conference talk **Incremental Verification of Compiler Optimizations**, NASA Formal Methods, Houston, USA
2014	Invited talk **Producing Effective Interpolants for SAT-based Incremental Verification and Upgrade Checking**, VSSE at ETAPS, Grenoble, France
2013	Conference talk **PeRIPLO: A Framework for Producing Effective Interpolants in SAT-based Software Verification**, LPAR, Stellenbosch, South Africa
2013	Workshop talk **Incremental Upgrade Checking by means of Interpolation-based Function Summaries**, VPT at CAV, Saint Petersburg, Russia
2013	Invited seminar **Interpolation-based Model Checking for Efficient Incremental Analysis of Software** at SEI/CMU, Pittsburgh, USA. Host: Dr. Arie Gurfinkel
2013	Conference talk **eVolCheck: Incremental Upgrade Checker for C**, TACAS, Rome, Italy
2013	Workshop talk **Incremental Model Checking for Upgrade Checks**, VSSE at ETAPS, Rome, Italy

2013	Invited talk and demo **Upgrade Checking in eVolCheck**, ABB Schweiz, Baden, Switzerland. Host: Dr. Manuel Oriol
2012	Conference talk **FunFrog: Bounded Model Checking with Interpolation-based Function Summarization**, ATVA, Trivandrum, India
2012	Workshop talk **Interpolation-based Function Summaries in Bounded Model Checking**, LfSA at CAV, Berkeley, USA
2012	Invited talk **Software Model Checking**, IMT, Irkutsk, Russia
2012	Workshop talk **Bounded Model Checking with Interpolation-based Function Summarization**, AVM, Passau, Germany
2011	Poster session **Function Summaries in Software Upgrade Checking**, HVC, Haifa, Israel
2011	Tutorials **FunFrog: Bounded Model Checking with Interpolation-based Function Summarization**, VTT and Nokia, Tampere, Finland. Host: Dr. Ali Muhammad
2010	Seminar **Of the Verification of List Properties**, NUS, Singapore
2010	Workshop talk **A Coq Formalization of an Analysis and Optimization of While**, Estonian Computer Science Theory Days, Andu, Estonia

TEACHING	
2020	Course instructor of **Computer Aided Verification** (Selected Topics in Computer Science), FSU, USA
2020	Course instructor of **Compiler Construction**, FSU, USA
2019	Course instructor of **Computer Aided Verification** (Selected Topics in Computer Science), FSU, USA
2018	Course instructor of **Independent Work Seminar IW09** on **Programs Generating Programs**, Princeton University, USA
2018	External Review Committee of Bachelor Theses (by Lidiia Chernigovskaia and Aleksandr Misonizhnik), Saint Petersburg State University, Russia
2017	Invited lecture **Invariant Generation** at the **Automated Reasoning about Software** course, Princeton University, USA

2017	Student projects on **Equivalence Checking, Incremental BMC**, and **Invariant Generation** at the **Automated Reasoning about Software** course, Princeton University, USA
2016	Invited lecture **SMT solving in Software Verification** at the **Logic** course, USI, Switzerland
2015	Teaching assistantship at the **Computer Aided Verification** course, USI, Switzerland
2014	Lab **Spin Model Checker** at the **Validation and Verification** course, ALaRI, USI, Switzerland
2012	Teaching assistantship at the **Computer Architecture** course, USI, Switzerland
2012	Teaching assistantship at the **Automata and Formal Languages** course, USI, Switzerland
2011	Teaching assistantship at the **Linear Algebra** course, USI, Switzerland

STUDENTS	
PhD	Ameer Hamza (FSU, expected graduation - 2023)
PhD	Daniel Riley (FSU, expected graduation - 2025)