

University of Southern Denmark
Department of Mathematics and Computer Science (IMADA)
Odense, Denmark

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DAN PLYUKHIN

Citizenship: USA, Canada

EDUCATION

- 2017–2024 **Ph.D. Computer Science** at University of Illinois Urbana-Champaign (UIUC)
Advised by Prof. Gul Agha.
- 2013–2017 **Ba.Sc. Computer Science & Mathematics** at University of Toronto (U of T)
Graduated honours with high distinction; Dean's List 2013-2017.

EMPLOYMENT HISTORY

- 2024–Present **Postdoctoral Researcher** at University of Southern Denmark (SDU)
Researching choreographic programming and actor garbage collection.
- Fall 2021 **Adjunct Professor** at Illinois Institute of Technology (IIT)
Taught a 4th year course on programming languages and interpreters.
- 2017–2022 **Teaching Assistant** at University of Illinois Urbana-Champaign (UIUC)
Taught courses on programming languages and distributed systems.
- 2016 **Teaching Assistant** at University of Toronto (U of T)
Taught courses on programming languages and theory of computation.

PUBLICATIONS

Dan Plyukhin, Gul Agha, and Fabrizio Montesi. CRGC: Fault-Recovering Actor Garbage Collection in Pekko. To appear in *PLDI 2025*.

Dan Plyukhin, Marco Peressotti, and Fabrizio Montesi. [Ozone: Fully Out-of-Order Choreographies](#). In *ECOOP 2024*.

Dan Plyukhin. [Fault-Tolerant and Fault-Recovering Garbage Collection for the Actor Model: A Collage-Based Approach](#). Ph.D. thesis, 2024.

Dan Plyukhin. [Poroutines: The Essence of Choreographic Programming?](#) Extended abstract in *CP@PLDI 2024*.

Dan Plyukhin and Gul Agha. [A Scalable Algorithm for Decentralized Actor Termination Detection](#). In *LMCS, Volume 18, Issue 1*, 2022.

Dan Plyukhin and Gul Agha. [Scalable Termination Detection for Distributed Actor Systems](#). In *CONCUR 2020*.

Dan Plyukhin and Gul Agha. [Concurrent Garbage Collection in the Actor Model](#). In *AGERE@OOPSLA 2018*.

Alex V. Plyukhin and **Dan Plyukhin**. [Random walks on uniform and non-uniform combs and brushes](#). In *Journal of Statistical Mechechanics* 073204, 2017.

Dan Plyukhin and Alex V. Plyukhin. [Random walks with fractally correlated traps: Stretched exponential and power-law survival kinetics](#). In *Physical Review E* 94, 042132, 2016.

Dan Plyukhin and Alex V. Plyukhin. [Correlations of correlations: Secondary autocorrelations in finite harmonic systems](#). In *Physical Review E* 92, 042101, 2015.

UNDER REVIEW:

Viktor Strate Kløvedal, **Dan Plyukhin**, Marco Peressotti, and Fabrizio Montesi. One-Click Decentralisation: Automated Synthesis of Microservice Choreographies. Under review at *HotOS 2025*.

Dan Plyukhin, Xueying Qin, and Fabrizio Montesi. Relax! Lenient Foundations for Functional Choreographic Programming (Pearl). Under review at *ICFP 2025*.

TALKS

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|--------------|--|
| Jan 10 2025 | Web Architecture Through The Ages: From Servers to Microservices
guest lecture at <i>University of Regensburg</i> (Regensburg, Germany) |
| Sep 16 2024 | Ozone: Fully Out-of-Order Choreographies
contributed talk at ECOOP 2024 (Vienna, Austria) |
| Jun 24 2024 | Poroutines: The Essence of Choreographic Programming?
contributed talk at CP@PLDI 2024 (Copenhagen, Denmark) |
| Mar 7 2023 | A Language for Low-Latency Distributed Systems
seminar at <i>Purdue PurPL Seminar</i> (West Lafayette, IN) |
| May 11 2022 | Activities: Making It Easier to Implement Correct Distributed Algorithms
seminar at <i>UIUC Systems Seminar</i> (Urbana, IL) |
| Sep 1 2020 | Scalable Termination Detection for Distributed Actor Systems
contributed talk at CONCUR 2020 (Vienna, Austria) |
| July 11 2019 | Structured Distributed Programming
short talk at BehAPI Summer School (Leicester, UK) |
| Nov 5 2018 | Capabilities for Flexible and Concurrent Garbage Collection of Actors
contributed talk at AGERE! 2018 (Boston, MA) |
| Oct 12 2018 | Capabilities for Flexible and Concurrent Garbage Collection of Actors
short talk at Midwest PL Summit 2018 (University of Wisconsin-Madison) |
| Apr 7 2018 | An Introduction to Network Programming
workshop at <i>UIUC CS SAIL</i> (high school outreach event) |
| Dec 20 2016 | Random Walks with Fractally Correlated Traps
short talk at 116th Statistical Mechanics Conference (Rutgers University) |

PROFESSIONAL SERVICE

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| 2025 | Program Committee Member for ICST (Poster Track) 2025 |
| 2023 | External Reviewer for Journal of Computer Languages 2023 |
| 2022 | External Reviewer for ISPDC 2022 |
| 2019 | External Reviewer for Journal of Logical and Algebraic Methods in Programming |
| 2018 | External Reviewer for COORDINATION 2018 |

HONORS AND AWARDS

- 2022 **Outstanding Teaching Assistant Award (UIUC)** (*Nominated*)
- 2021 **Outstanding Teaching Assistant Award (UIUC)** (*Nominated*)
- 2019 **Outstanding Teaching Assistant Award (UIUC)** (*Nominated*)
- 2017 **Dean's List (U of T)**
- 2017 **Undergraduate Toronto Research Experience (U of T)** Research Grant
- 2017 **University College Special In-Course Scholarship (U of T)** Scholarship

SUPERVISED STUDENTS

- 2024–2025 **Christian Hviid Nesting (SDU)**
Master's thesis (principal supervisor)
- 2023–2024 **Mathias Jensen, Steven Kolbeck Ensted, and Jonas Bruun Plesner (SDU)**
Master's theses (co-supervised with Fabrizio Montesi and Marco Peressotti)
- 2020 **Charles Kuch and Jerry Wu (UIUC)**
Undergraduate Research Mentorship Program

COMMUNITY

- 2021–2024 **Member of the *Education Justice Project (EJP)***
- 2020 **Mentor for *Undergraduate Research Apprenticeship Program (URAP)***
- 2018 **Instructor at *UIUC CS SAIL*** (high school outreach event)