

# Artem Semidetnov

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## Education

<b>BSc</b>	<b>Saint-Petersburg State University</b> , Mathematics	2021 – 2025
<b>BSc</b>	<b>Neapolis University Of Pafos</b> , Applied Computer Science JetBrains Program	2022 – 2024
<b>MSc</b>	<b>Geneva University</b> , Mathematics	2025 – 2027

## Work Experience

<b>JetBrains</b> , Research Intern in HoTT and Dependent Types Lab	Remote Nov 2025 – present
<b>JetBrains</b> , Research Intern in HoTT and Dependent Types Lab <ul style="list-style-type: none"> <li>I was developing the official library in the Arend language. I formalized different results in algebra and homotopy type theory, including following.</li> <li>Formalized Eckmann-Hilton argument, Eilenberg-MacLane spaces, Homologies of types.</li> <li>Formalized automorphisms of groups, Schur's Lemma, Maschke's Lemma, Group actions characterizations. (Some of these results are in the <a href="https://arend-lang.github.io/2024/07/05/Arend-1.10.0-released.html">https://arend-lang.github.io/2024/07/05/Arend-1.10.0-released.html</a> {1.10 release}).</li> </ul>	Pafos, Cyprus June 2024 – Sept 2024
<b>IPONWEB (acquired by Criteo)</b> , Machine Learning Intern <ul style="list-style-type: none"> <li>Criteo has a ML tool that analyzes sites and produces word-2-vec representations. In IPONWEB I was trying to reverse-engineer the behaviour of this tool and analyze its possible applications.</li> </ul>	Pafos, Cyprus May 2023 – Sept 2023

## Publications

<b>On the geometry of free nilpotent groups</b> <a href="#">↗</a> <b>Artem Semidetnov</b> , Ruslan Magdiev <a href="https://doi.org/10.48550/arXiv.2106.00095">https://doi.org/10.48550/arXiv.2106.00095</a> <a href="#">↗</a>	May 2021
<b>The operad associated to a crossed simplicial group</b> <a href="#">↗</a> <b>Artem Semidetnov</b> <a href="https://doi.org/10.48550/arXiv.2512.14498">https://doi.org/10.48550/arXiv.2512.14498</a> <a href="#">↗</a>	2025

## Awards and Scholarships

Scholarship by "Rodnye Goroda" (a social investment program of PJSC "Gazprom нефт"), 2023-2024
JetBrains Scholarship in Neapolis University
Travel grant of Chebyshev laboratory for <a href="#">Winter student school in mathematics and CS of HSE and MCS</a> <a href="#">↗</a> , Moscow
<a href="#">Excellence Master Fellowship at Geneva University</a> <a href="#">↗</a>

## Teaching Experience

<b>Sirius educational center</b> , Teaching assistant on the course "Groups of intermediate growth" <a href="#">↗</a>	Sochi, Russia Apr 2024 – May 2024
<b>Laboratory for continuous mathematical education</b> , mathematics teacher for gifted students	Saint-Petersburg, Russia 2021 – 2023

**Mathematics and Computer Science faculty program for prospective students**, Teaching assistant on the course "Braid and knot theory

Saint-Petersburg, Russia  
June 2023

## Selected Talks

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### **On the geometry of free nilpotent groups**

- Siberian summer conference

Novosibirsk, Russia  
2021

### **"On the Poisson boundary of lamplighter groups"** [↗](#)

- St. Petersburg Seminar on Representation Theory and Dynamical Systems

Saint-Petersburg, Russia

### **"Twisting numbers on braid and Thompson's groups"** [↗](#)

- Topological Methods in Dynamics and Related Topics VII

N. Novgorod, Russia  
2024

### **"Plus construction and simplicial methods"** [↗](#)

- Conference "Algebraic Topology, geometry, combinatorics, and data analysis" [↗](#)

Pushkin, Russia  
Aug 2025

## Miscellaneous

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- Finalist of 2020 Intel ISEF
- Intel ISEF alumni
- Winner of 2019 Baltic SEF, PDMI special prize in 2019 Baltic SEF
- 3rd team place in 2019 [International Tournament of Young Mathematicians](#) [↗](#) in Barcelona, Spain
- Organizer of the [Euler International Mathematical Institute's functional analysis seminar](#) [↗](#)
- English level C1 (IELTS 8.0/9, taken in 2020, 2024)
- Invited judge in Saint-Petersburg Tournament of Young Mathematicians (since 2021)
- Created mathematical problem for 2024 International Tournament of Young Mathematicians [10th in here](#) [↗](#)
- Invited judge in International Tournament of Young Mathematicians 2024, 2025
- [A member of Scientific Organization Committee in ETEAM 2025](#) [↗](#)