



# Paul Leger, Ph. D. in Computer Science & Software Engineer

Software Engineer & Associate Professor  
Civil Engineering School  
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## Personal

Name: Paul Leger  
Hometown: Coquimbo, Chile  
Nationality: Chilean  
**Summary:**  
Scholar: CrqCdsgAAAAJ  
ORCID: 0000-0003-0969-5139  
SCOPUS: 36087550600  
DBLP: <https://dblp.org/pid/78/7936.html>  
Directors: 6 Positions  
Indexed Journals: 34 Publications (29 WoS-JCR, 2 SCOPUS, and 3 Latindex)  
Indexed Conferences: 17 Publications (SCOPUS)  
Indexed Workshops: 7 Publications (SCOPUS)  
Journal Editions: 5 Journals  
Courses: 52 Courses (45 undergrad and 7 graduate)  
Thesis Supervisions: 27 Theses (24 undergraduate and 3 graduate)  
Software: 11 Developments (3 applications, 4 libraries, and 4 languages)



## Education

**Visiting Researcher**, universities across the world:

- Centre for Development of Advanced Computing (C-DAC), India, 2024 (3 weeks).
- University of The Andes, Colombia, 2021 (3 weeks).
- Tokyo Institute of Technology, Japan, 2019 (6 months).
- University of Cauca, Colombia, 2018 (2 months).
- Shibaura Institute of Technology (x 2), Japan, 2013-2014 (4-2 months).
- École des mines de Nantes, France, 2010 (2 months).

### Certifications:

- "Fundamentals of English Medium Instruction", University of Pennsylvania, 2023 (August).
- "Teaching University", Highest level, Catholic University of the North, 2024 (January).

**Ph. D. in Computer Science**, University of Chile, 2006 - 2012.

- Subject: Opening Up Trace-Based Mechanisms.
- Advisor: Éric Tanter (<https://pleiad.cl/etanter>).

**Engineering degree in Computer Science**, University of La Serena, 1999 - 2005 (July).

**B.Sc. in Computing Science**, University of La Serena, 1999 - 2005 (April).

## Management Services

**Director.** Engineering School (<https://eic.ucn.cl>) at Universidad Católica del Norte (Chile). Management of a budget for a four-floor engineering school with 1,000+ students, guiding professors, and a teaching support unit, 2024 - 2026.

**Director.** Chilean Computer Science Society (SCCC), 2020 - 2022.

**Deputy Director.** Engineering Systems Doctorate (<https://dsi-en.ucn.cl>) at Universidad Católica del Norte (Chile), 2023 - 2024.

**Head of Program Studies.** 1) Civil Engineering in Computer Science and 2) Information Technology Engineering at the Universidad Católica del Norte (Chile), over 400 students, 2021 - 2022.

**Pragmatics Lab.** Director of an international research laboratory (<http://pragmatics-lab.com>), where professors and students from Japan, Colombia, and Chile collaborate, 2019 - present.

## Software Development Engineer

As I enjoy working on software engineering, I occasionally work as a freelancer doing software development and as a team manager in software projects:

**Macrosoftware.** Consulting software engineer, 2020 - present.

**G-Tech.** Project Manager, a startup mobile application, 2022.

**Autopista Central.** Consulting engineer, 2017.

**Regional Observatory (working market).** Software project manager, implementation of an information system that allows users to analyze working market in a region of Chile, 2016 - 2017.

**Autopista Central.** Consulting engineer, 2011.

**Center for Advanced Research in Arid Zones (CEAZA).** Research assistant, where I used MM5 (mesoscale model) to simulate mesoscale atmospheric, 2002 - 2004.

## Software Development for Research

My software projects are more related to creating complex software artifacts than developing traditional industrial software (e.g., Inventory Management). Source: <https://pleger.cl/> software.

**SBABM:** An agent-based model to simulate the e-commerce behavior between agents and markets. <https://github.com/pragmatics-laboratory/SBABM>, 2023. [APPLICATION].

**EMAjs:** JavaScript library that implements an Expressive and Modular Activation mechanism for context-oriented programming. <https://github.com/pragmatics-laboratory/EMAjs>, 2022. [LANGUAGE].

**CommerceSimulator:** Java software to simulate buyers in e-commerce like Amazon, AliExpress, and Wish. This simulation considers the endorsements theory. Finally, this software can be used to execute different kinds of experiments. <https://github.com/pleger/ABME-market>, 2021. [APPLICATION].

**DeloreanJS:** A back-in-time debugger for JavaScript. This software is strongly developed by Felipe Ruiz ([felipe.ruiz@alumnos.ucn.cl](mailto:felipe.ruiz@alumnos.ucn.cl)) and Guillermo Victorero ([guillermo.victorero@alumnos.ucn.cl](mailto:guillermo.victorero@alumnos.ucn.cl)). You can try it on <https://pleger.cl/sites/deloreanjs>. <https://github.com/pragmatics-laboratory/deloreanjs>, 2019. [APPLICATION].

**AspectScript:** An aspect-oriented extension of JavaScript for expressive AOP, which integrates several state-of-the-art features related to higher-order programming and expressive scoping of aspects. <https://pleiad.cl/aspectscript>, 2010. [LANGUAGE].

**FASOW:** FASOW provides an Open Implementation for Agent-Based Models applied to e-WOM Marketing Campaigns. This software is strongly developed by Diego Nuñez (diego.nunez.trabajo@gmail.com). <https://github.com/pragmaticslaboratory/fasow>, 2024. [LIBRARY].

**Matcher Cell:** A JavaScript library to flexibly match patterns. You can try it on <https://pragmaticslaboratory.github.io/matcher-cells-study-cases>. <https://github.com/pragmaticslaboratory/match-cell-base>, 2021. [LANGUAGE].

**RAI-JS:** A JavaScript library for Context-Oriented Programming (COP), which supports reactive activation mechanisms. You can try it on <https://pleger.cl/sites/raijs>. <https://github.com/pleger/rai-js>, 2019. [LIBRARY].

**Sync/CC (proof of concept):** A library to address callback issues on JavaScript. You can try it on <https://pleger.cl/synccc>. <https://github.com/pragmaticslaboratory/synnccc>, 2019. [LIBRARY].

## Academic Experience

### *Scientific Services*

**Funded Projects** ( $x$  4). Principal Researcher (ANID-2023), Principal Investigator (Chile), and Co-Researcher (Japanese government).

**Organizer of International Events** ( $x$  4). JCC'20 (Chile), COP'20 (Germany), and MPSE'14/15 (USA).

**Editor and Reviewer of JCR Journals** ( $x$  47). Editor ( $x$  5) and Reviewer ( $x$  42).

**Chair of International Events** ( $x$  9). ICSME'23 (Colombia), LMN'22 (Chile), JCC'20 (Chile), MPSE'14/15 (USA), SAC-SE'17 (Morocco), and BIONETICS'15 (USA).

**Program Committee Member** ( $x$  20). VMIL (Singapore), ICSME (various countries), SAC-SE (various countries), SBLP (Brazil), COP (Germany), VISSOFT (Chile), INFONOR (Chile), etc.

**Evaluator** ( $x$  14). Research Projects and (International) External Master Reviewers.

## References

**Hidehiko Masuhara.** Ph. D. in Computer Science. Full Professor & Dean. Department of Mathematical and Computing Science. Tokyo Institute of Technology, Japan (masuhara@acm.org). Webpage: <https://prg.is.titech.ac.jp/people/masuhara>.

**Éric Tanter.** Ph. D. in Computer Science. Full Professor. Computer Science Department (DCC), University of Chile, Chile (etanter@dcc.uchile.cl). Webpage: <https://pleiad.cl/people/etanter>.

**Alexandre Bergel.** Ph. D. in Computer Science. Computer Scientist. Rational AI (<https://relational.ai>), Switzerland (alexandre.bergel@me.com). Webpage: <https://bergel.eu>.