

# Paul Leger, Ph. D. in Computer Science & SDE

Software Engineer & Associate Professor  
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Pragmatics lab: <http://pragmatics-lab.com> (Director)  
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## Personal

Name: Paul Leger  
Hometown: Coquimbo, Chile  
Nationality: Chilean



## 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: Eric Tanter (<http://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), 2024 - 2026.

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

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

**Project Manager.** A freelance software development manager, mainly in agile methodologies, 2019 - 2024.

**Recruiting and developing team.** As the director of the research laboratory (Pragmatics Lab), I am constantly looking for new good students to prepare them in different computer science projects. Likewise, I am often making new research groups of professors from different countries, 2018 - present.

**Head of program study.** Civil Engineering in Computer Science at Universidad Católica del Norte (Chile), over 400 students, 2021 - 2022.

**Head of program study.** Engineering in Information Technology at Universidad Católica del Norte (Chile), over 100 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, two tasks: a) using MM5 (mesoscale model) to simulate mesoscale atmospheric circulation and b) applying artificial neural networks to classify rainfall scenarios (both tasks applied to a limited-area in Chile), 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: <http://pleger.cl/software>.

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

**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.

**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 <http://pleger.cl/sites/deloreanjs>. <https://github.com/pragmatics-laboratory/deloreanjs>, 2019.

**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.

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

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

**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/pragmatics-laboratory/synnccc>, 2019.

## Academic Experience

### *Scientific Services*

Funded Projects (*x* 3). 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* 45). Editor (*x* 4) and Reviewer (*x* 41).

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* 16). SAC-SE (various countries), SBLP (Brazil), COP (Germany), VISSOFT (Chile), and INFONOR (Chile).

Evaluator (*x* 12). Research Projects and (International) External Master Reviewers.

### *Lecturer*

**Postgraduate (*x* 7).** Areas are Programming Languages, Software Engineering, and Management.

**Undergraduate (*x* 44).** Areas are Programming Languages, Software Engineering, and Management.

**Thesis Advising (*x* 26).** Postgraduate (*x* 2) and Undergraduate (*x* 24).

For more information about my teaching experience, please visit <http://pleger.cl/teaching>.

### *Publications*

My research profile ID on Google Scholar: <https://scholar.google.cl/citations?user=CrqCdsgAAAAJ>

**Indexed Journals.** 32 publications (26 JCR-WoS, 2 SCOPUS, 1 ESCI, and 3 LatIndex).

**Indexed Conferences.** 15 publications (SCOPUS).

**Indexed Workshops.** 7 publications (SCOPUS).

For detailed information about my publications, please visit <http://pleger.cl/research>.

## 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](mailto: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](mailto: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](mailto:alexandre.bergel@me.com)). Webpage: <https://bergel.eu>.