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

Software Engineer & Associate Professor

Civil Engineering School

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Homepage: http://pleger.cl

Pragmatics lab: http://pragmaticslab.com (Director)
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#### Personal

Complete Name: Paul Saint Leger Morales

Hometown: Coquimbo, Chile

Nationality: Chilean

Birth date: September 9, 1980

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#### 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 (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). 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.

**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.

**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://pragmaticslab.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: http://pleger.cl/software.

**EMAjs:** JavaScript library that implements an Expressive and Modular Activation mechanism for context-oriented programming. https://github.com/pragmaticslaboratory/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) and Guillermo Victorero (guillermo.victorero@alumnos.ucn.cl). You can try it on http://pleger.cl/sites/deloreanjs. https://github.com/pragmaticslaboratory/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://pragmaticslaboratory.github.io/matcher-cells-study-cases. https://github.com/pragmaticslaboratory/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/pragmaticslaboratory/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). ICSME23 (Colombia), LMN22 (Chile), JCC20 (Chile), MPSE14/15 (USA), SAC-SE17 (Morocco), and BIONETICS15 (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.

**Undegraduate** (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). 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.

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An extended version is available on http://pleger.cl/resume