

# Andrés Rojano | Curriculum Vitae

+56 958 490648 • andresrojano@udec.cl

andresrojanoc.github.io

Researcher, Chemical Engineer Ph.D. student from the Universidad de Concepción. Trained in molecular modeling techniques, with knowledge in project management. Experienced in high-performance computing, fluid dynamics, coding skills, and statistical mechanics. Proficiency in technical writing and remarkable communication skills.

## Education

- **Ph.D. in Chemical Engineering** **Concepción, Chile**  
*Universidad de Concepción, Expected graduation April 2022*
- **B.Sc. in Mechanical Engineering** **Barranquilla, Colombia**  
*Universidad del Norte, 2009–2014*

## Publications

- **Flow reversal phenomenon of nanoconfined multivalent ionic solutions**  
Rojano A., Becerra D., Walther, J. H., & Zambrano, H. A.  
(Under preparation).
- **Effect of charge inversion on nanoconfined flow of multivalent ionic solutions**  
Rojano A., Córdoba A., Walther, J. H., & Zambrano, H. A.  
Physical Chemistry Chemical Physics (2022).
- **Effect of an external electric field on capillary filling of water in hydrophilic silica nanochannels**  
Karna, N. K., Crisson, A. R., Wagemann, E., Walther, J. H., & Zambrano, H. A.  
Physical Chemistry Chemical Physics (2018).

## Talks

- Effect of Charge Inversion on Electroosmotic Transport in Nanochannels A Rojano, JH Walther, D Becerra, HA Zambrano -73rd Annual Meeting of the APS Division of Fluid Dynamics, 2020
- The electrokinetic transport of multivalent electrolytes: the effect of charge inversion A Rojano, JH Walther, HA Zambrano - American Physical Society March Meeting 2020, 2020
- Effect of Charge Inversion on Nanoconfined Flow of Multivalent Electrolyte Solutions A Rojano, A Cordoba, JH Walther, HA Zambrano - APS, 2019
- Effect of charge inversion on Poiseuille flow of multivalent electrolyte solutions in nanochannels: an atomistic study A Rojano, A Córdoba, JH Walther, HA Zambrano - 71st Annual Meeting of the APS Division of Fluid Dynamics, 2018

## Research Stays

- **Technical University of Denmark (DTU)** **Lyngby, Denmark**  
*PhD research visit to the Department of Mechanical Engineering DTU, April 2019–July 2019*

## Technical and Personal Skills

---

- **Type Setting:** L<sup>A</sup>T<sub>E</sub>X, Beamer, MS Office products
- **Programming Languages:** Python, Fortran, C++, HTML, Git.
- **Codes and tools:** Proficient in LAMMPS, MySQL, wxMaxima, SOLIDWORKS (int.), and Ansys fluent (int.).
- **Languages:** Spanish (Native), English (Fluent).
- **General Business Skills:** Good presentation skills, works well in a team, can write well organized and structured reports.

## Prizes and Awards

---

- **UCO 1866 Student Mobility Grant year 2020**  
*Support Assistance to Events UCO 1866,* 2020
- **PhD Scholarship from CONICYT-Chile**  
*National PhD Scholarship 2018 CONICYT-Chile,* 2018

## Teaching Experience

---

- |  |  |
|--|--|
| ○ <b>Teaching Assistant, Chemical Process Laboratory</b><br><i>Cooling Tower</i>                                 | <b>Universidad de Concepción</b><br><i>September/2019–January/2020</i> |
| ○ <b>Teaching Assistant, Chemical Process Laboratory</b><br><i>Introduction to computational fluid dynamics</i>  | <b>Universidad de Concepción</b><br><i>April/2018–January/2019</i>     |
| ○ <b>Teaching Assistant, Chemical Process Laboratory</b><br><i>Viscosity and electrolytes, Compressible flow</i> | <b>Universidad de Concepción</b><br><i>April/2017–January/2018</i>     |
| ○ <b>Teaching Assistant, Project Implementation Workshop</b><br><i>Natural Gas Plant, Pulp Mill</i>              | <b>Universidad de Concepción</b><br><i>April/2016–January/2017</i>     |

In charge of the evaluation and guidance of undergraduate students as a graduate assistant. Graded quizzes, tests, homework, and projects to provide feedback.

## Other Work Experience

---

- |   |  |
|---|--|
| ○ <b>Universidad Técnica Federico Santa María</b><br><i>Scientific Support</i>  | <b>Valparaiso, Chile</b><br><i>October 2020–October 2021</i> |
| Scientific support for the project: PI_LIR_2020_10. In charge of the construction of atomistic systems for the study of the solvation of ions and charged surfaces.             |  |
| ○ <b>SuperBrix INTERNACIONAL</b><br><i>Project Designer</i>   | <b>Barranquilla, Colombia</b><br><i>June 2015–March 2016</i> |
| Project engineer in charge of the planning, execution, and supervision of the different projects in the agroindustry. Developed or in cooperation with SuperBrix INTERNACIONAL. |  |

## References

---

- Harvey A Zambrano - Professor in the Mechanical Eng. Dep. at USM (Chile). [harvey.zambrano@usm.cl](mailto:harvey.zambrano@usm.cl)
- Jens H Walther - Professor in the Mechanical Eng. Dep. at DTU (Denmark). [jhw@mek.dtu.dk](mailto:jhw@mek.dtu.dk)