Andrés Rojano | Curriculum Vitae

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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 June 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 stay at the Department of Mechanical Engineering, — *April 2019–July 2019*

Technical and Personal Skills

- **Type Setting:** LaTeX, Beamer, MS Office products
- **Programming Languages:** Python, Fortran, C++, HTML, Git.
- **Codes and tools:** Proficient in LAMMPS, MySQL, wxMaxima, SOLIDWORKS, and Ansys fluent.
- **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

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

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

- **Universidad Técnica Federico Santa María** — **Valparaiso, Chile**
  Scientific Support — *October 2020–October 2021*
  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.
- **SuperBrix INTERNACIONAL** — **Barranquilla, Colombia**
  Project Designer — *June 2015–March 2016*
  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
- Jens H Walther - Professor in the Mechanical Eng. Dep. at DTU (Denmark). jhw@mek.dtu.dk