





Cristian Jesús Vega Cereño

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Education

- 2021–2024 **PhD in Mathematics and Applications**, *Università degli Studi di Genova*, Genova, Italy
Final work: “*Implicit Regularization: Insights from Iterative Regularization and Overparameterization*”; Advisors: Silvia Villa and Lorenzo Rosasco.
- 2020 **MSc in Applied Mathematics**, *Universidad Técnica Federico Santa María*, Santiago, Chile
Final work: “*Stochastic primal-dual splitting for composite monotone inclusions*”; Advisors: Luis Briceño-Arias and Julio Deride; Score: 100/100.
- 2014–2020 **Mathematical Engineering**, *Universidad Técnica Federico Santa María*, Santiago, Chile
Final work: “*Alternating and randomized projections in convex optimization*”; Advisors: Luis Briceño-Arias and Julio Deride; Score: 100/100.

Journal Publications

- 1) L. Briceño-Arias, J. Deride, and C. Vega. “Random activations in primal-dual splittings for monotone inclusions with a priori information”, *Journal of Optimization Theory and Applications*, 192 (1), pp. 56–81, 2022.
- 2) C. Vega, C. Molinari, S. Villa, and L. Rosasco. “Fast iterative regularization by reusing data”, *Journal of Inverse and Ill-posed Problems*, 32 (4), pp. 733–759, 2024.
- 3) F. Roldán and C. Vega. “Relaxed and Inertial Nonlinear Forward-Backward with Momentum”, *Journal of Optimization Theory and Applications*, 206 (2), 2025.
- 4) F. Lara and C. Vega. “Delayed Feedback in Online Non-Convex Optimization: A Non-Stationary Approach with Applications”, accepted in *Numerical Algorithms*, 2025.

Articles Submitted

- 5) A. Beck, F. Lara, and C. Vega. “Block descent type methods for quasar-convex minimization,”, Submitted, 2025.
- 6) J.J. Maulén, F. Roldán, and C. Vega. “Relaxed and inertial nonlinear Forward-Backward algorithm”, arXiv preprint arXiv:2507.18856, 2025.
- 7) H. Labarrière, C. Molinari, L. Rosasco, C. Vega, and S. Villa. “Optimization Insights into Deep Diagonal Linear Networks”, arXiv preprint arXiv:2412.16765, 2024.

Articles in preparation

- 8) V.S. Amaral, F. Lara, and C. Vega. "Block Coordinate Descent Methods for Non-convex Nonsmooth Optimization with Applications.", in preparation, 2026.
- 9) F. Lara, and C. Vega. "QuAdam: A Variant of Adam for Quasar Convex Functions", in preparation, 2026.

Research Projects

- 1) UTA research project "Fortalecimiento de Grupos de Investigación" Code 8802-25, 2025, research assistant.
- 2) ECOS-Sud-France and ANID-Chile (ECOS240031): "*Dynamical systems associated to nonconvex optimization problems*", Apr. 2025–Mar. 2028. Member of chilean team.
- 3) Marie Skłodowska-Curie grant agreement No. 861137, EU Horizon 2020 programme. Mar. 2021–Mar. 2024. PhD student.
- 4) FONDECYT 1190871, Regular 2019, "*Fast primal-dual splitting algorithms for solving coupled inclusions*". Apr. 2020–Nov. 2020. Master student.

Experience

Part-Time Lecturer, Universidad de Tarapacá

2026-1 **Statistics**

2026-1 **Introduction to Calculus**

2025-1 **Statistics**

2025-1 **Introduction to Calculus**

2025-1 **Introduction to Algebra**

Research assistant, Universidad de Tarapacá

2025-2 **fee contract ("Contrato a honorarios")**

2024-2 **fee contract ("Contrato a honorarios")**

Part-Time Lecturer, Universidad Técnica Federico Santa María

2020-2 **Statistics**

2020-1 **Integral Calculus**

Teaching Assistant, Universidad de Tarapacá

2025-2 **Optimization, PhD course**

2024-2 **Optimization, PhD course**

Teaching Assistant, Universidad Técnica Federico Santa María

2019-2 **Optimization**

2019-1 **Functional Analysis**

2018-1 **Real Analysis**

2017-2 **Integral Calculus**

2017-1 **Integral Calculus**

2016-2 **Differential Calculus**

Organization

- ICOMaLTA-2026: International Conference on Optimization and Machine Learning, Theory and Applications, Arica, Chile, May 10-15.

Conferences and Workshops

- [1] **2nd Latin American Congress on Industrial and Applied Mathematics**, Valparaíso, Chile, Jan. 19–23 ene. 2026: “Inertial Nonlinear Forward-Backward algorithms.”
- [2] **XCIII Annual Meeting of the Mathematical Society of Chile**, Vicuña, Chile, Nov. 25–28, 2025: “Inertial Nonlinear Forward-Backward algorithms.”
- [3] **PGMO Days 2025**, Paris, France, Nov. 18–19, 2025: “Inertial Nonlinear Forward-Backward algorithms.”
- [4] **PGMO Days 2025**, Paris, France, Nov. 18–19, 2025: “Delayed Feedback in Online Non-Convex Optimization: A Non-Stationary Approach with Applications.”
- [5] **XXXVII Mathematics Conference of the Southern Zone**, Talca, Chile, Apr. 23–25, 2025: “Delayed Feedback in Online Non-Convex Optimization: A Non-Stationary Approach with Applications.”
- [6] **4th International Conference on Variational Analysis and Optimization**, Santiago, Chile, Jan. 14–17, 2025: “Delayed Feedback in Online Non-Convex Optimization.”
- [7] **TraDE-OPT Final Conference**, Sestri Levante, Italy, Sep. 25–28, 2024: “Learning from Data via Overparameterization.”
- [8] **XXXII COMCA**, Arica, Chile, Jul. 31, 2024: “Learning from Data via Overparameterization.”
- [9] **ODS22**, Firenze, Italy, Aug. 30–Sep. 2, 2022: “Fast Iterative Regularization by Reusing Data.”
- [10] **TraDE-OPT Workshop**, UCLouvain, Belgium, Jul. 4–8, 2022: “Fast Iterative Regularization by Reusing Data.”
- [11] **SIAM IS22**, Minisymposium on Convex Optimization, 2022: “Fast Iterative Regularization by Reusing Data.”

Invited Talks and Seminars

- [1] **Seminar, ICTEAM, UCLouvain**, Louvain-la-Neuve, Belgium, Nov. 6, 2025: “Delayed Feedback in Online Non-Convex Optimization: A Non-Stationary Approach with Applications.”
- [2] **CORMSIS Seminar 2025/26 #4**, University of Southampton, Southampton, England, Oct. 30, 2025: “Inertial Nonlinear Forward-Backward algorithms.”
- [3] **PhD and Postdocs seminars**, Group SC of IRIT, at ENSEEIHT, INP Toulouse, Toulouse, France, Oct. 23, 2025: “Delayed Feedback in Online Non-Convex Optimization: A Non-Stationary Approach with Applications.”

- [4] **Seminar, Universidad de Tarapacá**, Arica, Chile, Aug. 7, 2024: “Fast Iterative Regularization by Reusing Data.”
- [5] **Seminar, Universidad Técnica Federico Santa María**, Santiago, Chile, Sep. 12, 2023: “Fast Iterative Regularization by Reusing Data.”
- [6] **Malga Optimization Group**, Genova, Italy, Oct. 31, 2021: “Iterative Regularization and the (Stochastic) Chambolle-Pock Algorithm.”

Other Jobs

- 2019 Analysis of audiovisual class records for ARPA PACE workshops.
- 2018 Credit Risk Quantitative Analyst, Facturedo.

————— Reviewer

- *Journal of Optimization Theory and Applications (JOTA)*, since 2025.
- *Journal of Machine Learning Research (JMLR)*, 2022-2025.
- *SIAM Journal on Mathematics of Data Science (SIMODS)*, 2025.
- *IEEE Transactions on Control of Network Systems*, 2025.
- *The Journal of Analysis (JANA)*, 2025.
- *Optimization*, 2025.
- *EURO Journal on Computational Optimization (EJCO)*, 2025.
- *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas (RACSAM)*, 2021.

————— Research Visits

- May–Jul. **CentraleSupélec, University Paris-Saclay**, Paris, France, Supervisor: Jean-
2023 Christophe Pesquet.
- Oct. **CAMELOT Biomedical Systems Srl**, Genova, Italy, Supervisor: Curzio Basso.
- 2022–Jan.
2023

————— Technology Skills

- Matlab
- LaTeX
- Python

————— Languages

- Spanish Native
- English B2
- Italian B1