

Juan Zaragoza Chichell

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Curriculum Vitae

Education

- **PhD in Computational Mathematics (Severo Ochoa Fellow)**

BCAM - Basque Center for Applied Mathematics (Supervisor: Dr. Michael Bartoň)

2022–present (final year)

- **MSc in Mathematical Research**

Universitat Politècnica de València

2022

- **BSc in Mathematics**

Universidad de Salamanca

2021

Research Stay

- **Concordia University**

Montreal, QC, Canada

Supervised by Dr. Tsz Ho Kwok; funded by MITACS Globalink Research Awards; focus on non-planar
3D printing. To be published.

Mar 15–Jun 15, 2025

Publications

- **Evolution-based tool path and motion planning optimization for 5-axis CNC machining of free-form surfaces**

J. Zaragoza Chichell, M. Bizzarri, J. Echevarrieta Ibarra, A. Pérez, M. Bartoň

Computer-Aided Design, Vol. 190. 2025

- **On tool wear optimized motion planning for 5-axis CNC machining of free-form surfaces using toroidal cutting tools**

K. Kruppa, J. Zaragoza Chichell, M. Bizzarri, M. Bartoň

Computer-Aided Design, Vol. 189. 2025

- **Collision-free Tool Motion Planning for 5-Axis CNC Machining with Toroidal Cutters**

J. Zaragoza Chichell, A. Rečková, M. Bizzarri, M. Bartoň

Computer-Aided Design, Vol. 173. 2024

Talks & Conferences

- **Evolution-based tool path and motion planning optimization for 5-axis CNC machining of free-form surfaces**
Symposium on Solid and Physical Modeling (SPM 2025), Hangzhou, Zhejiang, P.R. China.
Oct 29–Nov 2, 2025
- **Collision-free Tool Motion Planning for 5-Axis CNC Machining with Toroidal Cutters**
Symposium on Solid and Physical Modeling (SPM 2024), Concordia University, Montreal, QC, Canada.
Best Paper Award (SPM 2024).
Jul 8–10, 2024
- **An optimal and error free method for collision detection**
Perspectivas de la investigación en matemáticas, Pamplona, Spain.
Nov 15–16, 2023

Outreach

- **Museum guide**
Museo Universitario Didáctico e Interactivo de Ciencias (MUDIC), Orihuela, Spain.
(University Didactic Interactive Science Museum)
Developed and led interactive science communication activities for public audiences.
2021