

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