# Ye Ji

*Ph.D. Candidate in Computational Mathematics*

*No.2 Linggong Road, Ganjingzi District, Dalian City*
*116024 Liaoning Province, P.R.C.*
*(+86)183 4223 8915, (+31)0620905177*
*jiye@mail.dlut.edu.cn, y.ji-1@tudelft.nl*
*Homepage:* `https://jiyess.github.io/`

## Bio

Ye Ji is a fourth-year Ph.D. candidate at the School of Mathematical Sciences, Dalian University of Technology, supervised by Prof. Chungang Zhu. He is also a reviewer for the Mathematical Reviews of the American Mathematical Society. His research interests primarily focus on isogeometric analysis and computational geometry, with a specific emphasis on analysis-suitable parametrization of computational domains, polyhedral meshing techniques, and structural design optimization. He has published over ten research papers in authoritative journals such as CAGD, CAD, and JCAM.

In addition, Ye Ji is a co-developer of the open-source C++ software Geometry + Simulation Modules (G+Smo) for isogeometric analysis. Since October 2021, he has been involved in a joint Ph.D. training program at Delft University of Technology in the Netherlands, under the supervision of Dr. Matthias Möller.

## Education

2021-Present **Delft University of Technology**, *Delft Institute of Applied Mathematics*, Joint Ph.D..

2019-Present **Dalian University of Technology**, *School of Mathematical Sciences*, Ph.D., GPA: 3.90/4.0.

2017–2019 **Dalian University of Technology**, *School of Mathematical Sciences*, M.S., GPA: 3.83/4.0.

2013–2017 **Dalian University of Technology**, *School of Mathematical Sciences*, B.S., GPA: 3.27/4.0.

## Selected Peer-reviewed publications

2023 **Ye Ji**, Kewang Chen, Matthias Möller, Cornelis Vuik. On an improved PDE-based elliptic parameterization method for isogeometric analysis using preconditioned Anderson acceleration, **Computer Aided Geometric Design**, 102 (2023), 102190. (**Conference Best Paper Award**)

2023 **Ye Ji**, Meng-Yun Wang, Ying-Ying Yu, Chun-Gang Zhu, Curvature-based r-adaptive isogeometric analysis with injectivity-preserving multi-sided domain parameterization, **Journal of Systems Science & Complexity**, 36 (2023) 53–76.

2022 **Ye Ji**, Meng-Yun Wang, Yu Wang, Chun-Gang Zhu, Curvature-based r-adaptive planar NURBS parameterization method for isogeometric analysis using bi-level approach, **Computer Aided Design**, 150 (2022), 103305.

2022 **Ye Ji**, Meng-Yun Wang, Mao-Dong Pan, Yi Zhang, Chun-Gang Zhu, Penalty function-based volumetric parameterization method for isogeometric analysis, **Computer Aided Geometric Design**, 94 (2022), 102075.

2022 **Ye Ji**, Jing-Gai Li, Ying-Ying Yu, Chun-Gang Zhu, h-Refinement method for toric parameterization of planar multi-sided computational domain in isogeometric analysis, **Computer Aided Geometric Design**, 93 (2022), 102065.

2021 **Ye Ji**, Ying-Ying Yu, Meng-Yun Wang, Chun-Gang Zhu, Constructing high-quality planar NURBS parameterization for isogeometric analysis by adjustment control points and weights, **Journal of Computational and Applied Mathematics**, 396 (2021), 113615.

2021 Ying-Ying Yu, **Ye Ji**, Jing-Gai Li, Chun-Gang Zhu, Conditions for injectivity of toric volumes with arbitrary positive weights, **Computers & Graphics**, Special Section on CAD & Graphics 2021, 97 (2021), 88-98. (**Conference Best Paper Award**)

2020 Xuefeng Zhu, **Ye Ji**, Chungang Zhu, Ping Hu, Zheng-Dong Ma, Isogeometric analysis for trimmed CAD surfaces using multi-sided toric surface patches, **Computer Aided Geometric Design**, special issue on Computational Geometric Design, 79 (2020), 101847.

## Conference Talks & Seminars

Oral **On an improved PDE-based parameterization method for IsoGeometric Analysis (IGA) using preconditioned Anderson acceleration**, *International Conference on Geometric Modeling and Processing (GMP 2023)*, Genova, Italy, July 2023.

Oral **Fast and Robust Solvers for Local/Global Domain Parameterizations within G+Smo**, *11th International Conference on IsoGeometric Analysis (IGA 2023)*, Lyon, France, Jun. 2023.

Oral **Implementation of analysis-suitable parameterization construction using G+Smo**, *G+Smo Developers' Days and preCICE meeting 2022*, Delft, Oct., 2022.

Oral **Curvature-based r-adaptive planar NURBS parameterization method for isogeometric analysis using bi-Level approach**, *Symposium on Solid and Physical Modeling (SPM) 2022*, Online, Jun., 2022.

Oral **Penalty function-based volumetric parameterization method for isogeometric analysis**, *International Conference on Geometric Modeling and Processing (GMP) 2022*, Okinawa, Japan (Online), May, 2022.

Oral & Poster **High-quality planar NURBS parameterization based on alternating control points and weights optimization**, *CSIAM GDC 2021*, Changsha, China, Oct., 2021.

Oral **Curvature-based r-adaptive isogeometric analysis with injectivity-preserving multi-sided domain parameterization**, *12th Chinese Mathematical Society Computer Mathematics Congress (CM) 2021*, Guilin, China, Jun., 2021.

Oral **High-quality planar NURBS parameterization of computational domain in IGA via control points and weights optimization**, *MEsh Generation and Applications Symposium (MEGAS) 2021*, Hangzhou, China, May, 2021.

## Services

2022-Present Reviewer for **Mathematical Reviews**, American Mathematical Society.

2018-Present Member of China Society for Industrial and Applied Mathematics (CSIAM).

2018-2021 Teaching assistant for many undergraduate and graduate courses, e.g., Numerical Approximation and Computational Geometry (3 times) and Complex Variables.

## Honors & Awards

May 2021 **Conferences Best Paper Award**, *GMP 2023*, Genova, Italy.

2023-02 **Best Group Award for the Amazon Web Services Challenge**, *SIAM Hackathon 2023.*

Oct. 2022 **National Scholarship**, *Ministry of Education of the People's Republic of China.*

Sep. 2022 **Top Ten Students of School of Mathematical Sciences**, *Dalian University of Technology.*

Sep. 2021 **Individual awards of science and technology innovation**, *Dalian University of Technology.*

May 2021 **Conferences Best Paper Award**, *CAD/Graphics 2021*, Xi'an, China.

Jun. 2017 **Outstanding Graduates of DUT**, *Dalian University of Technology.*

Nov. 2016 **National Scholarship**, *Ministry of Education of the People's Republic of China.*

## Skills

Programming C/C++, MATLAB, Python, LaTeX.

Math Real/Complex Analysis, Numerical Analysis, Modern Differential Geometry, Topology.

Languages Mandarin (native), English.

## Interests

Football, Movies.