Ye Ji

PostDoc. at TU Delft.

Michiel de Ruyterweg 296
2628JZ Delft, the Netherlands
(+31)0620905177
y.ji-1@tudelft.nl
Homepage: `https://jiyess.github.io/`

Bio

Ye Ji is a postdoctoral researcher in the Department of Applied Mathematics section Numerical Analysis at TU Delft. 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, 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).

Education

10/2021-12/2023 **Delft University of Technology**, *Delft Institute of Applied Mathematics*, Visiting Ph.D., Delft. the Netherlands

09/2019-12/2023 **Dalian University of Technology**, *School of Mathematical Sciences*, Ph.D., China.

09/2017–08/2019 **Dalian University of Technology**, *School of Mathematical Sciences*, M.Sc., China.

09/2013–07/2017 **Dalian University of Technology**, *School of Mathematical Sciences*, B.S., China.

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 **Mesh generation for twin-screw compressors by spline-based parameterization using preconditioned Anderson acceleration**, *The 13th International Conference on Compressors and their Systems*, London, United Kingdom, Sep. 2023.

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.

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 2023 **Conference Best Paper Award**, *GMP 2023*, Genova, Italy.

Feb. 2023 **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 **Conference 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.