Zuodong, WANG
王作栋

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EDUCATION

PhD
SERENA team, Inria & ENPC – *2025* link

Engineer's degree (2023)
Ecole de Ponts ParisTech – link

Master (2022)
Ecole de Ponts ParisTech & Sorbonne Université – link
• Applied Mathematics: Modeling, Analysis and Simulation
• Grade: 16.10/20 (top class)

Bachelor (2020)
Beijing University of Technology – link
• Mathematics and Applied Mathematics
• GPA: 3.77/4.0

LANGUAGES

Chinese (Mandarin): Native
English: Fluent
French: Fluent
Japanese: Duolingo

AWARDS

Outstanding Graduate
Beijing University of Technology, 2020

Model Student of Academic Records
Beijing University of Technology, 2016 – 2020

EXPERIENCE

Visiting scholar
Texas A&M university – *College station, USA, September 2023 – May 2024*

Internship (projet de fin d'étude)
Inria Centre de Paris – *Paris, France, April 2022 – September 2022*

Internship (stage court)
Inria Centre de Paris – *Paris, France, June – September 2021*

RESEARCH INTERESTS

Numerical Analysis

• Hyperbolic conservation laws
• Semi-linear parabolic problems
• PDEs with stiff source term
• Asymptotic-preserving schemes
• Bounds-Preserving schemes
• A posteriori error analysis

Programming

C++, Python, Matlab, Julia (currently using)

TEACHING

Explorations in Mathematics (instructor)
2024 – *Texas A&M university* link

HOBBIES

ACG(Anime, Comics, Games)

PUBLICATIONS

(Preprint) A posteriori error analysis and adaptivity of a space-time finite element method for the wave equation in second order formulation

2025 – link

A bound-preserving scheme for the Allen-Cahn equation

2025 – *Computers & Mathematics with Applications* link

(Preprint) A priori and a posteriori error estimates of a DG-CG method for the wave equation in second order formulation

2024 – link

Mass conservative limiting and applications to the approximation of the steady-state radiation transport equations

2025 – *Journal of Computational Physics* link

Asymptotic and invariant-domain preserving schemes for scalar conservation equations with stiff source terms and multiple equilibrium points

2024 – *Journal of Scientific Computing* link

Hybrid high-order methods for elliptic PDEs on curved and complicated domains

2022 – *13th ICOSAHOM 2020/2021 Conference Proceeding* link

The Proof of 2n Circle Arrangement Conjecture

2017 – *Pure Mathematics* link

CONFERENCES

Conference

30th Biennial Conference on Numerical Analysis – *Glasgow, UK, contributed talk*
• hp-version a priori error estimates of a DG-CG method for the linear wave equation

Conference

International Conference on Applied Mathematics 2024 – *Hongkong, China, contributed talk*
• Asymptotic-preserving and invariant-domain preserving schemes for scalar hyperbolic conservation laws with stiff source term

Conference

Finite Element Rodeo 2024 – *Houston, USA, 2024, Mini-Symposium*
• Monotonicity, sonic points and convergence of a stabilized FEM scheme for hyperbolic conservation laws

Conference

The 6th SIAM Texas-Louisiana Sectional Meeting – *Lafayette, USA, 2023, Mini-Symposium*
• Asymptotic and invariant-domain preserving schemes for hyperbolic conservation laws with stiff reaction source term

Workshop

Kinetic and hyperbolic equations: modeling, analysis and numerics – *Toulouse, France, 2022, participated*

Conference

Interplay of discretization and algebraic solvers: a posteriori error estimates and adaptivity – *Paris, France, 2022, participated*

Conference

The 18th European Finite Element Fair – *Paris, France, 2021, participated*