DOHYUN **KIM**

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RESEARCH INTEREST

Finite Element Methods, Polygonal Finite Element Methods, Nonconforming Methods, Fluid Dynamics, Scientific Computing

EDUCATION

Ph.D. Computational Science and Engineering – Mathematics | Yonsei University, South Korea
2015 MAR – 2021 FEB

B.Sc. Mathematics | Hanyang University, South Korea
2011 MAR – 2015 FEB

PUBLICATIONS

(Submitted) Staggered DG method with small edges for Darcy flows in fractured porous media| arXiv:2005.10955
Lina Zhao, Dohyun Kim, Eun-Jae Park, Eric Chung

Morley finite element methods for the stationary quasi-geostrophic equation | Computer Methods in Applied Mechanics and Engineering, 375, 113639 (2021)
Dohyun Kim, Amiya K. Pani, Eun-Jae Park

Staggered DG methods for the pseudostress-velocity formulation of the Stokes equations on general meshes | SIAM Journal on Scientific Computing, 42, pp. A2537-A2560 (2020)
Dohyun Kim, Lina Zhao, Eun-Jae Park

Error estimates of B-spline based finite-element methods for the stationary quasi-geostrophic equations of the ocean | Computer Methods in Applied Mechanics and Engineering, 335, pp. 255-272 (2018)
Dohyun Kim, Tae-Yeon Kim, Eun-Jae Park, Dong-wook Shin

INTERNATIONAL CONFERENCES

(Oral) Staggered discontinuous Galerkin methods for the Stokes equations on general polygonal meshes | The 26th International Domain Decomposition Conference
December 7-12, 2020, Hong Kong, China (Online)

(Oral) Error estimates of B-spline based finite-element methods for the stationary quasi-geostrophic equations of the ocean | The Week of Applied Mathematics and Mathematical Modelling
October 7-11, 2019, Vladivostok, Russia

(Oral) A C0-discontinuous Galerkin method for quasi-geostrophic equations | International Conference on Computational Mathematics – Advances in Computational PDEs
September 29-October 2, 2018, Seoul, South Korea

(Proceeding) Polygonal staggered discontinuous Galerkin methods | Oberwolfach Report No. 3, pp. 25-27
Eun-Jae Park, Lina Zhao, Dohyun Kim
January 10-16, 2021, Oberwolfach, Germany

DOMESTIC CONFERENCES

(Chair) Special Session: Numerical Modeling and Computation | 2020 KMS Annual Meeting
July 03, 2020, Seoul, South Korea

(Oral) High-order staggered discontinuous Galerkin methods for the Stokes problem | High-order Methods & Its Applications
December 20, 2019, Seoul, South Korea

(Poster) A C0-interior penalty methods for the quasi-geostrophic equations: A posteriori error analysis | KSIAM 2019 Annual Meeting
November 8-10, 2019, Yeosu, South Korea

(Chair) Special Session: Numerical Modeling and Computation | 2019 KMS Annual Meeting
October 25-27, 2019, Seoul, South Korea

(Oral) Error estimates of B-spline based finite element methods for the stationary quasi-geostrophic equations of the ocean | 2019 KMS Annual Meeting
October 25-27, 2019, Seoul, South Korea

(Oral) C0-interior penalty methods for stationary quasi-geostrophic equations | KSIAM 2018 Annual Meeting
November 2-4, 2018, Busan, South Korea

(Oral) Finite element methods for wind-driven large scale ocean circulation with spline basis | 2017 KSIAM Annual Meeting
November 3-5, 2017, Busan, South Korea

(Poster) B-spline based finite element method for a Large scale ocean circulation | KSIAM 2017 Spring Conference Joint with EASIAM
June 23-24, 2017, Seoul, South Korea

(Oral) Discontinuous Galerkin methods for Hodgkin-Huxley model | 2017 KMS Spring Meeting
April 28-30, 2017, Gwangju, South Korea

AWARDS

Merit Academic Paper Award | Yonsei University 2019

Graduate School of YONSEI University Research Scholarship grants in 2019| Yonsei University 2019

KSIAM-MathWorks Problem Challenge-Award of Excellence | KSIAM-Mathworks 2018

Poster Excellence Award| KSIAM 2017

COMPUTER SKILLS

- MATLAB
- C++
- Python

LANGUAGE

- Advanced level in English
- Native proficiency in Korean