




# DOHYUN KIM

Phone: +82-10-4186-5725   
Email: dhkim.cse@gmail.com   
<https://dohyun-cse.github.io/> 



## 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

**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

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

**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

**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



**DOMESTIC CONFERENCES**

**C0-interior penalty methods for stationary quasi-geostrophic equations | KSIAM 2018 Annual Meeting**

November 2-4, 2018, Jeju, South Korea

**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

**Discontinuous Galerkin methods for Hodgkin-Huxley model | 2017 KMS Spring Meeting**

April 28-30, 2017, Gwangju, South Korea



**AWARDS**

**Excellent Paper Encouragement Award | Yonsei University 2019**

**Poster Excellence Award | KSIAM 2017**

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



**COMPUTER SKILLS**

- MATLAB
- Python
- C++



**LANGUAGE**

- Advanced level in English
- Native proficiency in Korean