

# Hui Wang

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## Research Interest

Architectural geometry, geometry processing, computational geometry, discrete differential geometry etc.

## Experience / Education

### King Abdullah University of Science and Technology (KAUST)

Postdoc (<https://cemse.kaust.edu.sa/vcc/people/person/hui-wang>)

Principal Investigator (PI): Prof. Helmut Pottmann

*Jeddah, Saudi Arabia*

*Mar. 2020 - Mar. 2023*

### Dalian University of Technology (DUT)

PhD in School of Mathematical Sciences

Supervisor: Prof. Chungang Zhu

*Dalian, China*

*Sep. 2015 - Mar. 2020*

### TU Wien

Joint PhD in Institute of Discrete Mathematics and Geometry

Supervisor: Prof. Helmut Pottmann

*Vienna, Austria*

*Sep. 2017 - Oct. 2019*

### Dalian University of Technology (DUT)

MS in School of Mathematical Sciences

Supervisor: Prof. Zhonghua Hou

*Dalian, China*

*Sep. 2013 - July 2015*

### Jilin Normal University

BS in Mathematics and Applied Mathematics

*Siping, China*

*Sep. 2009 - July 2013*

## Publication

### ○ Principal Symmetric Meshes

ACM Trans. Graphics, SIGGRAPH, 2020. (计算机图形学顶刊, CCF A 类)

2020

Daive Pellis\*, Hui Wang\*, Martin Kilian, Florian Rist, Helmut Pottmann, Christian Müller (\* 共同一作).

### ○ Discrete Geodesic Parallel Coordinates

ACM Trans. Graphics, SIGGRAPH ASIA, 2019. (计算机图形学顶刊, CCF A 类)

2019

Hui Wang, Daive Pellis, Florian Rist, Helmut Pottmann, Christian Müller.

### ○ Characteristic parameterizations of surfaces with a constant ratio of principal curvatures

Computer Aided Geometric Design, 2021. (计算机辅助设计顶刊, CCF B 类)

2021

Hui Wang, Helmut Pottmann.

### ○ The Design of Bézier Surface Through Quintic Bézier Asymptotic Quadrilateral

Journal of Computational Mathematics (JCM). (中科院 2 区)

2017

Hui Wang, Chungang Zhu, and Caiyun Li.

### ○ Construction of B-spline surface from Cubic B-spline Asymptotic Quadrilateral

Journal of Advanced Mechanical Design, Systems, and Manufacturing (JSME). (中科院 4 区)

2017

Hui Wang, Chungang Zhu, and Caiyun Li.

### ○ Construction of Rational Bézier Surface Interpolating Asymptotic Quadrilateral

Journal of Computer-Aided Design and Computer Graphics(计算机辅助设计与图形学学报). (CCF(中文) A 类)

2017

Hui Wang, Chungang Zhu, and Caiyun Li.

### ○ $G^2$ Hermite Interpolation by Pythagorean Hodograph of Degree Six

Journal of Graphics(图学学报). (CCF(中文) C 类)

2016

Hui Wang, Chungang Zhu, and Caiyun Li.

### ○ Identification of Planar Sextic Pythagorean-Hodograph Curves

Journal of Mathematical Research with Applications(数学研究及应用). (英文, 核心)

2016

Hui Wang, Chungang Zhu, and Caiyun Li.

### ○ Using isometries for computational design and fabrication

ACM Trans. Graphics, SIGGRAPH, 2021. (计算机图形学顶刊, CCF A 类)

2021

Caigui Jiang, Hui Wang, Victor Ceballos Inza, Felix Dellinger, Florian Rist, Johannes Wallner, Helmut Pottmann.

### ○ Shape-morphing Mechanical Metamaterials

Computer-Aided Design, 2021. (计算机辅助设计顶刊, CCF B 类)

2021

Caigui Jiang, Florian Rist, Hui Wang, Johannes Wallner, Helmut Pottmann.

### ○ Architectural Freeform Surfaces Designed for Cost-effective Paneling Through Mold Re-use

Advances in Architectural Geometry (AAG), 2020.

2020

Davide Pellis, Martin Kilian, Hui Wang, Caigui Jiang, Christian Müller, Helmut Pottmann.

### ○ Design and Construction of Curved Support Structures with Repetitive Parameters

Advances in Architectural Geometry (AAG), 2018.

2018

Eike Schling, Martin Kilian, Hui Wang, Jonas Schikore, and Helmut Pottmann.

### ○ Curved Support Structures and Meshes with Spherical Vertex Stars

ACM Trans. Graphics, SIGGRAPH Poster, 2018. (计算机图形学顶刊 (展报), CCF A 类)

2018

Martin Kilian, Hui Wang, Eike Schling, Jonas Schikore, and Helmut Pottmann.

## Selected Talks

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### ○ SIGGRAPH ASIA 2019

[Brisbane, Australia](#)

Discrete Geodesic Parallel Coordinates

Nov.17-20 2019

Presenter

### ○ Computer Mathematics (CM) 2016

[Shenzhen, China](#)

Construction of Bezier Surface by Bezier Asymptotic Quadrilateral

Nov.11-13, 2016

Presenter (in Chinese)

### ○ Asian Conference on Design and Digital Engineering 2016

[Jeju, Korea](#)

Construction of B-spline Surface from Cubic B-spline Asymptotic Quadrilateral

Oct.25-28, 2016

Presenter

### ○ CSIAM Geometric Design and Computing (GDC) 2015

[Hangzhou, China](#)

$G^2$  Hermite Interpolation by Pythagorean Hodograph of Degree Six

Aug.22-24, 2015

Presenter (in Chinese)

## Skills

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○ **Programming:** Python, Matlab, Maple, Rhino script

○ **Software Tools:** Rhinoceros, Blender, Meshlab, GIMP. Rendering: V-ray, Keyshot

○ **Language:** Chinese (native), English, German (beginner)

## Reference

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○ **Prof. Helmut Pottmann:** VCC, KAUST; Applied geometry, TU Wien.

○ **Ass.Prof.Christian Müller, Dr. Martin Kilian:** Applied geometry, TU Wien.

○ **Prof. Chungang Zhu, Prof. Zhonghua Hou:** School of Mathematical Sciences, DUT.