Mei-Heng Yueh

Curriculum Vitae

Personal Information

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Employment

Aug 2017– **Postdoc**, *Department of Applied Mathematics*, National Chiao Tung University, Taiwan.

Feb–Oct 2015 **Research Assistant**, *Center of Mathematical Sciences and Applications, Harvard University*, USA.

Jul–Aug 2014 **Lecturer**, *Department of Applied Mathematics*, National Chiao Tung University, Taiwan.

Education

2013 – 2017 **PhD of Applied Mathematics**, *National Chiao Tung University*, Taiwan.
Thesis: Surface Conformal and Equiareal Parameterizations with Applications
Advisor: Professor Wen-Wei Lin

2011 – 2013 **Masters of Applied Mathematics**, *National Chiao Tung University*, Taiwan.
Thesis: Conformal Surface Morphing with Applications
Advisor: Professor Wen-Wei Lin

2007 – 2011 **Bachelor of Mathematics**, *National Taiwan Normal University*, Taiwan.

Honors

2014 Graduate Student Study Abroad Program, Ministry of Science and Technology, Taiwan.
Mentor: Professor Shing-Tung Yau, Harvard University, USA.

2013 Honorary Member of Phi-Tau-Phi Scholastic Honor Society, Taiwan.

2013 Academic Performance Excellent Award, National Chiao Tung University, Taiwan.

2011 Academic Performance Excellent Award, National Taiwan Normal University, Taiwan.

Biography

Mei-Heng Yueh received a Ph.D. degree in Applied Mathematics from National Chiao Tung University. His research mainly focuses on the theory and method of computational geometry. He has developed a system of effective and reliable energy optimization iterative methods for the computation of surface conformal and equiareal parameterizations. This technique has been successfully applied to 3D animation and medical image analysis.

Refereed Papers

2017   M.-H. Yueh, W.-W. Lin, C.-T. Wu, and S.-T. Yau, An efficient energy minimization for conformal parameterizations, *J. Sci. Comput.*, 73(1): 203-227, 2017. (TWSIAM 優良海報論文獎)

2014   M.-H. Yueh, W.-W. Lin and S.-T. Yau, An efficient numerical method for solving high-dimensional nonlinear filtering problems, *Commun. Inf. Syst.* 14(4): 243-262, 2014.

2014   M.-H. Yueh, W.-W. Lin and S.-T. Yau, An efficient algorithm of Yau-Yau method for solving nonlinear filtering problems, *Commun. Inf. Syst.* 14(2): 111-134, 2014. (Distinguished Paper Award of 2017 ICCM Best Paper Award)

Other Publications

2017   M.-H. Yueh, W.-W. Lin, C.-T. Wu, and S.-T. Yau, A Novel Stretch Energy Minimization Algorithm for Equiareal Parameterizations, arXiv:1708.07391 [cs.GR], 2017.

2016   M.-H. Yueh, X. D. Gu, W.-W. Lin, C.-T. Wu, and S.-T. Yau, Conformal Surface Registration with Applications on Face Morphing, mathscidoc:1605.09001, 2016.

2015   A. Huang, S.-T. Yau, and M.-H. Yueh, Graph invariants from ideas in physics and number theory, arXiv:1409.5853 [math.CO].

2015   林文偉、樂美亨。3D臉部形變的殺手級特效。數理人文，5，22-32。（科普）

Patents

2015   M.-H. Yueh, W.-W. Lin, and S.-T. Yau, Method for Solving High-Dimensional Nonlinear Filtering Problem, US Patent App. 14/924,847.

2015   C.-T. Wu, W.-S. Su, M.-H. Yueh, W.-W. Lin, and S.-T. Yau, 3D Surface Morphing Method Based on Conformal Parameterization, US Patent App. 14/980,236.

Talks

Nov 18, 2017   **Surface Parameterization: Theory, Practice, and Application**, *The Fifteenth Taiwan Geometry Symposium*, National Tsing Hua University, Taiwan.

Nov 10, 2017   **Computation for Path Homologies of Digraphs**, *Colloquium*, Tsinghua University, China.

Oct 26, 2017   **曲面參數化：理論、實務與應用**, *MATLAB & Simulink Tech Forum & Expo*, TeraSoft, Taiwan.

Oct 18, 2017   **Surface Parameterization: Theory and Practice**, *Colloquium*, National Taiwan Normal University, Taiwan.

Oct 13, 2017   **Surface Parameterization: Theory, Practice and Application**, *Seminar*, Tsinghua University, China.

Sep 14, 2017   **Introduction to Graph Laplacian and Computational Geometry**, *Lectures of Numerical Linear Algebra*, National Taiwan University, Taiwan.

Mar 28, 2017   **Surface Parameterizations with Applications on Morphing**, *Colloquium*, National Chiao Tung University, Taiwan.

Dec 11, 2016   **Algorithms for Conformal Parameterizations with Applications**, *Taiwan Mathematical Society Annual Meeting*, National Dong Hwa University, Taiwan.

Oct 12, 2016   **An Efficient Algorithm for Conformal Parameterizations with Applications**, *Yau's Students' Seminar*, Harvard University, USA.

Jun 14, 2016	**Computational Conformal Mapping with Applications on 3D Animation**, *Colloquium*, National Chiao Tung University, Taiwan.
Jan 9, 2016	**Computational Conformal Mapping for Genus Zero Surface with Applications**, *East Asian Core Doctorial Forum on Mathematics*, Fudan University, China.
Oct 26, 2015	**Unconstrained Optimization Problems with Applications**, *Yau's Students' Seminar*, Harvard University, USA.
Nov 21, 2014	**An Efficient Algorithm of Yau-Yau Method for Solving the Nonlinear Filtering Problems**, *Yau's Students' Seminar*, Harvard University, USA.
June 1, 2013	**Conformal Surface Morphing with Applications**, *Conference on Computational Mathematics and Annual Meeting of TWSIAM*, Providence University, Taiwan.
Feb 28, 2013	**Conformal Surface Morphing with Applications**, *The 4th Japan-Taiwan Joint Workshop for Young Scholars in Applied Mathematics*, Ryukoku University, Japan.
Jan 8, 2013	**Discrete Surface Ricci Flows and Heat Flows with Applications**, *Third Conference of Tsinghua Sanya International Mathematics Forum*, Tsinghua University, China.

Research Activities

Nov 18, 2017	**Invited Speaker**, *The Fifteenth Taiwan Geometry Symposium*, National Tsing Hua University, Taiwan.
Nov 5–11, 2017	**Academic Visitor**, *Yau Mathematical Sciences Center, Tsinghua University*, China.
Oct 11–15, 2017	**Academic Visitor**, *Department of Mathematics, Tsinghua University*, China.
Sep 15–20, 2017	**Academic Visitor**, *Yau Mathematical Sciences Center, Tsinghua University*, China.
Jan 1 – Feb 12, 2017	**Academic Visitor**, *Center of Mathematical Sciences and Applications, Harvard University*, USA.
Dec 10–11, 2016	**Speaker**, *Taiwan Mathematical Society Annual Meeting*, National Dong Hwa University, Taiwan.
Oct 8–16, 2016	**Academic Visitor**, *Center of Mathematical Sciences and Applications, Harvard University*, USA.
Jul 27 – Aug 7, 2016	**Academic Visitor**, *Yau Mathematical Sciences Center, Tsinghua University*, China.
Jan 8–12, 2016	**Invited Speaker**, *East Asian Core Doctoral Forum on Mathematics*, Fudan University, China.
Sep 3 – Nov 30, 2014	**Academic Visitor**, *Department of Mathematics, Harvard University*, USA.
Jun 1–2, 2013	**Invited Speaker**, *Conference on Computational Mathematics and Annual Meeting of TWSIAM*, Providence University, Taichung, Taiwan.
Feb 28 – Mar 2, 2013	**Invited Speaker**, *The 4th Japan-Taiwan Joint Workshop for Young Scholars in Applied Mathematics*, Ryukoku University, Kyoto, Japan.
Jan 5–8, 2013	**Invited Speaker**, *Third Conference of Tsinghua Sanya International Mathematics Forum*, Sanya City, China.

Skills / Qualifications

Programming	MATLAB, C, Visual Basic, HTML, JavaScript
TOEIC Score	880