Vicky Chuqiao Yang

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Education

PhD, Engineering Sciences and Applied Mathematics Expected June 2018
Northwestern University, Evanston, IL
Admitted into candidacy August 2015

Master of Science, Engineering Sciences and Applied Mathematics 2014
Northwestern University, Evanston, IL

Bachelor of Science, Mathematical Sciences
Bachelor of Science, Physics 2013
Worcester Polytechnic Institute (WPI),Worcester, MA
With high distinction

Awards and Fellowships

- Walter Murphy Fellowship, Northwestern University 2013
- First Place Winner, Student Paper Competition at Annual Microwave Power Symposium held by International Microwave Power Institute 2013
- Second Place Winner, IEEE Student Paper Competition 2013
- Stephen Salisbury Prize for Outstanding Seniors, WPI 2013
- Provost's Major Qualifying Project Award, WPI 2013
- WPI's Putnam Competition Top Scorer 2013
- WPI Summer Undergraduate Research Fellowship 2011
- WPI Presidential Scholarship 2009

Publications in Journals

- B.S. Tilley, V.C. Yang, J.C. Baiense, S. Evans, 'Frequency-dependent thermal resistance of vertical U-tube geothermal heat exchangers', *Journal of Engineering Mathematics*, 2016, (accepted, to appear).
- E.M. Moon, C. Yang, and V.V. Yakovlev, 'Microwave-induced temperature fields in cylindrical samples of graphite powder — experimental and modeling studies', *International Journal of Heat and Mass Transfer*, vol. 87, No 8, pp. 359-368, 2015.
- C. Yang and V.V. Yakovlev, 'An efficient empirical model for microwave-induced average temperature of liquid cylindrical reactants', *Journal of Microwave Power and Electromagnetic Energy*, 47 (3), pp. 177-185, 2013.

Publications in Conference Proceedings

- A.O. Holmes, C. Yang, M. Patel, K. Savaram, H. He, V.V. Yakovlev, and A.A. Zozulya, 'Microwave-enabled production of solution- processable graphene: principles and techniques of macroscopic modeling', In: 14th Intern. AMPERE Conf. on Microwave and High Frequency Heating., Nottingham, UK, 2013.
- A.O. Holmes, C. Yang, and V.V. Yakovlev, 'Temperature modeling for process control in microwave-assisted chemistry', In: IEEE MTT-S Intern. Microwave Symp. Dig., Seattle, WA, 2013.
- C. Yang and V.V. Yakovlev, 'Computation of microwave-induced temperature in liquid cylindrical reactants', In: 47th IMPI's Microwave Power Symp., Providence, RI, 2013.
- C. Yang and V.V. Yakovlev, 'A simple model of microwave-induced heat transfer in cylindrical reactants with strong convection', In: Intern. Conf. on Heating by Electromagnetic Sources, Padua, Italy, 2013.

Publications in Preparation

- V.C. Yang, A.V. Papachristos, D.M. Abrams, 'The origin of scaling laws in urban outputs'.
- V.C. Yang, D.M. Abrams, G. Kernell, A.E. Motter, 'Dynamics of political elections'.

Other projects and work experience

Lee Teng Internship, Argonne National Laboratory, IL 2012

- Worked in the engineering support division of Advanced Photon Source, particle accelerator at Argonne, to develop numerical model for a cooling mechanism in the accelerator.
- Used spectral method and NEK5000 solver in fluid dynamics problems. Results were validated by experiments.
- Submitted project report to Argonne National Laboratory, presented at Argonne National Laboratory and FermiLab.

Social Psychology Research Project, Worcester Polytechnic Institute 2011 - 2012

- Studied the effect of international accent on hiring decisions
- Designed and conduct experiment
- Performed hypothesis testing using data collected

Conference Presentations

- 'The origin of scaling laws in urban outputs', poster presentation at *Dynamics Days US* (Durham, NC, Jan 2016), also *International Conference on Computational Social Science* (Evanston, IL, June 2016).
- 'Why bigger cities generate more inventions, crimes, and disease: a simple mathematical model', talk at *Chicago Area SIAM Student Conference* (Chicago IL, April 2015).
- 'Microwave-induced temperature fields in graphite powder heated in a waveguide reactor', talk at *IEEE MTT-S International Microwave Symposium* (Tampa FL, June 2014).
- 'Computation of microwave-induced temperature in liquid cylindrical reactants', talk at *47th IMPI's Microwave Power Symposium* (Providence RI, June 2013).
- 'Microwave-induced heat transfer in cylindrical reactants with strong convection: a simple mathematical model', talk at *IEEE Region 1 Student Conference* (Cambridge MA, April 2013).
- 'A simple heat transfer model for reactors in microwave-assisted chemistry', talk at *American Math. Society Student Conference* (Boston MA, April 2013).

- 'Thermal and fluid dynamics modeling of wire-coil insert', talk at *New York State Regional Grad. Math. Conference* (Syracuse NY, April, 2013); also talk at *Argonne National Laboratory* and *Fermilab* (Lemont and Batavia IL, Aug 2012).
- 'Does having a foreign accent affect men and women differently? Effect of foreign accent and gender on employment decision and negotiations', poster presentation at *New England Psychological Association Annual Conference*, (Worcester MA, Oct, 2012).

Teaching Experience

Teaching Assistant, Dept. of Mathematics, Northwestern University — 2014 - 2015, 2016
Argentine Tango Instructor, NuTango, Northwestern University — 2016
Teaching Assistant, Dept. of Mathematics, WPI — 2011 - 2013

Leadership Experience

Co-founder and President — 2015-2016
NuTango: Northwestern's Argentine Tango Club
President — 2016
Society for Industrial and Applied Mathematics, Northwestern Chapter
Exec Board Member — 2016
Graduate Leadership and Advocacy Council, Northwestern University
President — 2012 - 2013
Pi Mu Epsilon, US Honorary National Mathematics Society, WPI Chapter

Computer and Programing Skills

Matlab, Python, Maple, Latex, d3, Mathematica, C, SPSS, bash commands, NEK5000, QuickWave 3D, SAS, Windows OS, Linux OS