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### **Education**

Computer Science PhD	University of New Mexico	Expected 2019
Physics and Astronomy MS	University of New Mexico	August 2011-December 2014
Atmospheric Sciences BS	National Taiwan University	Graduated June 2009

### **Publications**

- [1] Hao-Tien Chiang and Lydia Tapia, "COLREG-RRT: A RRT-based COLREGS-Compliant Motion Planner for Surface Vehicle Navigation." In *Robotics and Automation Letters* (2018), to appear.
- [2] Hao-Tien Chiang, Baisravan HomChauhudri Lee Smith and Lydia Tapia."Safety, Challenges, and Performance of Motion Planners in Dynamic Environments." In *2017 International Symposium of Robotics Research (ISRR)*, to appear.
- [3] Torin Adamson, Hao-Tien Chiang, Meeko Oishi and Lydia Tapia. "Busy Beeway: A Game for Testing Human-Automation Collaboration for Navigation." In *2017 ACM SIGGRAPH Conference on Motion in Games (MIG)*, to appear.
- [4] Nick Malone, Hao-Tien Chiang, Kendra Lesser, Meeko Oishi and Lydia Tapia. "Hybrid Dynamic Moving Obstacle Avoidance Using a Stochastic Reachable Set-Based Potential Field." In *IEEE Transactions on Robotics* (2017), pp. 1124-1138.
- [5] Hao-Tien Chiang, Baisravan HomChaudhuri, Abraham Vinod, Meeko Oishi and Lydia Tapia. "Dynamic Risk Tolerance: Motion Planning by Balancing Short-Term and Long-Term Stochastic Dynamic Predictions." In *Robotics and Automation (ICRA), 2017 IEEE International Conference on*, pp. 3762-3769.
- [6] Hao-Tien Chiang, Nathanael Rackley, and Lydia Tapia. "Runtime SES planning: Online motion planning in environments with stochastic dynamics and uncertainty." In *Intelligent Robots and Systems (IROS), 2016 IEEE/RSJ International Conference on*, pp. 4802-4809.
- [7] Aleksandra Faust, Hao-Tien Chiang, Nathanael Rackley, and Lydia Tapia. "Avoiding moving obstacles with stochastic hybrid dynamics using PEARL: PrEference Appraisal Reinforcement Learning." In *Robotics and Automation (ICRA), 2016 IEEE International Conference on*, pp. 484-490.
- [8] Hao-Tien Chiang, Nathanael Rackley, and Lydia Tapia. "Stochastic ensemble simulation motion planning in stochastic dynamic environments." In *Intelligent Robots and Systems (IROS), 2015 IEEE/RSJ International Conference on*, pp. 3836-3843.

- [9] Chiang, Hao-Tien, Nick Malone, Kendra Lesser, Meeko Oishi, and Lydia Tapia. "Path-guided artificial potential fields with stochastic reachable sets for motion planning in highly dynamic environments." In Robotics and Automation (ICRA), 2015 IEEE International Conference on, pp. 2347-2354.
- [10] Chiang, Hao-Tien, Nick Malone, Kendra Lesser, Meeko Oishi, and Lydia Tapia. "Aggressive moving obstacle avoidance using a stochastic reachable set based potential field." In Algorithmic Foundations of Robotics XI, pp. 73-89. Springer International Publishing, 2015.
- [11] Chiang, Hao-Tien, Guanglei Xu, and Rolando D. Somma. "Improved bounds for eigenpath traversal." Physical Review A 89, no. 1 (2014): 012314.

### Work Experience

- **Research Assistant**, Adaptive Motion Planning Research Group, under the supervision of Professor Lydia Tapia, Department of Computer Science, University of Mexico: May 2014-Present
- **Student Researcher** at New Mexico Consortium under the supervision of Rolando Somma, Los Alamos National Laboratory: February 2013-May 2014
- **Student Instructor** of General Physics, University of New Mexico: August 2012-December 2012
- **Teaching Assistant** of undergraduate Numerical Methods in Physics and General Physics, University of New Mexico: January 2012-May 2012
- **Teaching Assistant** of undergraduate Electromagnetism and Mechanics class, University of New Mexico: August 2011-December 2011
- **Research Assistant** in Department of Mathematics, National Taiwan University. Advisor: Keh-Ming Shyue. Works on developing efficient numerical methods for Hyperbolic PDEs with non-local sources: January 2011-May 2011
- **Air traffic Control Corporal**, Republic of China Air Force (Taiwanese Air Force): September 2009-August 2010
- **Undergraduate Teaching Assistant** of the Model Construction class, National Taiwan University: January 2008-June 2008

### Service

- Student organizer for **Becoming a Robot Guru 2: Integrating Science, Engineering and Creativity Workshop**, at the 2016 Robotics: Science and Systems Conference (RSS) in Ann Arbor, MI, 2016.
- Performed robot demonstration for **Escuela del Sol Montessori School** (Elementary and Preschool) (2016 and 2017) program to teach programming and robotics to New Mexico elementary school students.
- Performed robot demonstration for **New Mexico CS4All** (2015) program to teach programming to New Mexico high school students.
- Co-advisor for 2008 **1<sup>st</sup> APEC Future Scientist Conference**. The students worked on a 3D spring pendulum chaotic system. We used many classical chaos dynamic methods to approach the system.