Biographical Sketch

Dr. Josef C. Uyeda

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(a) Professional Preparation

Willamette University, Salem, OR; Biology; *summa cum laude* B.A. with honors, 2006
Oregon State University, Corvallis, OR; Zoology; Ph.D., 2012
University of Idaho, Moscow, ID; Institute for Bioinformatics and Evolutionary Studies (IBEST); Postdoctoral Fellow, 2012–present

(b) Appointments

2012–present: **Postdoctoral Fellow**, University of Idaho, Moscow, ID

(c) Products

1. **Pavlic, T.P.**, S. Wilson, G.P. Kumar, and S. Berman. An enzyme-inspired approach to stochastic allocation of robotic swarms around boundaries. In: *Proceedings of the 16th International Symposium on Robotics Research*, December 16–19. 2013. Accepted.
2. **Pavlic, T.P.**, and K.M. Passino. Distributed and cooperative task processing: Cournot oligopolies on a graph. *IEEE Transactions on Cybernetics*. 2013. In press. doi:10.1109/TCYB.2013.2271776
3. Kumar, G.P., A. Buffin, **T.P. Pavlic**, S.C. Pratt, and S.M. Berman. A stochastic hybrid system model of collective transport in the desert ant *Aphaenogaster cockerelli*. In: *Proceedings of the 16th International Conference on Hybrid Systems: Communication and Control*, April 8–11, 2013.
4. **Pavlic, T.P.** Physical Stigmergy for decentralized constrained optimization: an intelligent lighting example. In: *Proceedings of the 4th International Conference on Cyber-Physical Systems*, April 8–11, 2013. Poster abstract.
5. **Pavlic, T.P.**, S. P. Peddi, P.A.G. Sivilotti, and B.W. Weide. Getting Out of the Way–Safety Verification without Compromise. In: *Proceedings of the 2012 IEEE/ACM Third International Conference on Cyber-Physical Systems*, April 17–19, 2012. Poster abstract.
6. **Pavlic, T.P.**, and K.M. Passino. Generalizing foraging theory for analysis and design. *The International Journal of Robotics Research [Special Issue on Stochasticity in Robotics and Bio-Systems Part 1]*. 30(5):505–523. 2011. doi:10.1177/0278364910396551
7. **Pavlic, T.P.**, and K.M. Passino. The sunk-cost effect as an optimal rate-maximizing behavior. *Acta Biotheoretica*, 59(1):53–66. 2011. doi:10.1007/s10441-010-9107-8
8. **Pavlic, T.P.**, and K.M. Passino. When rate maximization is impulsive. *Behavioral Ecology and Sociobiology*, 64(8):1255–1265. August 2010. doi:10.1007/s00265-010-0940-1
9. **Pavlic, T.P.**, and K.M. Passino. Foraging theory for autonomous vehicle speed choice. *Engineering Applications of Artificial Intelligence*, 22:482–489, April 2009. doi:10.1016/j.engappai.2008.10.017
10. Freuler, R.J., M.J. Hoffmann, **T.P. Pavlic**, J.M. Beams, J.P. Radigan, P.K. Dutta, J.T. Demel, and E.D. Justen. Experiences with a Comprehensive Freshman Hands-On Course – Designing, Building, and Testing Small Autonomous Robots. In: *Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition*, 2003.

(d) Synergistic Activities

1. **Conference service:** (i) Organizer and associate editor for invited session: "Correctness by Verification and Design", 14th IEEE Conference on Intelligent Transportation Systems, Washington, DC, October 5–7, 2011. (ii) Organizer for proposed mini-symposium: "Optimization and Rationality in Eusocial Insects", 2013 Society for Mathematical Biology Annual Meeting and Conference, Tempe, AZ, June 10–13, 2013 (iii) Co-organizer for technical session: "Complex Systems of Social Insects in Research and Education", 2013 Biomathematics and Ecology: Education and Research, Arlington, VA, October 11–13, 2013.
2. **University service:** Chair of committee for the development of biomimicry and bio-inspired research and education initiatives at Arizona State University, 2013.
3. **Community service:** (i) As NSF GK-12 fellow, developed and implemented science lessons for local inner-city public school, 2006–2007. (ii) Recognized in *Wired* magazine for OSS work Linux Virtual Server project, 2000.
4. **Mentoring:** (i) Founding faculty co-adviser for Interdisciplinary Complexity Science Student Organization at Arizona State University, 2013. (ii) Founding mentor of 2002 FIRST high-school robotics team that received regional honor for inspiration in engineering, Dublin, OH. (iii) Founding mentor of 2001 FIRST LEGO League all-girls middle-school robotics team, Columbus, OH
5. **Teaching:** (i) Authored hundreds of pages of Creative-Commons-licensed course material for courses in analog electronics and control for undergraduate and graduate students, The Ohio State University, 2007–2009. (ii) Developed and implemented Electrical and Computer Engineering undergraduate student design project on retrofittable vehicle-to-vehicle communications system for adaptive cruise control in mixed-traffic environments, The Ohio State University, 2012. (iii) Mathematical modeling guest lecturer, Research Strategies for Animal Behavior, Arizona State University, 2013.

(e) Collaborators & Other Affiliations

Collaborators and Co-Editors: *The Ohio State University*: Manas Agrawal; Emrah Adamey; Vijay Gadepally; Arda Kurt; Ashok K. Krishnamurthy; Ümit Özgüner; Jaeyong Park; Kevin M. Passino; Sai Prathyusha Peddi; Keith A. Redmill; Paolo A. G. Sivilotti; Michael Vernier; Alan D. Weide; Bruce W. Weide; *Arizona State University*: Dieter Armbruster; Spring Berman; Aurélie Buffin; Hinsby Cadillo-Quiroz; Luis Cisneros; Paul Davies; Jessica D. Ebie; James J. Elser; Georgios E. Fainekos; Jennifer Fewell; Jon F. Harrison; Christal Johnson; Yun Kang; Yang Kuang; Ganesh P. Kumar; Alex Nachman; Susan Neuer; Stephen C. Pratt; Hana Putnam; Jason Raymond; P. Logan Rogers; Takao Sasaki; Zachary Shaffer; Oyita Udiani; Taylor Vance; Sara Imari Walker; Sean Wilson; *New Jersey Institute of Technology*: Simon Garnier; Chris Reid

Graduate Advisers and Postdoctoral Sponsors: *The Ohio State University*: Kevin M. Passino; Paolo A. G. Sivilotti; *Arizona State University*: Stephen C. Pratt (Arizona State University)

Thesis Adviser and Postgraduate-Scholar Sponsor: *Undergraduate honors thesis students:* Christal Johnson (Arizona State University). Total graduate students: 0; Total postgraduate scholars: 0.