

# The 2006 AAAI/SIGART Doctoral Consortium

*Kiri L. Wagstaff and Terran Lane*

- We report on the eleventh annual SIGART/AAAI Doctoral Consortium, held in conjunction with the National Conference on Artificial Intelligence (AAAI-06). We discuss highlights and innovations of this year's consortium and include pointers to the consortium website.

The eleventh annual SIGART/AAAI Doctoral Consortium (DC) was held on July 16–17, 2006, in conjunction with the AAAI Conference on Artificial Intelligence (AAAI-06). At the DC, Ph.D. students in artificial intelligence presented their proposed research and received feedback from a panel of researchers and other students. The primary goal of the DC is to give students feedback on their proposed dissertation research at a critical time, by independent, knowledgeable reviewers external to their institutions. Secondary goals of the DC are to provide students with information about the value of different career objectives and to give students the opportunity to establish contacts with each other and with more senior researchers. The DC is consistently praised by students as an exceptionally educational and valuable part of the conference.

This year, 13 students gave oral presentations on their work, selected from an extremely competitive applicant pool of 35 submissions. Each oral presenter was assigned a mentor who provided detailed feedback on that student's work. The presentation format for the DC is unique: to facilitate in-depth, substantial feedback, each presenter is allocated 25 minutes to

present his or her work and 20 minutes of discussion and feedback. The extended discussion time permits the investigation of issues that cannot be covered in a typical conference talk's discussion time. Oral presenters also received complimentary conference registration, a travel stipend, and funds to support a one-on-one lunch with their mentor after their presentation. A new component of the DC this year was the addition of a poster-only track, which permitted us to include an additional 13 student presenters in the DC. The student research represents a variety of subfields of AI, including planning, natural language, probabilistic reasoning, and machine learning. The students came from a cross-section of universities across the United States, as well as 3 students from Germany, 2 from Canada, 1 from Israel, and 1 from the United Kingdom.

In addition to the student presentations, the DC hosted two panel discussions. The first panel examined the question of "What Has AI Accomplished, and Where Is It Going?" Rod Brooks (Massachusetts Institute of Technology), Eugene Charniak (Brown University), and Tom Mitchell (Carnegie Mellon University) served on the panel. The second panel focused on "What Can I Do With a Ph.D.? Perspectives on Research, Teaching, and Industry Careers," with contributions from Justin Boyan (ITA Software), Jennifer Dy (Northeastern University), and Colleen van Lent (California State University, Long Beach). The students were unanimously enthusiastic about these pan-

els and urged us to consider including longer panel discussions in future consortia. Another popular event at the DC was the student-mentor dinner, held this year at Elephant Walk, which provided an opportunity for students and researchers to interact in an informal setting.

## Innovations

For 2006, we experimented with three changes to the DC format. First, we added a poster-presentation track. Recently, our highest priority has been to find ways to involve more students. Time constraints prevent us from accepting more than about 14 students for oral presentations each year. The new poster-presentation track permitted us to support an additional 13 student presenters. These presenters received \$100 towards their travel expenses and the opportunity to attend the DC, present a poster on their work, and obtain feedback from the same group of researchers. We also had a "poster overview" session during the DC in which each poster presenter provided a 3-minute "spotlight" overview of his or her poster. Second, we acted on a suggestion from previous attendees and created a printed proceedings that included the DC schedule, each oral presenter's two-page thesis summary, each poster presenter's abstract, and space for notes. These proceedings were very popular and effective. The final change this year was also inspired by previous attendees; we posted the slides from each oral presenter to the DC website after conference.

Student participants were enthusiastic about the event. Their comments included: "The DC spawned several important conversations about my research with senior researchers." "The DC was really an enriching experience for me, since I could discuss with established AI researchers I don't have the chance to meet at conferences of my specialized field, and get feedback in interdisciplinary discussions about my research work." "I also liked that these sessions were kept constructive and friendly." "All the mentors gave useful feedback, and there was enough time and opportunity to chat with

other researchers and mentors as well." "I really liked the concept of a mentor for every student, and my mentor especially gave me feedback on multiple issues in a very short period of time." "I had a great time listening to people working on interesting problems in fields extremely different to mine, but surprisingly I was still able to find similarities between their problems and those that I am trying to tackle." "The most satisfying thing in my case was to be able to meet a few other students who were really excited about their research."

For more information, including links to student abstracts and presentations, visit the 2006 DC website at [litech.org/~wkiri/dc06](http://litech.org/~wkiri/dc06). This event was organized and run by Kiri Wagstaff (Jet Propulsion Laboratory) and Terran Lane (University of New Mexico). To learn about the upcoming 2007 DC, visit AAAI's website. All conference participants are welcome to attend as audience members, and students are particularly encouraged to do so. Many student presenters were inspired by their attendance at a previous DC, and several reported that just watching others present their dissertation research and plans gave them a plethora of ideas for their own work.

### Acknowledgements

We gratefully acknowledge financial support from the National Science Foundation (thanks to Edwina Rissland and Bill Bainbridge), Microsoft Research (thanks to Eric Horvitz), and Google (thanks to David Cohn). We would also like to thank Carol Hamilton, Keri Harvey, and Colleen Boyce at AAAI for managing submissions, notifications, and awards and for handling the local arrangements. Thanks to them, the event went off smoothly, and the students were very appreciative. Our thanks are also extended to the 19 reviewers and mentors and six panelists for generously donating their time and effort.

**Kiri L. Wagstaff** is a senior researcher at the Jet Propulsion Laboratory in Pasadena, CA. She is a member of the Machine Learning and Instrument Autonomy group, and her focus is on developing new machine-learning



ing methods that can be used for data analysis on-board spacecraft. She has applied these techniques to data being collected by the EO-1 Earth-orbiting spacecraft, Mars Odyssey, and Mars Pathfinder. She has also worked on crop-yield prediction from orbital remote-sensing observations, the fault-protection system for the MESSENGER mission to Mercury, and automatic code generation for the Electra radios used by the Mars Reconnaissance Orbiter and the Mars Science Laboratory. She holds a Ph.D. in computer science from Cornell University and is currently working on an M.S. in geology from the University of Southern California.

**Terran Lane** is an assistant professor of computer science at the University of New

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Mexico. His research focus is on developing novel machine learning methods grounded in difficult real-world scientific data analysis problems. His interests fall into a subspace that is roughly spanned by time-series analysis, Bayesian networks, handling high-dimensional and nonlinear data, semisupervised and unsupervised learning, learning network structure from data, and decision-theoretic control and reinforcement learning. He has developed and applied techniques from this space to problems including computer security, user modeling, bioinformatics (RNA interference and genomics), and neuroinformatics (analysis of functional magnetic resonance imaging [fMRI] data and diagnosis of mental disease). He received his Ph.D. from Purdue University in 2000, spent two years as a postdoctoral researcher at the Massachusetts Institute of Technology, and then took up residence in the sunny Southwest.