



NSF Avatar & Robotics Signing Creatures Workshop

November 15-16, 2013

Gallaudet University

Hosted by Visual Language & Visual Learning (VL2),

A NSF Science of Learning Center

NSF Avatar & Robotics Signing Creatures Workshop #IIS-1343948

Dr. Tatiana D. Korelsky (NSF Program Director, Robust Intelligence Cluster)

<http://signingcreatures.weebly.com>

Workshop Chair

Dr. Laura-Ann Petitto, Science Director/Co-PI, NSF Science of Learning Center, VL2 and Scientific Director, Brain & Language Laboratory for Neuroimaging, Gallaudet University

Workshop Co-Chair

Dr. David Traum, University of Southern California

Workshop Manager

Adam Stone, PhD Student in Educational Neuroscience, Gallaudet University

All sessions/meals will have ASL/English interpretation

Friday, Nov. 15		
7:30-8:20	Breakfast (Kellogg Center)	[Gallaudet Administration Welcomes 8:00-8:20]
8:30-9:00	<p>Welcome & Workshop Overview (Foster Auditorium)</p> <ul style="list-style-type: none"> To identify new areas of cross-disciplinary knowledge building in order to facilitate optimal learning outcomes in young children. To identify central scientific questions and challenges for future study in avatar, robotic, and visual sign language sciences that can both advance these sciences and contribute to product design features for the development of learning tools for young children. To form new interdisciplinary networks, as well as to identify funding avenues for these networks, which will address the main issue of signing creatures/socially assistive robotics to facilitate learning in the development of all young children, young visual learners, and especially the young deaf visual learner. 	<p><u>Laura-Ann Petitto</u> (Workshop Chair; Science Director/Co-PI, NSF Science of Learning Center, VL2, Gallaudet University)</p> <p><u>David Traum</u> (Workshop Co-Chair; University of Southern California)</p>

9:00-9:15	Signing Creatures Knowledge Explosion Guidelines	<u>Adam Stone</u> (<i>Workshop Manager; PhD Student in Educational Neuroscience, Gallaudet University</i>)
9:15-9:30	Break/Foster Auditorium Doors Open	--
9:30-11:00	Signing Creatures Knowledge Explosion	ALL
11:00-11:15	Break (Return to Kellogg)	--
11:15-12:00	Lunch (Kellogg Center for remainder of Workshop)	--
12:00-12:20 (15 min talk, 5 min Q&A)	<i>Knowledge Cell:</i> Visual Sign Language	<u>Clifton Langdon</u> (<i>Instructor in Educational Neuroscience & PhD Candidate, Linguistics, Gallaudet University</i>)
12:20-12:40 (15 min talk, 5 min Q&A)	<i>Knowledge Cell:</i> Human Language Acquisition Milestones and the Crucial Role of Early Language Experience	<u>Laura-Ann Petitto</u> (<i>Workshop Chair, Science Director/Co-PI, NSF Science of Learning Center, VL2, Gallaudet University</i>)
12:40-1:00 (15 min talk, 5 min Q&A)	<i>Knowledge Cell:</i> Translation Research and Available Language Learning Products	<u>Melissa Malzkuhn</u> (<i>VL2 Digital Innovation and Media Strategies Manager, Gallaudet University</i>) <u>Melissa Herzig</u> (<i>VL2 Education and Research Translation Manager, Gallaudet University</i>)
1:00-1:15	<i>1st Open Group Discussion:</i> Visual Language, Acquisition, and Translation	<u>Geo Kartheiser</u> (<i>PhD Student, Educational Neuroscience, Gallaudet University</i>)
1:15-1:45	<i>Panel:</i> Principles of Design and Implementation of Educational Technology <u>Melissa Malzkuhn</u> (<i>VL2 Digital Innovation and Media Strategies Manager, Gallaudet</i>) <u>Ellen Doherty</u> (<i>Executive Producer, WNET</i>) <u>Silvia Lovato</u> (<i>Senior Director of Products, PBS KIDS Interactive</i>) <u>Abby Jenkins</u> (<i>Director of Content, PBS KIDS Interactive</i>)	<u>Melissa Herzig</u> (<i>VL2 Education and Research Translation Manager, Gallaudet University</i>)
1:45-2:00	Break	--
2:00-2:30 (25 min talk, 5 min Q&A)	<i>Knowledge Cell:</i> Virtual Human Introduction & Challenges in Animating Face and Gesture <ul style="list-style-type: none"> • "Introduction to Virtual Humans," Wei-Wen Feng, University of Southern California • "Facial Animation," Jonas Beskow, KTH Sweden • "Gestures," Michael Kipp, Augsburg University of Applied Sciences • Panel: Beskow, Feng, Kipp, & Dom Massaro (UCSC) 	<u>Stacy Marsella</u> and <u>Wei-Wen Feng</u> (<i>University of Southern California</i>)
2:30-3:00 (25 min talk, 5 min Q&A)	<i>Knowledge Cell:</i> Introduction to Socially Assistive Robotics <ul style="list-style-type: none"> • "The use of language by people with cognitive and motor disabilities for robot control," Holly Yanco, University of Massachusetts Lowell • "Advantages of Embodied Robots over Virtual Agents for Socially Assistive Domains," Brian Scassellati, Yale University • "Socially Assistive Robotics for Communication and Interaction Skill," Maja Mataric, University of Southern California 	<u>Paul Oh</u> (<i>Drexel University</i>)
3:00-3:15	Break	--

3:15-4:45	1 st Breakout Discussion & Distributed Reasoning (6 multidisciplinary groups of 7-8 people each)	<u>Adam Stone</u> (Workshop Manager; PhD Student, Educational Neuroscience, Gallaudet University) <u>Geo Kartheiser</u> (PhD Student, Educational Neuroscience, Gallaudet University)
4:45-5:15	Report out from 1 st Breakout	--
5:15-6:15	Dinner	--
6:15	Charter bus departs for Georgetown University	--
7:00-9:00	<i>Multi-Media Festival: "Commemorating George Veditz and Georgetown University Pioneers in 100 Years of Sign Language Documentation"</i> Lohrfink Auditorium, Georgetown University Coordinated by Dr. Ted Supalla and the Sign Language Research Laboratory, Georgetown University	--
9:15	Charter bus returns to Gallaudet University	--

Saturday, Nov. 16		
8:15-9:00	Breakfast	--
9:00-9:30 (25 min talk, 5 min Q&A)	<i>Knowledge Cell: Signing Virtual Humans</i> <ul style="list-style-type: none"> Contributors: Annelies Braffort (LIMSI-CNRS), Matt Huenerfauth (City University of New York), Rosalee Wolfe (DePaul University) 	<u>Thomas Hanke</u> (University of Hamburg)
9:30-10:00 (25 min talk, 5 min Q&A)	<i>Knowledge Cell: Existing Educational Technology & Language Learning Products</i> <ul style="list-style-type: none"> "Mobile Apps for Novice Readers," Dom Massaro, University of California, Santa Cruz & Psycientific Mind "Signing Avatar Projects for Deaf and Hard of Hearing Learners," Jason Hurdich, Eastern Kentucky University & Vcom3D "Interactive Learning in a Shared Human-Robot Workspace," Hae Won Park, Georgia Tech "Sign Learning Via Game-Based Interaction," Jonas Beskow, KTH Sweden 	<u>Melissa Malzkuhn</u> (VL2 Digital Innovation and Media Strategies Manager, Gallaudet University)
10:00-10:15	<i>2nd Open Group Discussion: Existing Products and Signing Virtual Humans</i>	<u>Geo Kartheiser</u> (PhD Student, Educational Neuroscience, Gallaudet University)
10:15-10:30	Break	--
10:30-11:00 (25 min talk, 5 min Q&A)	<i>Knowledge Cell: Sign Language Recognition and Non-Verbal Communication</i> <ul style="list-style-type: none"> "Computer-Based Analysis of Linguistics Aspects of ASL," Dimitris Metaxas, Rutgers University "Modeling Human Communication Dynamics," Louis-Philippe Morency, University of Southern California "The Revolutionary Potential of Sign Language Recognition with Commodity Hardware and Software," Christian Vogler, Gallaudet 	<u>Christian Vogler</u> (Director of Technology Access Program, Gallaudet University)

11:00-11:30 (25 min talk, 5 min Q&A)	<i>Knowledge Cell: Human-Computer Dialogue</i>	<u>David Traum</u> (<i>Workshop Co-Chair; University of Southern California</i>)
11:30-11:45	<i>3rd Open Group Discussion: Sign Language Recognition & Human-Computer Dialogue</i>	<u>Geo Kartheiser</u> (<i>PhD Student, Educational Neuroscience, Gallaudet University</i>)
11:45-1:00	Lunch	--
1:00-2:30	<i>2nd Breakout Discussion & Distributed Reasoning (6 multidisciplinary groups of 7-8 people each)</i>	<u>Adam Stone</u> (<i>Workshop Manager; PhD Student, Educational Neuroscience, Gallaudet University</i>) <u>Geo Kartheiser</u> (<i>PhD Student, Educational Neuroscience, Gallaudet University</i>)
2:30-2:45	Break	--
2:45-3:15	Report out from 2 nd Breakout	--
3:15-3:45	<i>4th Open Group Discussion: Looking Ahead</i>	<u>Laura-Ann Petitto & David Traum</u> , <i>Workshop Chair and Co-Chair</i>
3:45-4:00	Wrap-Up and Thanks to All!	<u>Laura-Ann Petitto & David Traum</u> , <i>Workshop Chair and Co-Chair</i>