PURDUE UNIVERSITY

Polytechnic Institute

Department of

COMPUTER GRAPHICS TECHNOLOGY NEWS

WORDS FROM DR. HARTMAN

Hello everyone,

I hope you all had a restful holiday season, and that you were able to spend it with friends, family, and loved ones. As we start the second semester here in West Lafayette, we are ready to publish our second issue of the CGT newsletter. It has several stories about our students, faculty, and alumni, and their engagement in the profession, in education, and in the community. Over the next several issues of the newsletter, we plan to highlight some of our new lab facilities, technologies, and specific research and outreach projects that are getting some attention. As I said in the inaugural issue of the newsletter, one of my goals as a new department head is to increase the engagement with our CGT alumni. While we have a lot to share from our work here, we would also like to hear from you directly. What have you been doing in your work recently? Any big life or career changes you would like to share or news we should be aware of? If so, please send me a note (nhartman@purdue.edu) so we can follow up with you about putting that story in the newsletter. In the meantime, please enjoy this month's issue. As we accumulate newsletter issues, we will be archiving them to the CGT department's website (polytechnic.purdue.edu/cgt). Have a look when you get a chance!!

My very best always,

Nate

DR. BENES, PROFESSOR

Bedrich Benes, professor of computer graphics technology, teaches courses in geometric modeling, advanced topics in computing for graphics and introduction to programming for undergraduate students. He completed both his master's degree and Ph.D. in computer science at the Czech Technical University in Prague. Upon his graduation in 1998, Benes became the first person in the Czech Republic to earn a doctorate in computer graphics. After teaching computer science and computer graphics in Mexico City for six years, he moved his work to Purdue, where he has worked as a professor and researcher since 2005.

Because the Department of Computer Graphics Technology (CGT) hosts a variety of specializations, Benes believes the department has a rare opportunity to bring talents together as a cohesive unit. The ability to tackle problems with different mindsets, such as artistic innovation through animation and bringing it to life by coding, is what makes CGT incredibly applicable. After witnessing graduates' productivity and success, he loves that the unique skill sets and specific interests in CGT bring completely new possibilities to the table.

Benes focuses his research on geometric modeling and generative methods, such as procedural modeling, real-time rendering and high-performance computer graphics. He is director of the Purdue High-Performance Computer Graphics Laboratory, host to seven Ph.D. students and two master's students. His main goals in the lab are to focus on cutting-edge research problems and to consistently produce highly skilled, quality graduates who are ready to take on the challenges of the industries in which they choose to work. Benes is currently a co-PI (principal investigator) on seven active grants.

Benes is the editor-in-chief of the Computer Graphics Forum Journal, one of the leading publications in the field. He has worked as a program committee member for dozens of conferences, including Siggraph. He also served as papers chair of

Eurographics in 2017. In his free time, Benes enjoys photography, astronomy, traveling, running and reading. His recommended reading for students include "The Shallows" by Nicholas Carr, which discusses the dangers of technology on the human brain, and "Life 3.0" by Max Tegmark, a book about the dangers of artificial intelligence.

His best advice for a student in animation is to seize the ability you have to create projects and show your work. This opportunity for exposure and experience in the industry is something that. Buchanan is passionate about helping students achieve as he starts this new chapter of his life at Purdue.

MEGAN LEDFORD, UNDERGRADUATE

Megan Ledford has mastered the concept of getting the most out of college, taking on each day with a positive attitude and love for what she does. A junior from Fishers, Ind., Ledford will graduate in May 2020 with a major in UX design, a minor in organizational leadership and communications and the entrepreneurship certificate.

At the start of her Purdue career in 2016, Ledford began classes as part of the first cohort of students of the Summer Start program. Even before her commitment to Purdue, Ledford took notice of the kind of detail-oriented attention that Purdue gave her, and she was excited to work with people like that during her time here. Ledford decided to give back through the same program and accepted a position as a peer mentor. Currently, she edits content to advertise and promote the summer programs.

Being a student in the Department of Computer Graphics Technology has honed Ledford's interests by exposing her to real industry issues. In her "experience studio" classes, she has worked on real-life projects, like the redesign of a website for Purdue's Military Family Research Institute. Through experiences like these, Ledford has developed life goals that allowed her to tailor her areas of study to learn the practicality of her dream jobs.

Ledford stays busy outside of class. She edits content to advertise and promote the Summer Start programs and has spent time as an undergraduate research assistant for the Purdue University Energy Center. She also is a private tutor and a station manager for WCCR, the radio station in Cary Quadrangle.

After graduation, Ledford is interested in working for an app development company, with a focus on project management, user research and user testing.

LIZ IRK, ALUMNI

Liz Irk, a Department of Computer Graphics Technology (CGT) alumna and a member of the Purdue Polytechnic High School faculty, graduated in 2014 with a bachelor's degree in graphic design and a minor in art and design. As a Lafayette, Ind., native, Irk grew up so close to the Purdue campus that she was able to attend an open studio showcase for both Purdue CGT and Art & Design graduate students. That is when she realized that her passion and ability for art and design could be a future career path. Since her days as an undergraduate student, Irk has grown her work and experience as a freelance graphic designer and user experience designer by accepting clients from both industry and nonprofit areas.

After graduation, Irk spent a year in AmeriCorps as part of the Immigrant and Refugee Services Program in Indianapolis. There, she learned about the types of barriers families face while trying to integrate into U.S. society. As her experience as an advocate and community program planner grew, it became clear to Irk that the skills she learned at Purdue could be applied to helping the people she had grown passionate about. This prompted her to work in collaboration with Esteban Garcia Bravo, assistant professor of computer graphics technology, to create a final project for a first-year web design class. This project gave her the opportunity to introduce students to the challenges that surround immigrants, while mentoring them through those problems.

As her year with AmeriCorps came to an end, Irk decided to take the project into her own hands by enrolling in a CGT graduate program. She wanted to use her passion for and knowledge of resettled refugee communities, combined with her background in design and technology, to address the issues she was first exposed to in AmeriCorps. In May 2018, Irk graduated with her master's degree in human-centered design with a focus on co-designing across cultures to help address health-care challenges faced by resettled Myanmar refugees in Indianapolis.

Irk works for Purdue Polytechnic High School (PPHS) in Indianapolis. While following the design thinking process, PPHS students learn how science, technology, engineering, math (STEM) and humanities lessons apply directly to real-world, industry-level challenges. Irk is one of several design teachers who help students with projects. Upon graduation, PPHS students who meet admission requirements will be admitted to Purdue Polytechnic

Institute, the Purdue college that's home to CGT.

Irk lives in Indianapolis, where she is excited to be part of the team helping build the curriculum and policies of a second PPHS location, continuing her freelance work in graphic design and engaging with resettled refugee communities.

KEVIN DEL RE, GRADUATE STUDENT

Kevin Del Re, a graduate research assistant in the Department of Computer Graphics Technology (CGT), came to Purdue as a mechanical engineering major. He switched to CGT after taking his first course in the department. In that first class, and for the rest of his time as an undergraduate, Del Re was struck by the hands-on nature of each learning objective. By the time he graduated in May 2018, he was a triple major in computer graphics technology, virtual product integration and building information modeling.

Although he is working toward a master's degree in product lifecycle management now, Del Re never considered graduate school until he had a conversation with Nathan Hartman, Dauch Family Professor of Advanced Manufacturing, director of the PLM Center of Excellence, and head of CGT, about what the extra years would be like for him. He now works with Hartman and other CGT students at the Digital Enterprise Center of Excellence. To this day, Del Re most appreciates the opportunity for personal improvement and individualized study that allows him to build upon previous knowledge.

In fall 2018, Del Re took CGT 51400, taught by Travis Fuerst, assistant professor of practice in CGT. The course explored using a product lifecycle management (PLM) system for classroom purposes in an introductory course, which would require reconfiguration of software from the Aras Innovator System in a way that hadn't been done before. When the class ended, Del Re and another student requested an independent study to continue their work on the system so that it could be used in more CGT classrooms. For his thesis, Del Re is researching industry-level systems and configuring them in a manner that allows undergraduate students to become familiar with them before they graduate.

Outside of classes and research, the Hampshire, Ill., student makes time to compete with the Purdue Quidditch Team. He has also taken courses to become a certified effective leader, and looks forward to finding a challenging and rewarding job in the industry.

UPCOMING EVENTS

Throughout the spring of 2019, Vetria Byrd and the Byrd Data Visualization Lab will conduct research through IN-MaC funding. This project, "Better Analysis of Indiana Department of Education Data for Improved Workforce Development", will look for and visualize unexamined patterns in Indiana' DoE data that might inform educational practices and allocation of resources at the state level and develop interactive ways for stakeholders to engage with the data to make informed financial decisions that impact workforce development.

The dates for the Senior Capstone Presentations are April 17th through 19th. All alumni are invited to campus to watch and evaluate the presentations

Dr. Colin M. Gray will be presenting a talk entitled "Building Transdisciplinary Design Capability through an Integrated Studio Approach" at the Interaction Design (IxDA) Education Summit in Seattle, Washington. In this talk, Dr. Gray describes the foundational elements of the world-class UX Design major at Purdue University.

STAY CONNECTED

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