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Dean's Welcome

New partnerships, expanding programs, and continuous improvement through accreditation, these are themes we pursue on an ongoing basis within the School of Engineering and Technology. We are delighted to highlight examples of these themes in this issue of *eDimensions*.

Unfortunately, engineering and technology programs across the nation have a long history of underrepresentation with respect to women. We must continue to stay informed of the challenges, which are identified through dialog and research, to build the partnerships and execute the initiatives to move the needle to increase the number of women pursuing engineering and technology degrees and careers. We are fortunate to have Grace Autosport as a new partner and I know you will enjoy reading more about it.

Competing at the highest levels continues to be a theme in our School's strategic plan. You will be pleased when you read about the new race car our motorsports engineering program recently acquired to enable us to expand our program, including a strategy to succeed at the highest level of Sports Car Club of America amateur racing.

Thanks to the outstanding work of our faculty members, our on-line Master of Science in Technology program with concentration in facilities management was recently accredited by the Facility Management Accreditation Commission of the International Facility Management Association. We are proud to be among a relatively small number of graduate programs worldwide to hold this distinction.

As always, thanks for your outstanding support of our School as we continue our ascension to be known as one of America's great urban schools of engineering and technology.

David J. Russomanno, Dean



School of Engineering and Technology at IUPUI Collaborates with Grace Autosport to Promote Women in STEM Education and Careers

INDIANAPOLIS –The School of Engineering and Technology at Indiana University-Purdue University Indianapolis (IUPUI) is forming an unique partnership with Grace Autosport to promote women in science, technology, engineering and mathematics (STEM) education and careers, particularly motorsports engineering.

Grace Autosport is spearheading a one-of-a-kind racing program with a focused educational initiative that looks to create and inspire future champions and leaders in the motorsports industry. By forming an all-female IndyCar racing team, Grace Autosport will empower women in motorsports while encouraging a new generation of women to pursue careers in STEM. Grace Autosport's goal is to have the first all-female race team compete at the Indianapolis 500 on May 29, 2016.

"Grace Autosport is pleased to be collaborating with IUPUI on a partnership to encourage more women to pursue STEM education and careers," said Beth Paretta, Team Principal with Grace Autosport. "With our motorsports team planning to be the first all-female racing team at the Indy 500 and beyond, we believe we can inspire young women by showcasing real women working in STEM fields. We hope to encourage girls and young women to aspire to work hard and follow their dreams, even if it might seem somewhat non-traditional today."

The School of Engineering and Technology at IUPUI grants the only bachelor's degree in motorsports engineering in the United States, and has a strong track record of producing women motorsports engineering graduates. The School, only minutes away from the Indianapolis Motor Speedway, has an initiative focused on recruiting and retaining more women in engineering and technology fields, including motorsports engineering.

A natural fit, the School and Grace Autosport will collaborate to promote and facilitate internship opportunities for female students with Grace Autosport as well as engage IUPUI faculty and staff support for STEM outreach efforts, particularly motorsports engineering as a STEM field in which women excel. Grace Autosport will provide guest lecturers and appearances at events and activities that promote STEM careers for women.

"Recognizing the important contributions women make in STEM fields, we have actively promoted and recruited women for the School's various programs over the years," said David J. Russomanno, Dean of the School of Engineering and Technology. "In this next important step, we look forward to working collaboratively with Grace Autosport in advocating STEM education and careers for women."

About Grace Autosport:

Grace Autosport, the first all-female IndyCar Series racing team, plans to compete in the 100th running of the Indianapolis 500 at the Indianapolis Motor Speedway on May 29, 2016. Each of the core team roles will be lead by women. From team principal to race engineers, from aerodynamicists to marketing, from driver to public relations, the women of Grace Autosport will be on the grid for the "Greatest Spectacle in Racing" and the largest single day sporting event in the world.

Grace Autosport spearheads a one-of-a-kind racing program with a focused educational initiative, which seeks to create and inspire future champions and leaders in motorsport. The goal of this pioneering female-centric racing team is to not only empower women in motorsport, but to encourage a new generation of women to pursue careers in science, technology, engineering and math (STEM). Grace Autosport -- a team driven by women.

About Motorsports at IUPUI:

Located in the heart of Indianapolis, the "Racing Capital of the World," IUPUI has much to offer in motorsports, and its programs are producing impressive results and garnering national attention. In 2008, IUPUI became the first university in the United States to offer a bachelor's degree in motorsports engineering, and the university continues to develop programs encompassing all aspects of the sport. From a four-year Bachelor of Science degree in motorsports engineering to a motorsports technology certificate and a master's concentration offered by the Purdue School of Engineering and Technology at IUPUI, to a variety of racetrack opportunities and outstanding internship placements, the motorsports programs at IUPUI continue to thrive. For more information about motorsports at IUPUI, visit <http://www.engr.iupui.edu/motorsports>.

About the Purdue School of Engineering and Technology at IUPUI:

The mission of the Purdue School of Engineering and Technology at IUPUI is to be one of the best urban university

leaders in the disciplines of engineering and technology recognized locally, nationally and internationally. The school's goal is to provide students an education that will give them the leverage to be leaders in their communities, industry and society. For additional information on the School of Engineering and Technology, go to <http://www.engr.iupui.edu>.



IUPUI Motorsports Engineering Program Prepares to Expand

IUPUI has unveiled plans to expand its Motorsports Engineering program with the addition of a fully race-prepared 1991 Mazda Miata. This new car will replace the program's historically successful 1968 MGB, which will be redirected to a new form of competition allowing for implementation of new technology. As one of the most popular cars participating in grass roots motorsport, the Miata will provide a more modern platform for the development of race engineering related skill sets and is intended to compete at the

highest level of Sports Car Club of America (SCCA) amateur racing. The MGB will be transformed for a new form of competition as an SCCA Solo Modified race car.

The Miata will be utilized as an experiential learning opportunity, giving students the chance to utilize their education both in the motorsports lab, where they will be tasked with analyzing and preparing the car, and also at the racetrack where they will be involved in wheel-to-wheel competition with some of the top amateur racers in the country.

Students will be able to directly apply material from classes such as motorsports design, data acquisition, vehicle dynamics, and motorsports aerodynamics in a highly competitive and professional environment.

The MGB has previously won SCCA events at a variety of tracks around the Midwest, and claimed an SCCA Great Lakes Division Championship on the way to being the first student-based team to earn an initiation to the SCCA National Championship Runoffs. It is now entering a new phase of its career, competing in time trials, where it won its initial outing on September 20, 2015 in Cincinnati. The car claimed a class win, boosting the enthusiasm of a 12 student team that accompanied the car to its re-debut. Over the winter, students will begin transforming the car by installing a new drive-train and suspension before returning to competition in 2016.

Chris Finch, who helped facilitate the acquisition of the new Miata explains, "Our students conducted a thorough vehicle performance study of all the cars that compete in the SCCA F-Production class. The Mazda Miata was the clear winner in giving us a platform to compete at the SCCA's top level and instruct our students on the fundamentals of motorsports engineering. Huge thanks to all our supporters who helped make this happen." IUPUI Motorsports Engineering Director Pete Hylton adds, "This affords us the unique opportunity of taking our older car, which although very successful, is in need of a major overhaul, and targeting it for some very creative design and development work that will prepare it, and our students for a different form of competition."

Hylton summarized this new opportunity, saying, "This is a fantastic chance for our program and our students to move to the next level of competitiveness within one of America's premier racing organizations. We owe a huge thank you to our supporters who continue to make it possible for us to provide such one-of-a-kind experiential learning opportunities to our Motorsports Engineering students"

As the only university in the United States to formally sponsor an SCCA racing program, IUPUI's commitment to providing the best education opportunities for students interested in the motorsports industry is evident in this latest procurement. Giving students the opportunity to compete at a national level will improve their capability to acclimate to the rapid pace of the motorsports world upon graduation.

About IUPUI Motorsports

IUPUI is the first university in the United States to offer a bachelor's degree in Motorsports Engineering. This 4-year Bachelor of Science degree in Motorsports Engineering prepares graduates for careers in the motorsports industry, as well as automotive-related companies. The focus is on teaching fundamentals of engineering and includes hands-on projects that involve designing, analyzing, and building of actual systems for competition vehicles.

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School of Engineering and Technology gets accreditation for online facilities-management program

The School of Engineering and Technology at Indiana University-Purdue University Indianapolis has received accreditation for its online Master of Science in Technology degree with a concentration in facilities management from the Facility Management Accreditation Commission of the International Facility Management Association.

Facilities management is defined by IFMA as “a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology.”

Strong facility-management educational programs for working professionals are in demand locally, nationally and internationally. In the past few years, the school has received significant input from industry partners about such an online degree program as millions of new square footage in office, retail and industrial properties has been developed in the greater Indianapolis area.

“Studies show that more than 50 percent of today’s facility-management professionals are predicted to retire in the next 10 years, creating a void where there is already a high demand,” said Matt Ray, director of the Facilities Management Technology program. “This creates a tremendous opportunity for individuals willing to pursue the appropriate educational qualifications.”

The Purdue graduate degree program allows an individual to complete all coursework in two calendar years. It is open to anyone with a four-year degree from an accredited institution.

“Our program delivers a well-defined, deliberate curriculum specific to facilities management and, based on IFMA’s body of knowledge, prepares graduates to take advantage of career opportunities here in Central Indiana and beyond,” Ray said.

The program allows students to meet all of the course requirements online. Students use the university’s online learning management system to access lectures, submit coursework, and interact with faculty and classmates. It’s estimated that more than 2.5 million college students in the U.S. currently are taking courses online, mirroring a broader professional trend of 10 to 25 million Americans telecommuting (working remotely online) every day.

Additional information regarding the Facilities Management Technology program and the online master's degree can be found at <http://www.facmgt.engr.iupui.edu>.

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