NADCA Awards Over $41,000 in Scholarships to Future Industry Leaders

The North American Die Casting Association is proud to announce that 24 students have been recognized by the David Laine Intern and Scholarship Program. This officially marks a new record for the most students that have been recognized in one year since the program’s inception, with the scholarships totaling $41,500.

“All recipients interned at a die caster or supplier, and all but two interned at a die caster. Students submitted impressive reports on completed projects. The reports and letters submitted by the hosting companies are testimony to the great benefits that can be derived from employing interns. One can only imagine the additional benefits that may be gained by attracting such talented individuals to our industry upon graduation with full-time employment,” said NADCA President Stephen Udvardy.

The scholarship fund was established in 1975, and requires that students complete an internship or co-op at a die casting company or a supplier to the die casting industry prior to applying for the scholarship. The prerequisite allows students to experience hands-on training in the die casting industry, with the hope that the learning experience will encourage students to continue on in the field after graduation.

The association is pleased to recognize the following 2017 Laine Scholarship winners, their universities, and the companies that provided them the opportunity to work in the die casting industry.

SAMUEL BEDNARSKI
ROSE-HULMAN INSTITUTE OF TECHNOLOGY
RYOBI

Bednarski is a Mechanical Engineering student at Rose-Hulman Institute of Technology who interned Ryobi Die Casting. Bednarski held the position of Finish Process Engineering Intern this past summer. He delivered valuable results in Ryobi’s cost reduction efforts with his study and implementation of a spindle vibration monitoring system. He contributed design improvements to their part labeling printer stands that will greatly improve operator comfort and process line layout flexibility. Finally, he designed tooling for Ryobi’s laser etching system to improve the repeatability of our machine. Bednarski would like to give special thanks to his supervisor over the summer, Mike Stanton, and the Finish Engineering Manager, Nick Mynatt. He added that his experience at Ryobi has definitely influenced him to remain in the manufacturing field after graduation. He stated that he will most likely tailor the remainder of his education towards robotics to one day work in the design and automation of machines used in manufacturing.

TRISTAN BOMBICH
ST. PAUL TECH.
PACE INDUSTRIES

Bombich is a full-time student at St. Paul Tech and currently works for Pace Industries. He shares that he has been working on his skills with manual machines such as the lathe, grinder, and the Bridgeport. He hopes to someday have the skills to lead a team of toolmakers. Bombich would again like to thank everyone who has helped him so far, and he hopes his career never slows down.

AUSTIN CLINE
WESTERN MICHIGAN UNIVERSITY
INDUSTRIAL INNOVATIONS

Cline is working towards his Engineering Design Technology degree at Western Michigan University. Cline has interned at Industrial Innovations since March 2014. In that time he has been involved with numerous tasks with his most recent learning SolidWorks and 3D modeling. He plans to work further with the technology of 3D modeling software such as SolidWorks as summer 2018 arises. Cline would ultimately take his knowledge of the different modeling programs from schooling and find the best solution to designing the most professional machinery. He is grateful for this award as it will certainly assist him into completing his degree of engineering design technology and will advance his skills for working in the die casting industry.
CAROLINE COGAN  
ST. VINCENT COLLEGE  
PACE INDUSTRIES, LLC- AIRO DIVISION

Cogan is majoring in Business, concentrating in Operations Management at St. Vincent College who interned at Pace Industries, LLC- Airo Division this past summer. Cogan gained valuable knowledge and experience during her internship in the Human Resources department and was even offered a position in the company. Currently she works to record cycle times on CNC machines and compare the actual time to the estimated time. In the long run, these time studies reveal how fast the company can complete a process on a part, and the data can be used to make the cycle times lower. She also audits the machinists on their parts per hour, parts per shift, and if they are filling out their audit boards correctly. By collecting cycle times, she is exposed to the daily production - this helps when reviewing the input from the labor reports and Cogan is able to identify and solve production related errors. Upon graduation next year, Cogan plans to continue working at Pace and hopes to become a lower level supervisor and continue helping to monitor and achieve production goals.

BENJAMIN DEUERLING  
UNIVERSITY OF WISCONSIN- PLATTEVILLE  
NEMAK

Deuerling is a Technology Education major at University of Wisconsin-Platteville and interned at Nemak. In his second year at Nemak, he worked on casting methods and secondary casting operations processes such as friction stir welding, leak testing, assemble methods and CNC machining including equipment specifications and run off. This included developing scope of work, interviewing suppliers and cost analysis breakdown. Deuerling has also continued to work in developing Nemak’s structural die casting operation. He adds that the team has begun to work with their South American counterparts on die locking designs that may be experimented with to create the necessary locking force required for new structural projects they are investigating.

AARON FOREMAN  
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SPARTAN LIGHT METAL PRODUCTS

Foreman is a Mechanical Engineering major at Missouri University of Science and Technology and interned at Spartan Light Metal Products. Foreman’s main project included design and development of a mechanical overflow breakoff system and research & development of the effect of machine stock on die cavities after heat-treat. His studies are now being implemented into production tooling for evaluation and verification. He added that the study definitely helped Spartan understand its steel but it only scratched the surface on H13. There is a plethora of knowledge to be learned by conducting additional studies to fully understand the life of a die that will help with quoting future jobs.

BROCK FULLENKAMP  
WRIGHT STATE UNIVERSITY LAKE CAMPUS  
HONDA OF AMERICA MFG., INC.

Fullenkamp is a Mechanical Engineering major at Wright State University Lake Campus and interned at Honda of America Mfg., Inc. Fullenkamp’s projects included studying the cause of feeder bowl erosion which involved analyzing the feeder bowl material, investigating improved materials, testing and tracking new coatings and coating methods, then making recommendations on improvements. He was also tasked with making PLC and GOT improvements for 2 different processes. This involved proposing and updating screen edits and wiring schematics as well as wiring up the cabinet and testing the GOT. Fullenkamp also worked with a team of production associates on improving the method of manually placing a stamped number on a cylinder head. This involved working closely with the team, proposing and testing options then implementing the best practice. He had also designed in AutoCAD a manual tool which will improve the safety of the associate, this tool was manufactured and is being tested and evaluated. He is excited to continue his work in the die casting industry in the future. Adding that there are a wide array of challenges in die casting, which continues to allow for exciting and active projects.
TYLER GEESAMAN
INDIANA UNIVERSITY-PURDUE UNIVERSITY, FORT WAYNE (IPFW)
FORT RECOVERY INDUSTRIES, INC.

Geesaman is a Mechanical Engineering Technology major at Indiana University-Purdue University, Fort Wayne (IPFW) and interned at Fort Recovery Industries. Geesaman's projects included the research and development of a new safety interlock system for all of FRI trim press machines corporate wide. Through speaking with operators and maintenance personnel, he was able to gather that their current safety interlocks were causing much unnecessary downtime, as they were regularly losing signal/placement, thus causing the trim press to stop. The old interlocks were prone to damage and early failure, as well as caused production to slow as they were hard to troubleshoot/replace by maintenance personnel. He then analyzed the cost of maintaining the old safety interlocks based on product cost, maintenance hourly cost, and cost in lost production and calculated that they were allocating over $16,000 annually to this system. He then tested a few comparable products looking for a more robust solution that fit their application. Geesaman was able to find a product that held employee safety as a top priority, while being a long-lasting efficient means of monitoring the trim presses interlocks. This new system is estimated to save on downtime/maintenance time corporate-wide by 80%, as well as paying for itself in less than two years. Upon graduation, he is very eager to join the die casting career field.

JOSEPH HAAS
UNIVERSITY OF ALABAMA
RCM INDUSTRIES INC. - AALLIED DIE CASTING COMPANY
- FRANKLIN PARK

Haas is a Mechanical Engineering major at the University of Alabama and interned at Allied Die Casting Co of Illinois – An RCM Industries Company. Haas completed multiple time studies and thermal testing of metals in the die casting process. This led him to implement new metal pouring processes into the manufacturing line with thermal sensors and a central viewing monitor. While he researched new methods to keep the plant clean he hosted meetings with his team and also performed a cost analysis for full implementation into the plant. Using this information he worked with Solidworks in order to make a design for a catch pan under the die casting machine to catch castings and separate oils from water. He added that as he progresses through his curriculum, he finds himself very excited to become an engineer and use what he’s learned in the workforce.

JACOB HOUNSHELL
THE OHIO STATE UNIVERSITY
FORT RECOVERY INDUSTRIES, INC.

Hounshell is an Electrical Engineering major at The Ohio State University and interned at Fort Recovery Industries, Inc. Hounshell was involved with several projects including plant layout, plant facilities planning and warehousing planning. He was a major contributor in these activities utilizing his CAD skills to effect new layout drawings and drawing revisions. He also assisted with overseeing contractors work, reviewing site drawings and scheduling installation of new equipment. Hounshell was involved in the safety programs at both die casting facilities and the assembly plant as well. He was given three major projects during the summer session including implementation of well-defined work instructions for lockout procedures for all machines and equipment in all three plants, assist in implement a new training management system and conduct several OSHA safety training program classes as well as recording training records, and conduct internal safety audits including participation in safety team meetings.

BREANNA KOOIMAN
CALVIN COLLEGE
CASCADE DIE CASTING GROUP

Kooiman is a Mechanical Engineering Major at Calvin College and interned at Cascade Die Casting Group. Kooiman assisted in developing an online software to complete the hourly operator inspection checks and eliminate the current paper-based system used at each die casting machine. In addition, she learned a great amount regarding the die casting industry through assisting in pre-production runs, tensile testing, and material testing. Kooiman hopes to either continue her work at Cascade Die Casting or in another manufacturing engineering company in or near Grand Rapids.
GRACE KORN  
INDIANA UNIVERSITY  
RCM INDUSTRIES INC. - INLAND DIE CASTING COMPANY

Horn is a Marketing Major at the Indiana University Kelley School of Business and interned at RCM Industries Inc. - Inland Die Casting Company. During Korn’s internship at RCM, her focus was on marketing to convey the capabilities that RCM can offer to the world. She added that the die casting industry has been evolving rapidly. It has seen increased automation and robotics that play a major role in the evolution of the industry. She utilized modern marketing tools and techniques to further help RCM better reach their customers and potential customers and increase their ability to compete and grow.

EMILY KOVACS  
PURDUE SCHOOL OF ENGINEERING, INDIANAPOLIS (IUPUI)  
GENERAL MOTORS BEDFORD PLANT

Kovacs is a Mechanical Engineering major at Purdue School of Engineering, Indianapolis and interned at General Motors Bedford Plant. After starting her internship as a quality engineer, Kovacs was moved up to the position of supervisor. During her time there, Kovacs handled timekeeping for her team, scheduled overtime and tracked seniority hours. She performed disciplinary meetings and created systems to be put in place to keep the area tidy and to utilize manpower efficiently. She also followed the quality containment process whenever it needed to be performed. Switching from a quality engineer to a supervisor presented itself with a lot of challenges, and she is grateful for the experience and knowledge that she learned in just a couple of months. Kovacs is excited to return to General Motors Bedford in the summer of 2018.

BRYAN MOODY  
CENTRAL COMMUNITY COLLEGE  
NEBRASKA ALUMINUM CASTING

Moody is an Advance Manufacturing and Design Technology major at Central Community College and interned at Nebraska Aluminum Casting. Moody spent much of his time at Nebraska Aluminum preforming mold maintenance and repair work on various molds. Maintenance of the molds such as solder removal, ejection system cleaning, and slide lubrication is required after extended use. Occasionally, repairs are necessary, such as replacing broken core pins and/or ejector pins. CNC milling on mold gibs, slides and other certain repairs is also necessary. He noted that troubleshooting problems and solving issues with tooling is vital to the success in the toolroom at NAC. Recently he has been working on a prototype project at his school and has been learning CNC Machining.

DEREK PEARSON  
NORTH DAKOTA STATE UNIVERSITY  
TWIN CITY DIE CASTINGS

Pearson is an Industrial Engineering & Management major at North Dakota State University. Pearson worked in various departments and for multiple supervisors during his internship. He added that his supervisors helped him learned quickly and seemed to have benefited from his help. He started out in the tool room, then moved to production, quality, engineering and shipping. A majority of his time was spent in quality and engineering where much of his schooling translated into practical application. He hopes to continue his new career working in the die casting industry.

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EVAN RIPPERGER  
COLLEGE OF DUPAGE ENGINEERING PATHWAYS  
CHICAGO WHITE METAL

Ripperger is a Mechanical Engineering major at the College of Dupage Engineering Pathways and interned at Chicago White Metal. During Ripperger’s nine week long internship, he participated in a rotational schedule. For approximately two week long periods, he was able to immerse myself in each and every department of the facility. In addition to changing work environments, interns would also be able to visit a range of other companies, that were suppliers or out process finishers to CWM’s products. Ripperger describes his final weeks of the company as his most enjoyable. All of the interns came together to fully design and manufacture a part to be used on the production line. Their assignment was to create a bracket that prevents the trim press from lowering any more than three inches in case of failure. Through the process he learned just how intertwined every department is and how every department must work together to create the final part.

MATTHEW SARVER  
MICHIGAN STATE UNIVERSITY  
INDUSTRIAL INNOVATIONS

Sarver is a Mechanical Engineering major at Michigan State University and interned at Industrial Innovations. Sarver’s main responsibility as a CAD Designer was to complete full cell layouts to ensure the machines will sufficiently meet the needs of the customer. He added that these layouts are often a quite complex process and require frequent communication with the customer to ensure all of their requirements have been met. The nature of the die casting industry is that every customer’s needs will vary. It was his responsibility to communicate with customers about their special requests and ensure they could deliver a satisfactory product. Another task he was required to complete is reverse engineering commonly manufactured machines and creating assembly prints to make the manufacturing process more efficient. When customers would call with machine problems, he worked with the technician to resolve any mechanical issues they may be having. Upon graduation, Sarver’s goal is to find a career in the automotive industry that includes strong involvement in die casting.

WILSON SPIVEY  
UNIVERSITY OF TENNESSEE AT MARTIN  
WALKER DIE CASTING

Spivey is a Mechanical Engineering major at the University of Tennessee Martin and interned at Walker Die Casting. Spivey was tasked with a number of projects which ranged from print revision to generating CNC G-code for machining 2 new converter housings. He also helped design CMM inspection fixtures and was responsible for reviewing the design concepts with the various end users. He is grateful that Walker Die Casting has asked him to return after graduation for a full-time engineering position and, he hopes to continue to work in automation so that he can improve the efficiency of the die casting process.

EMILIO SUAREZ  
THE OHIO STATE UNIVERSITY  
CHICAGO WHITE METAL

Suarez is an Aeronautical and Astronautical Engineering major at The Ohio State University and interned at Chicago White Metal. During his second summer interning at CWM he was given many of the same tasks and projects given to him the previous summer, but he was able to do these tasks faster and with a good amount of trust from his coworkers. In addition, Suarez was given a summer-long project which involved learning Visual Basic, restructuring organizational plans, and leading a group of four high school interns. His project involved taking thousands of core pins, logging what die casting dies were associated with in a computer program, and keeping track of when these core pins are used or when new ones are put back into storage. He said that he learned a great deal about die casting and the die casting industry as a whole and was able to learn about customer/supplier relationships, engineering, quality assurance, machining, safety, transportation, and tool manufacturing.
MANRAJ TOOR
UNIVERSITY OF WISCONSIN
PACE INDUSTRIES – GRAFTON

Toor is a Chemical Engineering major at the University of Michigan – Ann Arbor and interned at Falcon Lakeside Manufacturing. Toor’s internship included support work in the casting simulation area. Near the end of his work assignment, he was given another project that required work on the manufacturing floor and develop software to perform thermal analysis of unique casting alloys. His performance exceeded expectations and he delivered a software/hardware product that Falcon now uses as part of their quality assurance system. Toor is now focused on mastering his programming skills at the University of Michigan, in hopes that he can help advance die casting technologies using computer science.

ZACHARY URBANIAK
SOUTHERN ILLINOIS UNIVERSITY
INLAND DIE CASTING

Urbaniak is an Aviation Technology major at Southern Illinois University and interned at Inland Die Casting. He began his internship by shadowing different employees and helping in many areas of maintenance. Gradually he was assigned projects to work on. He began doing preventative maintenance on die casting machines; going through checklists – checking fluids, looking for safety hazards, and notifying management of anything that didn’t look right. “If you see something, say something.” was the common phrase repeated throughout the plant. Urbaniak helped apply the operations 5S standards to the maintenance department. He went through a complete reorganization of the supply room – cleaning, painting reorganizing, labeling – everything that would make it easier and more efficient to control inventory. He also helped update and maintain the maintenance module of our Odyssey ERP system. He is grateful for the time he had at Inland Die Casting and looks forward to learning more about the die casting process and the industry over upcoming winter and summer breaks.

NADCA MARKETPLACE

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EMMA WITHERSPOON  
MICHIGAN TECHNOLOGICAL UNIVERSITY  
NEMAK

Witherspoon is an Environmental major at Michigan Technology University and interned at Nemak. At Nemak, Witherspoon gained work experience with die casting in the Engineering Testing Lab. In the lab she conducted tests on the parts after they were casted by following engineering specifications given to her from the customer. The tests she conducted included hardness, cleanliness, open joint adhesion, fatigue, tensile, and compression. Witherspoon worked with each part that is made at Nemak we gave her a better understanding on how the automotive industry works and the importance of each step in its assembly. Aside from the weekly tests, she uploaded the calibrations to Nemak’s system Team Center from all the equipment that is used in the lab. This insured that all of the information of the equipment is assessable from anyone in the plant at their convenience. She also worked on updating the ISO14001 2015 Environmental Standards and attended meeting with various people that help run the plant to address concerns and how they can improve as a company.

CAMERON ZIEGLER  
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY  
PRODUCTION CASTINGS

Ziegler is a Mechanical Engineering major at Missouri University of Science and Technology and interned at Production Castings. During his internship, Ziegler performed maintenance on machines under the guidance of other engineers. This work evolved into a project to help design a housing for a “two speed shot” system to measure a determined amount of zinc for the prefill shot. This housing system, if used correctly, could increase part production and decrease the number of defective parts. He worked with Maintenance, the Zinc Foreman supervisor, and the workers on the floor to determine a practical design that would be convenient and safe for the workers. Ziegler designed a universal housing that would fit all the machines and later helped put the finished product on the machine and made sure it worked. He enjoyed working in the die casting field and would like to one day work for a die casting company if given the chance.

DEVYN ZILLMER  
MILWAUKEE SCHOOL OF ENGINEERING  
PACE INDUSTRIES

Zillmer is a Mechanical Engineering major at the Milwaukee School of Engineering and interned at Pace Industries. Early in his internship, it was brought to Zillmer’s attention that production efficiency at the facility was an issue that needed to be improved. Through conversations other engineers, he helped in finding a solution to the issue. The team developed an operating system that showed the plant supervisors and die cast machine operators the machines were running efficiently and on time. He was able to calculate the improvements for the company in terms of dollars. The result showed that if just half the machines decreased their cycle time by ½ second, Pace will make another 400K minimum in the next year alone. He added that he is very grateful for this opportunity as he realized that most interns do not have the chance to work on a project with the magnitude of results that his produced.

Are you ready to find a die casting intern for the summer? NADCA also offers guidance on what companies should expect when hiring an intern, for more information visit www.diecasting.org/intern.