NADCA is proud to announce that 23 students have been recognized by the David Laine Intern and Scholarship Program. This is the highest amount of students that have been recognized in one year since the program's inception, with the scholarships totaling over $44,000.

“We have a very diverse group of Laine recipients this year. Every one of them worked in a die casting operation or industry supplier. Their intern projects were very valuable to the companies they worked for. It is exciting to see so many young people with an interest in our industry,” said NADCA President Daniel Twarog.

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 2016 Laine Scholarship winners, their universities, and the companies that provided them the opportunity to work in the die casting industry.

**DENNIS BIESIADA**
**MILWAUKEE SCHOOL OF ENGINEERING**
**RCM INDUSTRIES INC. - INLAND DIE CASTING COMPANY**

Biesiada is a Mechanical Engineering major at Milwaukee School of Engineering who interned RCM Industries Inc. - Inland Die Casting Company. Over the summer he worked on and researched improvements for the water system at Inland Die Casting. Sadly due to time constraints three months over the summer was not enough time to have everything implemented. Before he left he got everything done that he possible could and handed the project off. His internship led to a job offer, and he will be working for Inland Die Casting as a Plant Engineer by next summer.

**JACK BOSSONG**
**UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN**
**RCM INDUSTRIES INC. - AALLIED DIE CASTING COMPANY - FRANKLIN PARK**

Bossong is an Industrial Engineering major at the University of Illinois who interned at RCM Industries Inc. - Aallied Die Casting Company. The main project Bossong worked on at Aalied was the new end of arm tool with new Fusoseiki atomized spray heads. These spray heads are adjustable on the end of arm design and allow different positioning for different jobs. Using the old end of arm design, a tool had to be replaced for every different job. This created an excess amount of downtime. By the end of the summer, the team was able to get successful test results. He stated that his internship was great experience, and the skills gained will help him wherever he ends up working.

**NICK BOSSONG**
**PURDUE UNIVERSITY**
**RCM INDUSTRIES INC. - AALLIED DIE CASTING COMPANY - FRANKLIN PARK**

Bossong is an Accounting Major at Purdue University and interned at RCM Industries Inc. - Aallied Die Casting Company. He began his summer internship working with invoices and accounts payable. He communicated with different departments in the plant to make sure the company was billing/being charged the right amounts before payment was sent. He also worked on dross tracking and reporting with the Director of Business Unit Services. The Dross tracking system analyzed the weight, type, and price of the scrap metal and gave a numerical value of what it should be worth. With a system like this in place, it gave the company a better idea of how much money should be coming to them.
AUSTIN CLINE  
WESTERN MICHIGAN UNIVERSITY  
INDUSTRIAL INNOVATIONS INC.

Cline is an Engineering Design Technology major at Western Michigan University and interned at Industrial Innovations. His project while for the company was to building electrical panels. Two panels he put together were the Alpha control panel and Beta control panel. The Alpha control panel was the simpler of the two, controlling up to six injectors for volume and stroke count. The Beta control panel was more advanced, controlling up to forty-eight injectors for volume, stroke count, and time delay, with an 8-K memory processor, and stores up to two hundred spray profiles. Each panel had a memory processor with fuse blocks, terminal blocks, and a ground block. Cline also worked on 3D Modeling in Solid Works. There were a number of hurdles that he had to overcome, being inexperienced with the program but was eager to learn and dive right into the process.

KEVIN CURRAN  
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY  
PRODUCTION CASTINGS

Curran is a Mechanical Engineering major at Missouri University of Science and Technology and interned at Production Castings. Prior to this past summer, Curran had very little knowledge of the die casting industry. His main duty was to organize all of the different components used in making different parts and add them to an excel file with all of the part numbers made there. Many of these part numbers did not have maps on how to set up the part, so his other primary job was to make maps of these parts for the mold change technicians to reference. Curran was fascinated by the parts that can be made and all the machines used to make them. “It is incredible to see these parts being made and while they are extremely efficient, I could see myself designing much better, safer, or quicker ones,” he added. “I am not sure where I will work when I graduate, but I would definitely want to work for a die casting company.”

JACK DEITERS  
NORTHERN MICHIGAN UNIVERSITY  
RCM INDUSTRIES INC.  
- INLAND DIE CASTING COMPANY

Deiters is a Mechanical Engineering Technology Major at Northern Michigan University and interned at RCM Industries Inc. - Inland Die Casting Company. Deiters main project during his time at Inland to test and design a pulsating spray manifold for one of their larger machines. He made a test area where he could control the variables. The team made a hot plate and pulsating nozzle and used a FLIR thermal imaging gun to record data. Testing took the better part of the summer because of some delays and waiting for things to be made or delivered. He tested how long the air should be on, and how long the lubricant should run as well as different nozzles, and different amounts of volume through the nozzles. Deiters added that there is still more testing to be done with this technology but after that a manifold can be designed around the information that gathered.

BENJAMIN DEUERLING  
UNIVERSITY OF WISCONSIN-PLATTEVILLE  
NEMAK WISCONSIN

Deuerling is a Technology Education major at the University of Wisconsin-Platteville and interned at Nemak Wisconsin. His first major project at the facility was a study measuring the effects of rotary degassing the aluminum prior to the holding furnace. This study was to find the effects on the metal’s specific gravity along with the inclusion of the metal samples. The RPT samples were taken from two die cast holding furnaces every shift for the course of the experiment. They saw a rise in RPT values and a decrease in variation. The result of this study is that the company is now considering the addition of rotary degassing to all metal prior to the holding furnace upon the results of the quality studies. In addition, Deuerling worked on various other projects with Nemak that have to do with structural castings and the implementation of structural castings in Electric Vehicle OEMs.
TYLER GEESAMAN  
INDIANA UNIVERSITY-PURDUE UNIVERSITY, FORT WAYNE (IPFW)  
FORT RECOVERY INDUSTRIES, INC.

Geesaman is a Mechanical Engineering Technology major from Indiana University-Purdue University, Fort Wayne (IPFW) and interned at Fort Recovery Industries, Inc. One of Geesaman’s projects was the re-dimensioning and implementation of three of Fort Recovery’s facilities into CAD files. This project required accurate dimensioning of everything within the facilities, from the entirety of the plant floor, to the placements of structural supports, machines, and even people from an ergonomic standpoint; as well as detailing most of the utility lines, such as water, ventilation, and electrical circuitry. Throughout this process, he was required to detail and correct the previous drawings on hand, as well as make entirely new schematics to ensure that the CAD files were as up-to-date as possible. Geesaman is currently working on implementing a visual check off system to ensure that the Lock-Out Tag-Out, or LOTÖ, system is properly followed and that the proper employees can have a visual diagram as to exactly where each LOTÖ point on each machine is. He is very interested in this project and hopes that through correct use of the procedures and training that FRI is able to create and maintain a safer workplace for all employees.

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 RCM Industries Inc. - Aallied Die Casting Company - Franklin Park. This was his first experience working in a company learning about a business. Haas worked with various departments on projects during his summer at Aallied. His primary project was to be able to get quick quotes that were still within 25% of the actual tooling price. Using his knowledge from the tool room, he went through 110 quotes and pulled information affected the price the most. Using part weight, tonnage, slide #, and cavity #, he started doing linear regression looking for the highest predictor value. After giving his conceptual idea presentation and talking to the sales department, he decided to change the platform and make the calculator’s output a range of values so they can make a decision on which price they want to quote. His calculator is set to be implemented in the quoting worksheet.

ROSALYN HASSEBROCK  
PURDUE UNIVERSITY NORTHWEST  
GIBBS DIE CASTING

Hassebrock is a Mechanical Engineering Technology major at Purdue University Northwest and interned at Gibbs Die Casting. One of the major projects placed on all the interns was standardization of all the work cells throughout the plant. Hassebrock took on the part of the project to try and eliminate the broken down crates on the floor. These crates were being used to prop up the aluminum castings crates to make it easier on the operators to load the machines. After looking at the size of the crates on the floor she created a solid steel table that would take place of the crates on the floor. Shortly after placing this expensive table out on the floor she realized this was not the most practical design and had to redesign the idea to make it more functional. Once the new design was approved and material was ordered, she cut down the standard stock and lined up the new frames.

JOSEPH HOLLAND  
UNIVERSITY OF SOUTHERN INDIANA  
GIBBS DIE CASTING

Holland is an Engineering, Mechanical Emphasis major at the University of Southern Indiana and interned at Gibbs Die Casting. His primary project was improve employee efficiency while minimizing the risk of workplace induced musculoskeletal disorders for performing the task of cavity removal. The objective of the project was to formulate a new process for removing cavities from a die that promotes safety without disrupting work flow. Through working experience and brainstorming with numerous team members a new process for removing cavities from a die was created that promotes safety without disrupting work flow. The utilization of jack screws for cavity removal from a die has its challenges but was proven to be safer and more efficient than bumper bars and “knock out” bolts.
EMILY KOVACS
INDIANA UNIVERSITY-PURDUE UNIVERSITY
GENERAL MOTORS – BEDFORD

Kovacs is a Supply Chain Management major at Indiana University-Purdue University and interned at General Motors – Bedford. During her time at GM she worked as a Material Flow Coordinator. She got to be very active on the floor and gained a good understanding on how the machines work in all three areas of the plant; Die Cast, Small Gas Engines, and Semi-Permanent Molds. She supervised an employee and ran daily conference calls with the customers and headquarters. She is eager to pursue a career in the die casting industry following graduation.

AARON LANTZ
FROSTBURG STATE UNIVERSITY
C. PALMER DIE CASTING

Lantz is a Computer Information Systems/Business Management major at Frostburg State University and interned at C. Palmer Die Casting. His journeys in the die casting industry has included setting up robotic extraction systems, which he describes as an educational and rewarding experience. Recent updates to his extraction systems has been a new design of his robot safety interface that improves safety, cuts costs, and simplifies the function. He plans to enter work full time upon graduation at C. Palmer Die Casting, and looks forward to many more years in the die casting industry.

DANIEL LOEFFELMAN
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY
PACE INDUSTRIES – HARRISON

Loeffelman is a Mechanical Engineering major at Missouri University of Science and Technology and interned at Pace Industries – Harrison. Throughout his internship, he was given many different parts to design in Solidworks. Notably, his main task this summer was to design a hot water station that would sit at each die casting machine and resultantly is becoming a standard piece of equipment throughout the company. He designed a station that was compact, but also was compatible with whatever size hot water unit was necessary to support each die. Furthermore, he designed the hot water station with a bulkhead connection plate located directly behind the station. This connection plate contains all the fittings and electrical outlets necessary to make the connections from the die cast machine to the hot water station effortlessly and well organized. He feels that the challenges of the industry are attractive to engineers and he is truly looking forward to a future in the industry.

NICK OLSON
MICHIGAN TECHNOLOGICAL UNIVERSITY
PACE INDUSTRIES – GRAFTON

Olson is a Chemical Engineering major at Michigan Technological University and interned at Pace Industries – Grafton. During his time at PACE, he was heavily involved with the quality assurance department. His objective while working with the department was to identify patterns in defective castings so that future castings could be produced without these defects being present. Common defects included porosity, blisters, flow lines, and solder damage. To analyze these defects, he performed various tests such as leak tests, destructive tests, and gauge tests. This data was critical in determining which die casting machines needed to be adjusted to prevent these defects from reappearing, as well as what adjustments needed to be made. He was also involved in with CAD work in the engineering department. This work involved both 2D drafting using DraftSight and 3D modeling using SolidWorks. His primary project was to work with the other interns to update all relevant casting shop drawings in PACE’s database to include core pin and hole.

MASON ROUNDS
THE UNIVERSITY OF DAYTON
HONDA OF AMERICA MANUFACTURING

Rounds is a Mechanical Engineering major at The University of Dayton and interned at Honda of America Manufacturing. While at Honda he has had a number of assignments but most recently he was tasked by his supervisor to take a head conveyor and create a way to get the head elevated and in the right spot so the Telesis machine could be used to etch...
a part number onto the head. Using brackets he created, pneumatic cylinders, and various sensors he was able to accomplish the task. Another project was with a jig that would break if an impact occurred on the line. As part of a team he assessed the problem and redesigned the jig so that the breakpoints were reinforced.

**MATTHEW SARVER**
**MICHIGAN STATE UNIVERSITY**
**INDUSTRIAL INNOVATIONS**

Sarver is a Mechanical Engineering major at Michigan State University and interned at Industrial Innovations. Sarver worked as a CAD Designer and took on a wide array of responsibilities. His main responsibility was to complete full cell layouts to ensure our machines will sufficiently meet the needs of the customer. He would first receive measurements on the customer’s die cast machine, which are provided by the customer or obtained by himself onsite. He would model up an accurate representation and determine which servo ladle will consistently and accurately pour molten metal from a furnace into the shot well of the die cast machine. These layouts are often a quite complex process and require frequent communication with the customer to ensure all of their requirements have been met. He plans on continuing to work for Industrial Innovations throughout the year and for this coming summer as well. Upon graduation his goal is to find a career in the automotive industry that includes strong involvement in die casting.

**JOSEPH SCHWARTZ**
**UNIVERSITY OF ILLINOIS (URBANA CHAMPAIGN)**
**RCM INDUSTRIES INC. - AALIED DIE CASTING COMPANY - FRANKLIN PARK**

Schwartz is an Environmental Engineering major at University of Illinois Urbana-Champaign and interned at RCM Industries Inc. - Aalied Die Casting Company - Franklin Park. Schwartz’s main project this year was to manage a rebuild of a 1200 ton Lester cold chamber die cast machine. This was by far his biggest challenge yet. He worked with various subcontractors, traveling, budgeting, machine parameter calculations and purchasing. He stated that the most valuable aspect of this project was learning how to deal with subcontractors. This rebuild required the use of over a dozen subcontractors and various other companies which proved to be a challenge. He quickly realized that communication was key and that keeping them honest and on time required him to have good documentation practices along with asking for frequent progress updates and weekly visits to the warehouse where it was being rebuilt. He is looking forward to working in the die casting industry upon graduation and is excited for the opportunities it will provide for him in the future.

**ZANE SHREVE**
**MIAMI UNIVERSITY**
**FORT RECOVERY INDUSTRIES, INC.**

Shreve is an Electrical Engineering major at Miami University and interned for Fort Recovery Industries, Inc. During his internship Shreve focused on a few different projects. The biggest undertaking he had was an implementation of a Lock-out/Tagout visual procedure guide system. These visual guides allow for operators to quickly and easily identify lockout/tagout points on each die casting workstation to ensure safety when performing maintenance. He was also involved in a couple of electrical-engineering specific projects, such as coming up with a new nomenclature standard for the electrical buses in all three Fort Recovery Industries locations. Lastly, he worked on an upgrade of a human-machine interface to allow operators to be interact with a specific die casting machine. Shreve programmed the HMI and got it communicating with the machine’s PLC to allow control of different parameters of the casting process.

**BRIAN SPAEATH**
**UNIVERSITY OF WISCONSIN**
**PACE INDUSTRIES – GRAFTON**

Spaeth is an Industrial Technology Management major at the University of Wisconsin-Platteville and interned at Pace Industries – Grafton. While there Spaeth did quality sorted parts, looking for imperfections in the casting by using destructive leak testing and visual inspection. He also assisted in the installation of a die by helping hook-up oil and waterlines using the layout diagram. He performed a gauge R&R (repeatability and reproducibility) on numerous leak testing machines that were either new or remanufactured. Spaeth also updated shop drawings that the production workers use. He added that it is truly an honor to receive this scholarship and it makes him want to work even harder than before.
Wilson Spivey  
University of Tennessee at Martin  
Walker Die Casting Inc.

Spivey is a Mechanical Engineering major at the University of Tennessee at Martin and interned for Walker Die Casting Inc. Spivey's was tasked with working with the automation department on completely automating the first machining center at Walker Die Casting. While there he also worked with the engineers using Inventor, a 3D modeling software, to draw a layout of the robot cell relative to the machining center. With all of the components of the cell laid out and drawn to size, he was able to design a fence to have it built and ready to install. He stated that after his first experience of working with a big automation project, he wants to pursue a career in the die casting industry to further automate and refine the die casting process.

Emilio Suarez  
The Ohio State University  
Chicago White Metal Casting

Suarez is a Mechanical Engineering major at The Ohio State University and interned at Chicago White Metal Casting. Suarez began his time at CWM with core pin drawings and cooling line schematics. These tasks helped him learn the ropes because in order complete them he had to seek out the right people and ask questions whenever issues arose. After proving his abilities, he was given more projects that tested his knowledge and comprehension that the engineering department wanted to complete but simply couldn’t invest the time into. He was responsible for reformatting various company-wide forms to make them more streamlined, visually appealing, and easy to use. He was also assisted to draw and redesign various runner systems for simulation purposes.

Jerrod Vils  
University of Wisconsin-Platteville  
Mercury Marine

Vils is a Mechanical Engineering major at the University of Wisconsin-Platteville and interned at Mercury Marine. During his time there, he worked with technicians and manufacturing engineers to design x-ray fixtures for castings as well as implementing an automated x-ray process. He also worked directly with the furnace department, updating the software responsible for recording a variety of molten aluminum alloy compositions. The new software allows for real time data tracking to ensure all alloys are held within specifications. Vils found that his experiences gave him a new found passion for working within die casting industry. He plans to pursue a career within the marine industry upon graduation.

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.