Walker Advanced Manufacturing Innovation Centre

Jim Lambert, C.E.T. Centre Manager, Walker Advanced Manufacturing Innovation Centre

FROM THE CENTRE DESK

New Beginnings

Dear Readers:

As we near the end of the summer months, there is so much that I need to share with you. The Walker Advanced Manufacturing Innovation Centre has been buzzing with activity as we completed the move to our new building in May. For the last few months things have been normalizing as we get accustomed to our new space and all the growing pains that go along with it. We are planning to provide tours of our new facility as part of a grand opening/ open house. After several years of dreaming, planning and building, I think you will be very impressed with the final product.

Our new centre boasts more than 15,000 square feet of lab space for faculty and student projects and services, innovation space for companies to work onsite, and office space for Niagara College students and Research and Innovation staff. The centre provides local small- and medium-sized enterprises with one-stop access to assistance through applied research from its faculty, staff and students including: pre-project market assessment, business services, technology projects, infrastructure and equipment, people and expertise, and post-project go-to-market plans.

This is a VERY big deal for the college, our students, the region, and for the SMEs which will utilize our space and expertise. Let's celebrate together this accomplishment and look to the great innovation which will happen as a result of our efforts.

I hope this overview of our activities provides you with some insight into all the great things which are happening in and around the Walker Advanced Manufacturing Innovation Centre. Please take the time to ruminate over its contents and have your questions and comments ready for us. We are here to serve you.

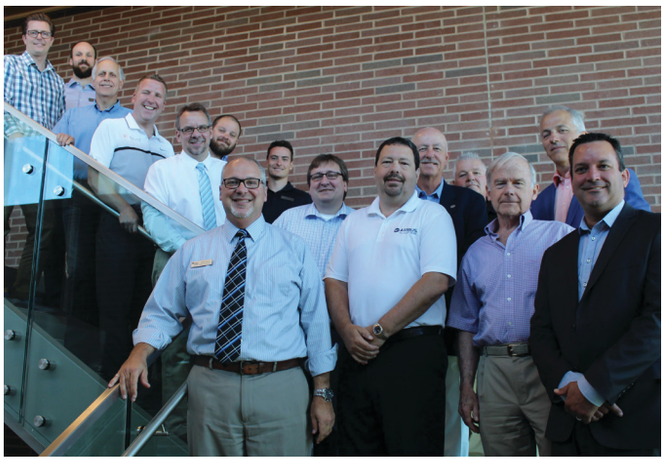
Kindest regards,

Jim Lambert, C.E.T.
Centre Manager

OPERATIONS UPDATE

TAC YEAR 3 - INNOVATION CONTINUES

April 2016 saw the conclusion of Year 2 of our 5-year renewable Technology Access Centre (TAC) grant from NSERC. Thanks to our Industry Advisory Committee for their continued support of our TAC through attendance of meetings and the approval of our Year 2 annual report to NSERC. The success of our TAC depends on constructive feedback and suggestions for improvement for industry engagement. Their involvement provides the credibility and accountability required to ensure we are most effective to those whom we serve.



INDUSTRY ADVISORY COMMITTEE

2016/17 IAC TAKES SHAPE

You may or may not be aware that our Technology Access Centre has an advisory committee, which has been in existence for two years since the TAC was established. It exists as a requirement from NSERC (our primary funder), meeting 3-4 times a year to review the activities of the Walker Advanced Manufacturing Innovation Centre, to ensure continued funding.

The IAC structure exists to ensure proper planning, allocation of resources, effective progress towards centre objectives, financial control, and interaction among all the participants, as well as periodic examination and adjustment of goals, priorities, timeframes and milestones.

Our IAC meeting in June brought some fresh blood to our membership, and the reorganization of our advisory committee. The finalization of voting members will be completed soon. I wish to thank those members whose terms were up and will no longer be participating in this way. Your contributions to our TAC and the guidance given as we seek to be an effective conduit to bring advanced manufacturing technologies to the region are appreciated.

STAFFING UPDATE

NC GRAD RETURNS TO WALKER ADVANCED MANUFACTURING INNOVATION CENTRE

To strengthen our scientific and technical staff, I am pleased to introduce Charles Lecompte, C.E.T., as our new Senior Application Specialist. Charles joined our team in February and has contributed greatly to the continued success of our team, bringing further experience in the form of 3D laser reality capture specifically used in the civil and construction industry. A graduate of the Mechanical Engineering Technology program in 2010, Charles is well versed in many of the technologies made accessible through the college programs. His main role is to provide industry partner engagement, quoting, application and technical support to the applied research projects and technical services we execute.

D&O CORNER

NEW MARKETING PRESENCE AND BRANDING

Dissemination and Outreach is an important component of what your TAC does. Marketing opportunities leveraged by Advanced Manufacturing bring recognition to our division, while generating new untapped leads for technical services and applied research opportunities. A major overhaul of our website and rebranding our name to Walker Advanced Manufacturing Innovation Centre continues to take shape. Many new additions and success stories have been added to the content. Visit the site ncinnovation.ca and look around. Feedback is always appreciated.

D&O CORNER

TECHNICAL SERVICE BULLETINS NOW AVAILABLE

Released every other month, these white papers are a way to provide sponsorship for some of the higher-level technical services we were offering industry based on application and market sector. These documents make for a great bragging book of our designers and our capabilities. Going forward we will be publishing similar stories as a way to identify "points of difference" which will produce interest from the region on our knowledge and services in advanced manufacturing. Click HERE to view our Technical Service Bulletins.

PROFESSIONAL DEVELOPMENT

ON A MISSION TO EDUCATE

Lunch and Learn Workshops have been well received and well attended. Our goal is to provide value-added information that will resonate with industry, creating an environment of continuous improvement and learning. Topics already covered this year include 3D Laser Scanning and Reality Capture, Quality Systems for SMEs, and Funding Opportunities for SMEs.

Thank you to those who attended the September event, the Insdustrie 2030 Roundtable organized by the Canadian Manufacturers and Exporters, regarding trade shortages in Canada and how you can let your voice be heard as part the CME's report to the government.

In the months of October and December we'll conclude our series with our "On Your Shop Floor Series":

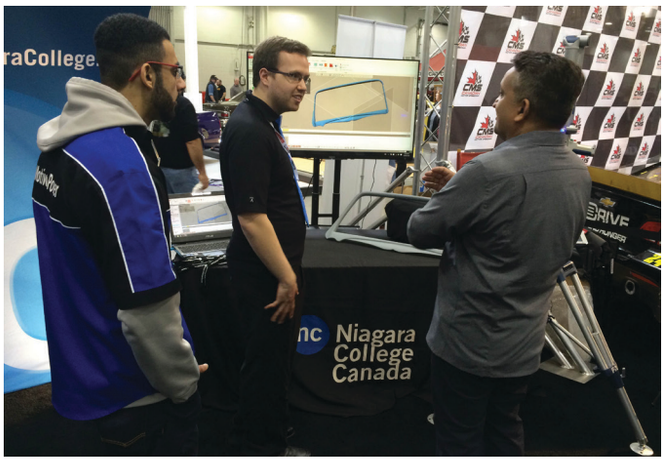
October 2016 - Lean Manufacturing Tools – Implementing 5S on Your Shop Floor

December 2016 - Health and Safety – Implementing OHSA Machine Guarding on Your Shop Floor

EQUIPMENT UPDATE

LASER SCANNING

Regarding new equipment acquisitions, based on revenues from technical services last year, we recently upgraded our FARO Edge Arm with a blue laser and a Tracker head. This improved technology allows us to execute huge scans of difficult surfaces, such as composite parts for the aircraft industry. A new drone has also been acquired to expand our 3D scanning capabilities from the air. We have already had interest shown from numerous municipalities to leverage this reality capture technology for the repurposing of existing brownfield sites. While our focus is to ensure that existing equipment is being adequately leveraged for many different applications, should there be any new technologies which you feel could benefit the region, please make this known to us for further investigation.



ENGAGING INDUSTRY

BRIDGING MANUFACTURING GAPS WITH ADVANCED TECHNOLOGIES

Project and Technical service intake for Q1 and Q2 2016 has been very encouraging as we further derisk advanced technology for some repeat clients, while taking on some new contracts as well. Intake of projects continues to be strong and on target to achieve our annual goal. A performance indicator or Key Performance Indicator (KPI) is a type of performance measurement used at our centre. KPIs evaluate the success of our TAC or of a particular activity in which it engages. Using our KPIs over the last several years, we are doing our best to forecast the busy months and to be strategic with other lab activity such as training and maintenance during less peak times. Should there be projects or technical services that you know of which you could pass on to our application team to further investigate, please drop us an e-mail. Although we cannot guarantee success with every opportunity explored-nothing ventured, nothing gained. Any lead is greatly appreciated and provides a great opportunity for our students to gain real world field experience.

The team includes, front, from left: Ben Laurence, Alex Goerz, and Mike Granton; middle, from left: Jim Lambert, Esteban Puello, Charles Lecompte and Gordon Koslowski; and back, from left: Andrew McCuaig, James Turner and Dave McKechnie.

Niagara College prides itself in producing the finest students from our technology programs. Click HERE for a complete list of Technology Programs presently offered at Niagara College.

STUDENT FOCUS

MEET THE TEAM

Research & Innovation is an integral part of the college, and helps with recruitment and student placement. Additionally, the strong teaching our students receive in the classroom better prepares them to be world ready. Below is a list of students currently working on technical services or applied research projects, along with their course of study.

- Alex Goerz, Mechanical Engineering Technology (Co-op)
- Andrew McCuaig, Mechanical Engineering Technology (Co-op)
- David McKechnie, Mechanical Engineering Technology (Co-op)
- Estaban Puello, Mechanical Engineering Technology (Co-op)
- James Turner, Mechanical Engineering Technology (Co-op)
- Michael Granton, Mechanical Engineering Technology (Co-op)

It is important to remember that with every industry engagement we achieve, this real-world experience is critical to our students' learning plan, and key to the success of our program as we not only build solutions for SMEs, but also their future workforce. Some of these students will soon be seeking jobs after graduation. Should you know of any companies large or small that are hiring electrical, civil, or mechanical graduates, please pass these details on to me so that I can put our Career Focus department on to the prospect.

Federal Economic Development Agency for Southern Ontario
Agence fédérale de développement économique pour le Sud de l'Ontario

FUNDING UPDATE

A SONAMI IN NIAGARA?

We still await funding results from a proposal submitted to FedDev entitled SONAMI – the Southern Ontario Network of Advanced Manufacturing Innovation. With the SONAMI agreement, the network's main directives include co-ordinating resources at each institution (Niagara College, Mohawk College, Sheridan College, and McMaster University); identifying and addressing the constraints that limit the emergence of additive and advanced manufacturing; creating an industry advisory committee to maintain relevance for the stakeholders; gathering and disseminating market and labour information on the industry; conducting outreach and training activities; and working proactively to increase the adoption of these technologies with private-sector companies. Funding would allow for additional equipment to be purchased as well as resources to be hired, and expand our bandwidth drastically to take on more applied research projects. Simply stated, this funding will allow the Walker Advanced Manufacturing Innovation Centre and the partnering institutions to conduct applied research projects with companies specifically in product development.

RESEARCH PROJECTS

RECENTLY COMPLETED:

GTG Engineering Canada - LLFA Smooth Dispenser Prototype (Applied Research Project)

Welded Tube of Canada Corp. (Productivity Assessment)

Stanpac (Productivity Assessment)

Westbrook Floral (Productivity Assessment)

Inniskillin Niagara (Commercial Kitchen Development and Productivity Enhancement)

Hamill Machine Company Inc. - Modular Keg Racking System (Applied Research Project)

Electric Tractor Corp. - Electric OX2 Design (Applied Research Project)

IN PROGRESS:

Beyond Technical Services, longer term Applied Research projects bring further real-world applications and experience to The Centre Team, thanks to provincial, federal, and regional funding.

JANNATEC TECHNOLOGIES

Title: Connector and Enclosure System for Ruggedized Wearable Electronic Applications

Duration: 12 months

Team: Costa Aza, Bryan Mewhiney, Dave McKechnie, Mike Granton

Funding Source(s):

- Ontario Centres of Excellence Voucher for Industry Association R&D Challenge (VIA)
- Niagara College In-Kind
- Partner In-Kind Contribution

IRON WILL RAW PET FOOD

Title: Productivity Assessment

Duration: 6 weeks

Team: Angela Naar, Dave Henderson, Andrew McCuaig

Funding Source(s):

- Niagara Region
- Partner In-Kind Contribution
- Partner Cash Contribution

CORPORATE FACILITY SUPPLY

Title: Workflow and Inventory Optimization

Duration: 8 months

Team: Angela Naar, Andrew McCuaig

Funding Source(s):

- Ontario Centres of Excellence Voucher for Innovation and Productivity (VIP)
- Niagara Region
- Partner In-Kind Contribution
- Partner Cash Contribution

AIRBUS HELICOPTERS CANADA

Title: Improving productivity of composite material trimming work station through automated solutions

Duration: 8 months

Team: Rick Baldin, Alex Goerz

Funding Source(s):

- Ontario Centres of Excellence Voucher for Innovation and Productivity (VIP)
- NSERC Engage I
- Niagara Region
- Partner In-Kind Contribution
- Partner Cash Contribution

NIAGARA COMPOSITES

Title: The Viper Bow - Modernizing the industrial wire spinning industry through product development

Duration: 12 months

Team: Costa Aza, Dave McKechnie, Mike Granton

Funding Source(s):

- Ontario Centres of Excellence Voucher for Innovation and Productivity (VIP)
- Niagara Region
- Partner In-Kind Contribution
- Partner Cash Contribution

BISEP INC.

Title: Proof-of-concept mobility accessory prototype

Duration: 4 months

Team: Charles Lecompte, Dave McKechnie, Mike Granton

Funding Source(s):

- Ontario Centres of Excellence Voucher for Innovation and Productivity (VIP)
- Niagara Region
- Partner In-Kind Contribution
- Partner Cash Contribution

TECHNICAL SERVICE PROJECTS:

The role colleges and institutions play in the region is an important part of preparing work-ready graduates, enhancing the skills of the existing workforce, and fostering entrepreneurism and innovation. The technical solutions we provide as a college are not just a commercial service, but an experience both for the student and the industry partner alike. For most of our clients, that experience is taking the time to help students learn what they need to know in order to be better at what they do, and understand the value of what commercial companies can do for them in the long term.

We locate the Innovators, and then help them engage with private-sector companies in a more robust manner. Through technical service projects, the Walker Advanced Manufacturing Innovation Centre would like to thank the companies that have provided our students with real-world learning opportunities in additive manufacturing, 3D reality capture, and reverse engineering applications.

Rexroth Bosch Group · THK · vineland RESEARCH & INNOVATION CENTRE · FLEET CANADA INC. · AIRBUS HELICOPTERS

Floorcare Buddy · Epic Golf Concepts · NIAGARA COMPOSITES INTERNATIONAL

FUNDERS & TECHNOLOGY PARTNERS

The Walker Advanced Manufacturing Innovation Centre acknowledges our funders and technology partners who make our engagement with industry in the region all possible.

NSERC CRSNG · NRC·CNRC Canada — NRC Industrial Research Assistance Program / Programme d'aide à la recherche industrielle du CNRC · Ontario Centres of Excellence · Niagara Region · AUTODESK.

FARO · 3D SYSTEMS · Stratasys FOR A 3D WORLD™ · Cansel · CIMETRIX Empowering Innovation

Niagara College Canada
APPLIED DREAMS.

Do you have an innovative idea but lack the resources to bring it to life?
MEET WITH US. WORK WITH US.
t 905-735-2211 ext. 7180
e research@niagaracollege.ca
w ncinnovation.ca