

IRC KeyNotes



**STRATEGIC CONSTRUCTION
MODELING AND DELIVERY**
INDUSTRIAL RESEARCH CHAIR

ACWA Tracking
Tool Impresses

1

Message from the
Chair

1

IRC Gains New
Postdoctoral Fellow

3

ISSUE 2
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EVENTS

SEPTEMBER 27, 2012

IRC Advisory Committee Meeting
University of Alberta

ANNOUNCEMENTS

IRC WEBSITE LAUNCHED

See p. 4

TRANSALTA JOINS IRC

See p. 4

INDUSTRY PARTNERS

Aecon Industrial Western

Building Trades of Alberta

Capital Power Corporation

Christian Labour Association
of Canada

Construction Owners Association
of Alberta

Merit Contractors Association

Progressive Contractors Association
of Canada

Suncor Energy

TransAlta Corporation



ACWA Tracking Tool impresses CIC, HRSDC representatives

On April 18, 2012, engineering graduate student Moataz Omar and Association of Construction Workforce Acquisition (ACWA) Executive Director Mark McCullough travelled to Ottawa to present version 1.0 of the ACWA Tracking Tool to the federal government. The representatives of Citizenship and Immigration Canada (CIC) and Human Resources and Skills Development Canada (HRSDC) for whom the software was demonstrated were impressed with its capabilities, and Omar and McCullough returned home eager to take the tool to the next stage of its development.

Designed to track and analyze personal and work information for Temporary Foreign Workers (TFWs), the ACWA Tracking Tool is

the product of a five-month project conducted by Dr. Aminah Robinson Fayek and her research team for ACWA. Dr. Robinson Fayek and ACWA were brought together by Ron Genereux, Vice-President, Major Projects Construction, of IRC industry partner Suncor Energy.

Genereux is both the Chair and a founding member of ACWA. "ACWA is a non-profit organization made up of eight construction owners, primarily in the Wood Buffalo area," he explained. "We represent about \$90 billion worth of new construction activity between now and the end of the decade." The group initially came together informally in
(contd. on p. 2)

Message from the Chair

Collaboration key to our success

"Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has."
— Margaret Meade

As an academic, I occasionally encounter individuals who believe that academia and industry are separate worlds that do not often effectively interact. In their opinions, the theoretical emphasis of some areas of academia and the practical, real-world emphasis of industry can prevent the establishment of productive working relationships. In my experience, especially through my work with the IRC, I have found that this is simply not true.

The perceived boundary between academia and industry only exists if people on both sides allow it to exist. Rather than ignore the differences between the worlds of academia and industry, I prefer to embrace them. Our



Dr. Aminah Robinson Fayek, PhD, PEng

differences in perspective, emphasis, knowledge, and experience enable us to come together to develop new solutions to existing problems and uncover ways to apply existing practices to evolving issues. In our IRC, the cooperation and collaboration of academia
(contd. on p. 2)



Detailed data collection a major strength of Tool

Continued from page 1

discussions of the needs of construction owners in Alberta, motivated primarily by labour workforce challenges.

“Right now,” said Genereux, “we are seeing critical shortages in trades.” As a result of these shortages, it has become increasingly difficult for owners to complete construction projects as forecast. Like many other construction owners, the members of ACWA would prefer to alleviate the shortages by bringing more women, youth, and members of First Nations into the construction workforce. However, they acknowledge the role TFWs play in the labour market.

“We feel we have delivered an excellent product for the people who will have a need to use it.”

— Mark McCullough, ACWA Executive Director

“Obviously, our first priority is to source labour domestically,” stated Genereux. “That said, our ability to access temporary foreign workers is very important, given the pressures we are facing finding human resources, going forward.”

Part of the mandate of ACWA became educating stakeholders as to the magnitude of the problem and where the bottlenecks were in the permanent immigration programs for skilled workers. “This included feeding real-time data to the federal government in order to convince them that we are trying to hire as many domestic workers as possible,” explained Genereux.

Message from the Chair

Students and industry benefit from exchange of ideas

Continued from page 1

and industry lead to innovation, ensuring that we are able to deliver effective, practical solutions to the immediate needs of all levels of the construction industry.

The months since our last issue of *IRC KeyNotes* have provided a number of events and opportunities to demonstrate the truth of this, especially to the graduate students who participate in our research projects. As academics in training, it is important that they remain cognizant of the value of developing and maintaining strong relationships with industry and do not lose sight of the real-world relevance of their work as they complete their education.

At our 18th Annual Canadian Construction Research Forum, held May 10 and 11, 2012, and the COAA Best Practices Conference, held May 15 and 16, 2012, our graduate students presented posters showcasing their research. Opportunities like these provide us and our graduate students with the valuable opportunity to get feedback on our research from industry practitioners and to disseminate the research ideas to industry.

As well, two of our graduate students, Abraham Tsehayae and Jing Peng, participated in this year’s ASCE Construction Research Congress (CRC), an international conference held at Purdue University in

West Lafayette, Indiana. The CRC gave them the valuable experience of presenting academic research at an international conference and obtaining feedback from world-class researchers.

West Lafayette, Indiana. The CRC gave them the valuable experience of presenting academic research at an international conference and obtaining feedback from world-class researchers.

“The intent was to come up with a tool that would facilitate that real-time reporting,” he added. The ACWA Tracking Tool was created to meet that need.

Genereux initiated the project by bringing together Dr. Robinson Fayek and McCullough. “I made the connections; they took the ball and ran with it,” said Genereux.

McCullough was brought onboard with ACWA in spring of 2011 to get the organization up and running and work through the requirements for government approval. “I recognized early on, when I saw the federal government requirements, that we were going to need quite a bit in the way of collecting and packaging information tracking workers,” he said.

McCullough began working with Dr. Robinson Fayek and Omar to develop the ACWA Tracking Tool in winter of 2011. Through emails and phone calls, the requirements were honed, and the tool began to take shape.

The ACWA Tracking Tool consists of a Microsoft Access database with a graphical user interface (GUI) built in Microsoft Visual Basic. The GUI is made up of a series of detailed data entry forms through which the user enters information on owners, employers, workers, recruitment agencies, projects, locations, and costs. The volume and scope of the collected data are among the Tool’s major strengths.

“There are over 90 fields regarding the TFW alone,” said McCullough. “And there are data fields for the owner, for the employer, and for the

(contd. on p. 3)

Speaking of continued relationships, I am pleased to announce that Dr. Adel Awad, who has been a diligent student and a valued part of our research team for the past four years, successfully defended his PhD thesis on June 5, 2012, and has accepted a position as a postdoctoral fellow with our IRC. We look forward to his continued contributions to our work. ■

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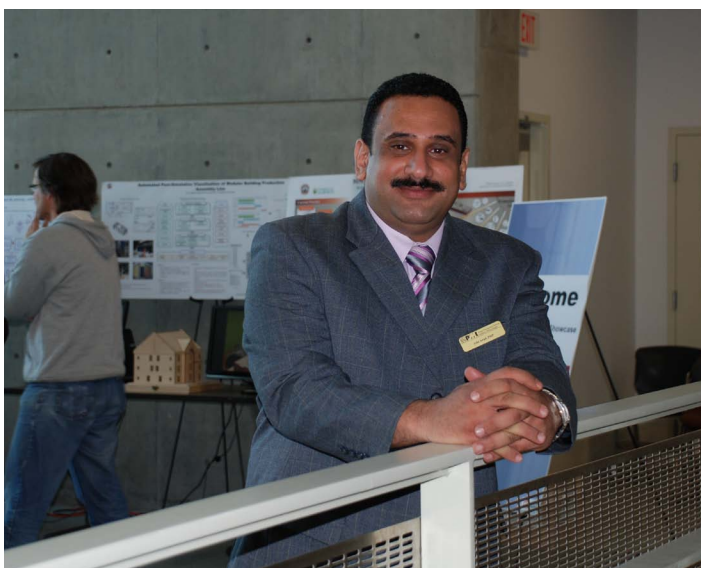
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Dr. Adel Awad joins IRC as Postdoctoral Fellow

IRC Chairholder Dr. Aminah Robinson Fayek is very pleased to announce that Dr. Adel Lofty Saleeb Awad has joined her team as a postdoctoral fellow. Perhaps “rejoined” is a better choice of word, as Dr. Awad has been working with Dr. Robinson Fayek as a graduate student for the past four years.

“Adel is a good example of the talent and quality of our graduate students,” said Dr. Robinson Fayek. “He is well-rounded in his abilities to carry out leading-edge academic research of high calibre, interact successfully with industry to obtain expert knowledge and data, and develop industrially relevant solutions to problems currently facing the construction industry.”



Dr. Adel Lofty S. Awad at the Research Dividends Open House at the University of Alberta on June 27, 2011.

Dr. Awad was born and raised in Zagazig, Egypt. In his youth, he began his journey toward becoming an engineer by watching his father work. “My father was an agricultural engineer, though he’s retired now,” said Dr. Awad. “The way he organized the landscape and arranged things was very interesting to me.”

Though his interest in engineering began at ground level, Dr. Awad’s own goals had him looking upward from it. “Since I was young, I was interested in how people built buildings,” said Dr. Awad. “I was always interested in creating those sorts of things, dreaming of being an engineer...building something that would be visible to others, like buildings or bridges.”

Dr. Awad received his bachelor’s degree in civil engineering from Zagazig University in 2000, graduating 6th in a class of 257. He completed his master’s degree in construction engineering in 2006, also at Zagazig University.

Dr. Awad came to Canada in 2007 and entered the University of Alberta’s graduate program in engineering in 2008, on the advice of colleagues in Egypt who had studied there. “When I started thinking of studying abroad, I asked them about their experiences and received

many recommendations to come to the University of Alberta,” said Dr. Awad. After his first semester, Dr. Awad began contacting potential supervisors in the construction group, eventually deciding on Dr. Robinson Fayek. “I found that the areas of research Dr. Robinson is doing are most interesting to me,” said Dr. Awad.

The focus of his research has been using fuzzy logic to develop decision support systems for the construction industry. “The main target for development of this kind of system is handling subjectivity, which is a common feature in the industry,” Dr. Awad explained. “Specifically, my research was to develop a decision support system that had the ability to predict potential contractor failure in performing a specific construction project.”

On June 5, 2012, Dr. Awad successfully defended his PhD thesis, entitled “Intelligent Contractor Default Prediction Model for Surety Bonding in the Construction Industry.” He accepted Dr. Robinson Fayek’s offer of a postdoctoral fellowship shortly afterward.

“Adel is a valuable addition to the IRC and will take on a leadership role,” said Dr. Robinson Fayek, “helping to supervise and carry out many of the research projects under the IRC.” ■

ACWA Tracking Tool in beta

Continued from page 2

recruitment agency. We are tracking a lot of data.”

Built-in reporting capabilities include Labour Market Opinion (LMO) Reports, TFW Summaries, Cost Reports, Project/Trade Reports, and Work Permit Extension Evaluation Reports. Through these reports, owners and employers can monitor their entire workforce and easily access critical information on LMOs, status of work permits, project assignments, certification of workers, and more.

The representatives of the CIC and HRSDC were very impressed with the amount of data that came out of the tool. “When Moataz made the presentation, they were really taken by it,” said McCullough.

Omar and McCullough returned to Edmonton and explored ways to improve the Tool. They made some minor changes, primarily involving the addition of data entry fields. Implementation of more complex improvements is on hold while the construction industry adjusts to the recent changes the federal government has made to the Temporary Foreign Worker Program.

The ACWA Tracking Tool v1.1 is currently in beta stage and has not been publicly released. Genereux, McCullough, Omar, and the members of ACWA are pleased with the results of their efforts.

The ACWA Tracking Tool is a prime example of how the collaborative efforts of the IRC and its industry partners result in an end product that has the potential for far-reaching positive effects on the construction industry as a whole. As McCullough summed it up, “We feel we have delivered an excellent product for the people who will have a need to use it.” ■



Ernie Tromposch receives COAA Currie Award

Congratulations to Ernie Tromposch, Chair of our IRC Management Advisory Committee, who recently became the latest recipient of the Construction Owners Association of Alberta (COAA) Currie Award of Recognition. Tromposch was presented with the award on May 15, 2012, at the 20th Annual COAA Best Practices Conference at the Shaw Conference Centre in Edmonton.

The award is named in honour of Donald V. Currie, who served as Managing Director of the COAA from 1985 to 2000. It is presented in recognition of individuals whose long-standing and dedicated service has contributed to the success of the COAA. The award was first given in 2004 to Brian Bickley of Syncrude Canada.

"It is fitting that Ernie achieves this accolade in this historical year," said COAA President Mike Horner in his award presentation speech, "because, for more years than I can remember, he's played a key role in furthering the aims of this organization and the entire heavy industrial construction industry."

Horner noted that Tromposch was instrumental in establishing the COAA's partnership with the IRC. "He has long been a vital bridge and invaluable connection between academia and industry, contributing to unparalleled progress across almost every aspect of our business since then: benchmarking, rework, absenteeism, supervisory training, you name it," he said.

Tromposch responded to receiving the award with characteristic humility and was particularly pleased to be presented the award by



After receiving the COAA Currie Award of Recognition, IRC Management Advisory Committee Chair Ernie Tromposch shakes hands with Donald V. Currie, former COAA Managing Director.

its namesake. "What's particularly special to me is that the award is in honour of Don Currie, whom I consider to be one of my heroes," Tromposch said. "Don is a true Renaissance man, a visionary, and a pioneer in our industry. Many years ago, Don showed some interest in my participation in COAA and nudged me into some projects that blossomed into continued participation in COAA leadership, which I view to be one of the highlights of my career." ■

IRC website launched

The IRC website was launched on June 27, 2012. The site can be viewed at www.strategic-construction.ualberta.ca. Additional content will be developed over the next few months. We welcome your comments and suggestions on how we can make the site best meet the needs of our IRC and its industry partners. ■

TransAlta Corporation joins IRC

In August 2012, TransAlta Corporation became the newest industry partner in our IRC. Hugo Shaw, Executive Vice President, Operations, and Lou Florence, Vice President of Alberta Coal Operations, join our Management Advisory Committee; Steve Fox, Director, Turnaround Maintenance Programs, and Nevine Booth, Technical Director, Strategic Analysis, join our Technical Advisory Committee. We welcome their participation in the work of our IRC. ■



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