Dear Members,

Since I am new to the Chairman position (as of January 1, 2013), I thought I would simply start off by reiterating the Institution's objectives, and comment on how we will endeavour to meet them.

a) Diversify and grow professional membership in UK and internationally
This is a tall order in Canada and has been for quite some time. I have heard similar stories from other UK institutions so we are not alone. One of my goals is to clearly define what the blockers are to recruiting new members which will include constraints from UK (especially in regards to fees and how they compare with the provincial fees in Canada).

b) Increase member engagement and value to members and their employers
This is already underway by offering good lectures/events to current CCB members and expanding invitations to employers (Kinectrics & Litens for example) and their employees. This effort will continue.

c) Provide expert leadership to Government, Industry, Members and the informed public on Engineering
This is being done to some degree by interfacing with others at events and supporting public events such as Formula North.

d) Develop awareness of engineering and profile of the IMechE
This is currently being done by interacting with other institutions and getting involved with public events like Formula North.

e) Inspire young people about engineering
This is currently being done by reaching out to young engineers through events like Formula North.

f) Secure long-term financial position
This is on-going and Andrew Smith is doing a great job in managing the books and ensuring we get the appropriate financial support from HQ.

Formula North has been mentioned several times and for a good reason. It gives IMechE access to a great event, access to many young engineering students and interaction with other people in the working engineering community. I was there in May 2012 as a marketing judge (as were Phil Apperly and Ravi Vijh). It was inspiring to see so many students show such enthusiasm for engineering, teamwork and achieving results. I would ask that CCB members get involved by volunteering their time, if they can spare the time. Information on this event is referenced in events listing below.

The CCB committee will also be making improvements to the CCB website which will hopefully improve communications with the CCB members and the general public. It is our intention to get feedback from members to better understand what they would like to see in events. Significant effort does go in to holding these events and we would like to see more interest.

Since our last issue in Fall 2012, we have held the following events:


Our speaker was Dr. Vivek Rao, who is currently Chief of Cardiovascular Surgery and the Surgical Director of Heart Transplantation and Mechanical Circulatory Assistance at the Toronto General Hospital and holds the Munk Chair in Advanced Cardiac Therapeutics at the University of Toronto. Also speaking was David Burke, a design engineer with Thoratec Corp, who provide the broadest range of mechanical circulatory support devices to treat the widest range of clinical and patient needs for advanced heart failure.

Despite improvements in almost every facet of cardiovascular disease, the prevalence of congestive heart failure continues to rise. Traditionally, the only option for the management of end-stage heart disease was cardiac transplantation. In order to support potential candidates until a suitable donor organ can be found, various technologies have been introduced and the field of “mechanical circulatory support” has blossomed. The early versions of the “mechanical heart” were designed to support patients for days to weeks and necessitated large, morbid operations.

We had a total of 73 people attend with 27 from IET. The Novotel hotel continued to be an excellent venue.

2. Hazards and Counter-measures In Space Missions
January 15, 2013

Our speaker, and one of our own (IMechE member), was Nick Sion, who graduated from the University of London (UK) in Engineering Physics and completed an Advanced Math degree from Battersea College (part of University of London that is now known as University of Surrey). Postgraduate studies were done at Birmingham University on airborne radars most of which were classified.
Since the Mars Science Laboratory (Curiosity) landed on Mars, there is increasing interest in knowing whether humans can travel to our neighbouring planet. The presentation outlined the known hazards in outer space missions and drew attention to the issues of incessant radiation, microgravity effects, shielding inadequacy, and the psychological effects on a long lonely journey. The presentation outlined the countermeasures for each and the most up-to-date research currently being done.

We had a total of 36 people attend with 18 guests.


Our speaker was Dr. Steve Jia, who is Chief Engineer - CAE Technologies and Materials Engineering at Litens Automotive Group. He has invested more than 20 years of his professional career in CAE Technologies and has worked on a very wide range of CAE applications in automotive engine-related products for more than 16 years.

Dr. Jia’s presentation focused on CAE in power transmission systems & component R&D. A number of important subjects which affect the use of advanced nonlinear FEA in power transmission systems & component R&D were discussed.

We had a total of 26 people attend with 8 guests.


Our speaker was Dr. Geoff Fernie, who has a primary appointment at the University of Toronto as Professor in the Department of Surgery with cross appointments that include the Institute of Biomaterials and Biomedical Engineering, Departments of Mechanical and Industrial Engineering, Physical Therapy, and Occupational Science and Occupational Therapy. He is a professional engineer and Institute Director for research at Toronto Rehabilitation Institute-UHN.

One of North America’s leading rehabilitation sciences centres, Toronto Rehabilitation Institute is revolutionizing rehabilitation by helping people overcome the challenges of disabling injury, illness or age-related health conditions to live active, healthier, more independent lives. It integrates innovative patient care, ground-breaking research and diverse education to build healthier communities and advance the role of rehabilitation in the health system. This lecture included a walk and talk tour of the extensive laboratories.

We had a total of 28 people attend with 15 guests.

5. Events for April, May & June 2013

The IMechE CCB Annual General Meeting will be held April 5, 2013 at the North York Novotel hotel. The flyer for this event is enclosed and is also on the CCB website.

The Formula North Engineering Design Competition will be held May 23-26, 2013 in Barrie. This is a get involved event and is based on the Formula SAE competitions held elsewhere around the world. A flyer is currently posted on the CCB website. There are many opportunities to get involved such as Career fair Day May 23 with the IMechE booth and as event judges May 24/25. If anyone is interested in helping with the booth on May 23, then please let the CCB committee know.

The IMechE CCB Committee Planning Meeting is currently scheduled for June 15, 2013 at Frank Gosling’s farm, in the Hockley Valley area. This will give the CCB committee a chance to plan events with other institutions (BCS, ICE, SAE, IET & CIBSE) and hopefully share the load of hosting events which will hopefully be of mutual interest. Frank and Jaynne Gosling continue to extend their very warm hospitality. We are very thankful to them.

I would like to thank all of our committee members for their contribution as volunteers, for their time and commitment to our success. It is always a challenge to have people volunteer their personal time so thank you for that. A special thanks goes to the Kinectrics Inc., CEO, David Harris who has been very supportive in allowing us to use the Kipling Avenue facilities as a venue for our events. Hopefully, I will succeed in my duties as CCB chairman to improve the experience of being an IMechE member here in Ontario. I look forward to your support in making that happen.

See you all April 5 at the AGM.

Anthony M. Hamilton, Chair CCB

If you have not been receiving e-mail notifications about our technical meetings, and wish to do so, please check the “Regional News and updates” preferences section in your on-line Member Profile on the UK Website members section-Thanks.

Please note that communications to the Branch should be addressed to: hon-secretary@imeche-ccb.org or, if by regular mail, to: The Hon. Secretary, IMechE Central Canada Branch, c/o Box 1081, 5 Orsi Court, Tottenham ON L0G 1W0