



*Northeast Agricultural and Biological
Engineering Conference
Newsletter*

nabec.asabe.org

Volume 25, Number 1

Dates to Remember:

- Book early for your NABEC 2014 housing
- June 27th is the registration deadline for NABEC early bird conference registration
- NABEC 2014: July 27-30, Kemptville College, Kemptville, ON, Canada
- July 13-16, 2014: ASABE/CSBE Annual Meeting, Montreal QC, Canada

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NABEC 2014

**Where: Kemptville Campus – University of Guelph,
Kemptville, Ontario**

When: July 27-30, 2014

The NABEC 2014 Organizing Committee members are looking forward to seeing you at the NABEC Summer Meeting. Situated 50 km (30 miles) south of Ottawa, Kemptville is at the hub of agricultural activities in eastern Ontario that includes a strong dairy industry, cash crop operations, maple syrup production, and a growing cleantech industry.



NABEC 2014 will continue the tradition of “relaxing professionally” starting with the opening reception on Sunday evening, July 27th. This will be followed by two days of technical presentations, keynote lectures, panel discussions and poster presentations on a broad range of topics relevant to the agricultural and biological engineering profession. This is a wonderful opportunity to network and learn more about the activities within the profession.

On Wednesday, the technical tour will begin at the Kemptville Campus, with visits of the Dairy Education & Innovation Centre, the Agroforestry Education Centre, and the campus bioenergy crop plantations. The tour will continue to Suntech Greenhouses that produce hydroponically-grown tomatoes in 4 acres of greenhouse surface. The final stop on the tour will be at a dairy farm with a robotic milking system, a manure composting system, and is the site of a greenhouse gas emissions study lead by researchers from Agriculture and Agri-Food Canada.

The accompanying persons’ tour will take advantage of the history and beauty of the area. A short drive away, Ottawa is the political centre of Canada and is steeped in history with many attractions, such as Parliament Hill, the Rideau Canal (a UNESCO World Heritage Site), the By-Ward Market, the National Gallery of Canada, and the Canada Agricultural Museum. Just west of Kemptville, the quaint village of Merrickville-Wolford on the Rideau River offers the opportunity to browse specialty boutiques, artists’ studios, and the locks on the Rideau Canal.

We look forward to hosting you in 2014!



Additional Information:

To register for the 2014 NABEC, go to the ASABE registration website:
imis.asabe.org/source/events

Articles: All presenters at the conference are encouraged to prepare a written article to accompany their poster or oral presentation. Full articles must be formatted using the Article Template that will be available on the NABEC 2013 conference website.

Details and updated/final program are available at:
nabec.asabe.org

Interested in past locations of NABEC and NAR conferences?
hnabec.asabe.org/index_files/Past.htm

The “Tech Short” (how long your presentation can be)

NABEC uses the ten minute tech short presentation in order to allow the coverage of many different topics during our conference. The goal is to make listeners familiar with what you are doing but not to overwhelm them with details. A tech short time period places 10 minutes between the start of each presentation. The ten minutes includes time for changing speakers, a brief introduction (such as your title slide), eight (8) minutes for you to make your presentation, and one minute for questions. Your 8 minutes for presentation should first tell the summary of your talk (what do you want the audience to go away with), then briefly cover the points of what you did and the brief results (fill in briefly what did you do and what did you learn), and then one final summary slide to finish. Ask for a question. A time clock is usually used and the moderator will tell you what signals he/she will give you BUT you must have just an 8 minute talk to give. Write a short paper with charts, photos, and tables of data you want to share and place it on the paper distribution table. Use your presentation number as the paper number.

NABEC PE Continuing Education

Earn your Professional Development Hours (PDH) while attending the NABEC Conference with numerous hours of continuing education available. A PDH form will be included in the conference materials. A certification letter containing the NABEC letterhead for documentation of the PDH will also be available if required. Come to NABEC 2014 and enjoy listening to the technical shorts and the student presentations, viewing the posters, and attending the technical tours while earning those required PDH.

NABEC Undergraduate Student Paper and Design Competition

Teaching upper level courses that involve student projects? If so, the annual NABEC undergraduate student paper and design competitions are an excellent opportunity to enhance the impact of your students' work. Individuals or teams may enter either competition. Entries for the paper competition should focus on technical topics of interest to the agricultural and biological engineering community and can, for example, be based on substantial class term projects, independent studies, or undergraduate research projects. Projects entered in the design competition must involve engineering design of a system, component, or process for applications in agriculture, forestry, engineering or related fields. Design competition entries have frequently been but need not be limited to the product of senior design projects.

Electronic submittal of all entries, preferably in pdf format, is required. Cash prizes to first, second, and third place entries are awarded for both competitions and travel expenses for first place winners to the 2014 NABEC meeting are available. Entries must include summer addresses/contact information for the students. For full details, see the NABEC website: nabec.asabe.org/index_files/Awards.htm

Please encourage your students to enter the competitions. Also, please, consider volunteering your services as a reviewer! You will not be asked to review more than a few entries, and the review process is uncomplicated. You'll be pleasantly surprised by the quality of the entries and your efforts will be greatly appreciated. Contact the Student Paper and Design Competition Committee Chair, Nikki Brown, to volunteer (email: nrb10@psu.edu ; phone: 814-865-7423).

The deadline for undergraduate competition entries is 5:00 PM, May 23, 2014.

NABEC 2015 Announcement!

The University of Delaware will host NABEC 2015 from July 12-15, 2015 in Newark, Delaware. Newark with a population of 30,000 (without the students) is home to the University of Delaware, a land grant and sea grant institution with 16,000 undergraduates and 4000 graduate students. Newark is close to Philadelphia, Baltimore and Washington, DC. and only 80 miles from the Atlantic Ocean beaches. There are many things to do and see in the general region, so plan on attending the meeting and spend time either before the meeting or after the meeting touring the area.

NABEC Young Engineer of the Year

Do you know a young engineer (industry, government or academic) that deserves recognition due to his/her contribution to the profession? Let us know!!!

Each year NABEC offers an award for Young Engineer of the Year. This award honors NABEC members for outstanding contributions to the advancement of the Agricultural/Biological Engineering Profession. Awards are made on the basis of nominations submitted by colleagues. The award consists of an engraved plaque presented in person at the NABEC Annual Awards Banquet.

Eligibility: Those eligible are NABEC members who have not passed their 40th birthday on July 1 of the year in which they are selected. If you know a young engineer who deserves consideration for this honor or you are urged to submit a nomination for him or her. Nominations will remain active for a period of three years. The nomination should be accompanied by the following documentation:

- a letter of nomination, including date of birth.
- an up-to-date resume for him or her, (not exceeding 2 pages in length).
- a 300 to 500 word narrative suitable for publication and use in the presentation of the award.
- 3 letters of support for the nomination.
- the nominee must be able to attend the conference to receive the award.

Further information is available on the NABEC web site (nabec.asabe.org).

Nominations and questions concerning the nomination may be directed to:

William F. Ritter
University of Delaware
250 Townsend Hall
531 South College Ave
Newark, DE 19716-2140
E-mail: writter@udel.edu
Phone: (302) 831-2468
Fax: (302) 831-8889

Nomination Deadline is June 1, 2014

Past recipients of the Young Engineer Award:

1979 Norman Collins	1991 Richard Jennings	2003 Ali Demirci
1980 Fred Wheaton	1992 Ronald Pitt	2004 Hubert Montas
1981 William Ritter	1993 Gene Giacomelli	2005 Jennifer Becker
1982 No Award	1994 Chandra Madramootoo	2006 Valérie Orsat
1983 David Ross	1995 Paul Heinemann	2007 David Tilley
1984 Andrew Higgins	1996 Wayne Bogovich	2008 Jeffrey Catchmark
1985 Michael Walter	1997 Dennis Buckmaster	2009 Su-Ling Brooks
1986 Abdel Ghaly	1998 Timothy Royer	2010 Andrew Wedel
1987 Barry Frey	1999 Cristina Ratti	2011 Deron Davis
1988 Herschel A. Elliott	2000 Joseph Irudayaraj	2012 Mark Lefsrud
1989 James Garthe	2001 Terry Lynn Ruch	2013 Timothy Rennie
1990 Unknown	2002 Michael Ngadi	

Distinguished Service to NABEC

And for those who gave great service to NABEC? They won't be forgotten!!!

A special award is presented annually to individuals who have contributed outstanding service to NABEC. The award shall consist of a plaque with appropriate inscription and will be presented at the NABEC Annual Awards Banquet. Nominations may be held over for two years. The criteria for the award are: contribute as an officer, local arrangements, program committee, tour arrangements or other significant effort to NABEC; support NABEC by encouraging colleague participation; professional activities in the Northeastern US / Eastern Canada area.

Nominations for the award should be:

- a one page (maximum) completed nomination form,
- a letter detailing the qualifications and specific activities and contributions.

Please use the nomination form which can be found on the NABEC web site, nabec.asabe.org

William F. Ritter
University of Delaware
250 Townsend Hall
531 South College Ave
Newark, DE 19716-2140
E-mail: writter@udel.edu
Phone: (302) 831-2468
Fax: (302) 831-8889

Nomination Deadline June 1, 2014

Past recipients of the Distinguished Service Award:

1996 Eric Norris	2002 Arthur Johnson	2008 Allen Zimmerman
1996 William Roberts	2003 David Ross	2009 Robert Kok
1997 Mark Singley	2003 William Ritter	2009 Wayne Bogovich
1998 None	2004 Paul Heinemann	2010 Stanley Weeks
1999 Jacob (Jack) Pos	2005 Bill Bowers	2011 Cristina Ratti
2000 None	2006 Julie Cayley	2012 Glenn Warner
2001 Richard Peterson	2006 Vijaya Raghavan	2013 Ali Demirci
2001 Robert Aldrich	2007 F. Spencer Givens III	2013 John Ogilvie
2002 Abdel Ghaly	2008 Kenneth Lomax	

NABEC 2013-2014 Planning Committee

Officers of the Planning Committee

<u>Chair</u> Anastasia Chirside University of Delaware Townsend Hall, 531 S. College Ave. Newark, DE 19716-2140. (302) 831-8871 aemc@udel.edu	<u>Chair-Elect (Honors/Awards)</u> William F. Ritter University of Delaware Townsend Hall 531 South College Ave Newark, DE 19716-2140 witter@udel.edu Phone: (302) 831-2468	<u>1st Vice-Chair (Program)</u> Su-Ling Brooks Dalhousie University Dept of Process Engineering & Applied Sciences Halifax, NS, Canada (902) 494-6482 Su-Ling.brooks@dal.ca	<u>2nd Vice-Chair (Newsletter)</u> Valerie Orsat Department of Bioresource Eng. McGill University, QC, Canada (514) 398-7775 valerie.orsat@mcgill.ca
<u>Secretary</u> Jude Liu Penn State 227 Ag. Engineering Bldg. University Park, PA 16802 (814) 863-6844 jliu@engr.psu.edu	<u>Secretary -Elect</u> Jan Adamowski Department of Bioresource Eng. McGill University, QC, Canada (514) 398-7786 jan.adamowski@mcgill.ca	<u>Treasurer</u> David Ross University of Maryland 10335 Champions Way Laurel, MD 20723 301-498-2234 dsross@umd.edu	<u>Past Chair</u> Heather Smeltz USDA NRCS 2120 Cornwall Road, Suite 4 Lebanon, PA 17042 (717) 274-2597, ext. 126 Heather.Smeltz@pa.usda.gov

Other Members of the Planning Committee

<u>District I Representative</u> Joseph Walker Stevensville, MI (269) 428-0546 Walker_j1@usa.net	<u>Meetings Council Rep.</u> Paul Heinemann 250 Ag. Engineering Bldg. University Park, PA 16802 (814) 865-2633 hzh@psu.edu	<u>Publications Council Rep.</u> Heather Gall 232 Ag. Engineering Bldg. University Park, PA 16802 (814) 863-1817 heg12@psu.edu	<u>MDC Rep.</u> Michael Ngadi Dept Bioresource Eng, McGill University (514) 398-7779 michael.ngadi@mcgill.ca
<u>Standards Council Rep.</u> Jude Liu Penn State 227 Ag. Engineering Bldg. University Park, PA 16802 (814) 863-6844 jliu@engr.psu.edu	<u>Undergrad Student Competition</u> Nikki Brown Penn State nrb10@psu.edu 814-865-7423	<u>Webmaster</u> Satyanarayan R.S. Dev A'Sharqiyah University, Sultanate of Oman Satyanarayan.dev@gmail.com	<u>Newsletter editor</u> Paul Heinemann 250 Ag. Engineering Bldg. University Park, PA 16802 (814) 865-2633 hzh@psu.edu
<u>Parliamentarian</u> Robert Thompson USDA-NRCS 356 Mountain View Drive Colchester, VT 05446 (802) 951-6796 ext. 232 Bob.thompson@vt.usda.gov	<u>Local host NABEC 2014</u> Timothy Rennie Kemptville Campus – University of Guelph 830 Prescott Street Kemptville, Ontario (613)258-8336 ext 61286 tim.rennie@uoguelph.ca	<u>Local host NABEC 2015</u> Litha Sivanandan West Virginia University PO Box 6031 Morgantown, WV 26506 (304)293-7684 Litha.Sivanandan@mail.wvu.edu	<u>Historian</u> William (Bill) Ritter University of Delaware Townsend Hall 531 S. College Ave. Newark, DE 19716-2140 (302) 831-2468 witter@udel.edu
<u>Program Committee</u> Carmine Balascio Bioresources Engineering University of Delaware Newark, DE 19717-1303 (302) 831-2468	<u>Program Committee</u> Valerie Orsat Department of Bioresource Eng. McGill University (514) 398-7775 valerie.orsat@mcgill.ca	<u>Program Committee</u> Litha Sivanandan West Virginia University PO Box 6031 Morgantown, WV 26506 (304)293-7684 Litha.Sivanandan@mail.wvu.edu	<u>Program Committee</u> Robert Thompson USDA-NRCS 356 Mountain View Drive Colchester, VT 05446 (802) 951-6796 ext. 232 Bob.thompson@vt.usda.gov

Please register for the conference, or as an accompanying person, online at imis.asabe.org/source/events/ by June 27, 2014 for Early Bird Prices. All presenters must register by June 27 to guarantee a place in the program. After July 19, 2014 please register onsite.

Conference Registration Fees

By June 27, 2014

Full Registration (a)	US \$
ASABE and/or NABEC Member	\$200
Non-ASABE Member	\$220
ASABE Retired Member	\$130
Student	\$120
One Day Registration (b)	
ASABE and/or NABEC Member	\$100
Non-ASABE Member	\$110
ASABE Retired Member	\$70
Student	\$60

After June 27, 2014

Late Registration	US \$
Add \$50 to Full Registration, Above	Add \$50
Add \$25 to One Day Registration, Above	Add \$25

(a) – Includes Sunday Evening Welcome Reception; Monday and Tuesday lunches and breaks.

(b) – Includes lunch and breaks for the corresponding day.

Event Registration Fees (See following pages for description of these activities)

Event	US \$	
Sunday Evening Welcome Reception (cost is included in Full Conference Registration fee) Additional Tickets (Guests, Accompanying Persons, One Day Registrants)	\$15	
Monday's Barbeque – Kemptville Campus Lawn, bonfire weather permitting	Adults	\$20
	Children 12 & Under	\$10
Tuesday's Awards Banquet	Veal Cannelloni	\$35
	Vegetarian Cannelloni	\$35
Wednesday: Technical Tour (includes transportation and lunch)	\$35	
Accompanying Persons Tour Please indicate your interest for a group activity Monday or Tuesday. You will be contacted if you provide your email address when you register.	Monday, July 28, 2014	TBD
	Tuesday, July 29, 2014	TBD

Please contact Heater Smeltz at heather.smeltz@pa.usda.gov with any questions or special requests.

Instructions for Online Registration

Go to imis.asabe.org/source/events/ and scroll down until you find NABEC 2014. Click the link, and then follow the prompts to register. If you are a Member, access your account using your member number and password. If not a Member, create an account.

The member/student confirms that their personal/contact information is correct. At the bottom of the screen is a button to "Add a Guest" (immediately above the Registration Question). If you are bringing a guest(s) to the meeting, please add them through this link, entering their name and email. Please also indicate here whether you plan to attend the Welcome Reception on Sunday evening (you will have an option to purchase a ticket for your guest under your registration). After adding your guest, you will be brought back to the Registration Information Screen and can proceed through your registration.

Next, you register yourself for your selections. If you have a guest(s), you will need to register here for their Welcome Reception and Accompanying Persons Tours under your name. Even though the tours are shown to cost \$0, the true cost will be confirmed closer to the meeting and communicated, giving your guest the option to go on the tour. Please select any and all days your guest may be interested in a tour.

If you had added a guest(s) previously, the guest registration options then follow as you proceed through their registration, selecting the appropriate Barbeque, Banquet and Technical Tour activity options.

All prices are in US dollars.

We really need to know if you and any guests will attend the Reception so we can plan for the correct number of persons. Guests are to pay for the reception and other optional meals/tours. Guests' email addresses from registration may be used to gather interest in and to communicate options for the accompanying persons tours so planning can be done prior to the conference. Member and accompanying person meal/tour options are given in the newsletter so read it first.

Early Bird (discounted) registration prices are available until close of business on Friday, June 27, 2014. Full registration rates then apply. Online registration closes on Saturday, July 19, 2014. Late registration (after July 19 only) is discouraged but will be available on-site.

Note: Also make your lodging arrangements early so you get what you like; follow suggestions in the newsletter.

Travelling from outside of Canada.

While US citizens do not require a visa or passport to come into Canada, they do require a passport to return to the US if travelling by air. If travelling by car or train, proof of citizenship is still required to re-enter the US. International students may need to apply for visas to enter Canada – please ensure sufficient time for processing. If you need an invitation letter to support your visa application, please let Su-Ling Brooks know (Su-Ling.Brooks@Dal.ca).

Kemptville Campus

Affordable dorm-style rooms are available on the Kemptville Campus in Bell Hall for the evenings of July 27-29. Bell Hall is conveniently located a short walk from the main NABEC activities. A hot breakfast is included in the package. These are standard dorm rooms with two single beds, desks and closets. There are 12 rooms on a floor. The washroom is shared and is down the hall. Toilets and showers are private. One floor of rooms is air conditioned. The rates are as follows:

Single room, no air conditioning	\$65/night per person + HST*
Single room, with air conditioning	\$75/night per person + HST*
Double room, no air conditioning	\$55/night per person + HST*
Double room, with air conditioning	\$60/night per person + HST*

*HST: Harmonized Sales Tax of 13%; all prices in Canadian dollars

Linen and towels are supplied with each room; however guests are required to bring their own toiletries (soap, shampoo, etc.).

To book a room, delegates are asked to call or email the Kemptville Campus Conferencing office directly (613-258-8336 ext. 61234 / events@kemptvillecampus.ca). A credit card is required for reservations.

For more information, please see: www.kemptvillec.uoguelph.ca/conference/accommodations

Other Accommodation Options

Several other options exist for accommodations in the region. In addition to the places listed below, there are several small inns and bed and breakfasts in the area.

<p>Clothier Mills Inn 8 Clothier Street East Kemptville, ON K0G 1J0 613-258-0164 clothiermillsinn@cogeco.net http://www.clothiermillsinn.com Prices: \$70 to \$90 Walking distance to campus</p>	<p>Knights Inn Kemptville 4022 County Road 43 Kemptville, ON K0G 1J0 CA 613-258-5939 www.knightsinn.com Prices: \$85 to \$95 About a 5 minute drive from campus</p>	<p>The Baldachin Inn 111 St. Lawrence Street Merrickville, ON, K0G 1N0 613-269-4223 baldachininn@gmail.com www.baldachin.com Prices: \$105 to \$199 About a 20 minute drive from campus</p>
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For other suggestions, please visit: www.explorenorthgrenville.ca/where-to-stay

Getting Here

Kemptville Campus is located just off Highway 416 that runs between Ottawa and Prescott (Ogdensburg on the U.S. side). Downtown Ottawa is 50 km (30 miles) from Kemptville. Travelers can use the following GPS coordinates: 45°00'32.2"N 75°38'24.0"W

Free parking is available on campus for all registrants.

Air travel

Ottawa International Airport (ottawa-airport.ca) is roughly 50 km (30 miles) to the north of Kemptville.

Ogdensburg International Airport (www.ogdensport.com/tabMenu/air.aspx) is 42 km (26 miles) to the south of Kemptville.

Welcome Reception

The Sunday evening welcome reception will be held in the recently renovated Café in the Alumni Hall, Kemptville Campus. This is a wonderful opportunity to catch up with old friends, peers, and to expand your professional network in a relaxed atmosphere prior to the business of the week. The welcome reception will have assorted hot and cold appetizers and a cash bar.

Morning and Afternoon Refreshments

At your arrival to the conference on Monday and Tuesday mornings, fresh coffee and tea will be available. Although breakfast will not be provided to registrants, those staying on campus will have a hot breakfast available in the Café in the mornings prior to the start of the daily activities. Mid-morning, light refreshments will be available during break times. During mid-afternoon breaks, assorted soft drinks, cookies, coffee, and tea will be available.

Monday/Tuesday Lunches

The following is the anticipated menu for the lunches for Monday and Tuesday. Note that vegetarian options are available.

Monday	Tuesday
BBQ boneless chicken breast	Maple baked ham
Rolls and butter	Rolls and butter
Potato salad	Scalloped potatoes
Greek salad and energy salad	Garden tossed salad and hot vegetables
Assorted cold drinks – juice and pop	Assorted cold drinks – juice and pop
Assorted cupcakes	Assorted cupcakes
Coffee and tea	Coffee and tea

Guest Lecture & Industry Panel

Monday morning will feature a guest lecture to be given by Dr. Fernando Preto, the executive director of CanBio, a non-profit organization that promotes the development of bioenergy, biomaterials, and biochemicals. As a Lead Scientist in Biomass and Renewables at Natural Resources Canada, his research has focused on the thermochemical conversion of biomass, in particular on the conversion of biomass using gasification.

On Tuesday morning, an industry panel will explore the expected impact of technological developments on future food production to meet the growing food demand and ensuring sustainable agriculture. The panel will also explore areas that need further research and innovation.

Picnic (Monday Evening)

The Monday evening picnic will be held on the lawns of Kemptville Campus. The meal will be catered by the Kemptville Campus Conferencing Service and will consist of hamburgers and hotdogs, along with assorted vegetables and dip, corn on the cob (if in season), tossed garden salad, baked beans, and tri-colour pasta salad. The vegetarian option includes quesadillas with feta, spinach, and roasted vegetables. Dessert will feature barbequed fruit. Coffee, tea, iced tea and lemonade will be available. Weather permitting, the evening will be capped off with a bonfire.

Awards Banquet (Tuesday Evening)

The awards banquet will be held on the Kemptville Campus on Tuesday evening. The banquet provides the opportunity to present awards for the winners of the graduate student oral and poster presentation competition, the Young Engineer of the Year, and Distinguished Service Award, as well as an opportunity to provide recognition to other achievements by NABEC members over the past year. The menu for the banquet will be:

- Strawberry spinach salad
- Veal or vegetarian cannelloni with a tomato basil cream sauce
- Fresh asparagus
- Maple crème brûlée cheese cake
- Coffee or herbal tea

A cash bar will be available.

Technical Tour (Wednesday)

The technical tour will leave from Bell Hall on the Wednesday morning. Transportation to all locations will be provided, along with a boxed lunch. The tour will end back at Bell Hall. It is expected that the tour will begin at 9:00 AM and be finished by 3:45 PM. The tour will consist of the following stops:

Kemptville Campus research facilities

The Kemptville Campus research facilities tour will consist of visits to the Dairy Education and Innovation Centre (DEIC), the Agroforestry Education Centre, and bioenergy crop plantations. The DEIC is an on-campus working dairy facility that houses a robotic milking machine for the herd. The centre is used as a teaching demonstration area for students as well as for research into animal behavior and animal nutrition studies. The tour will stop at the agroforestry centre where the primary use of the centre is for the production of maple syrup from the campus maple bush. The bioenergy crop plantations include plots of switchgrass, big bluestem, miscanthus, Indian grass, and poplar. Researchers will discuss the different crops and the results to date.

Suntech Greenhouses

Suntech Greenhouses is one of the largest greenhouse operators in eastern Ontario. The greenhouse facility was originally constructed in 1999 and covered 2.3 acres. Since then, it has expanded and now covers 4 acres of land. The facility uses hydroponic techniques to produce several varieties of tomatoes, along with eggplants, mini cucumbers, green beans, and Italian flat beans. More information can be found at their website: www.suntech.ca

Carlmar Holsteins

The tour will conclude with a stop at Carlmar Holsteins. This farm is the site of a greenhouse gas emissions study being performed by researchers from Agriculture and Agri-Food Canada. The researchers will discuss the measurement methods used to capture emissions from the farm. The farm is equipped with a robotic milking system and houses a composting system that converts manure into compost for bedding.

Accompanying Persons Tour

Kemptville is located in the heart of eastern Ontario with close proximity to quaint villages and to Ottawa, the national capital of Canada. One day of the tour will focus on villages close to the Rideau River, including Merrickville, with opportunities to visit artisan shops, galleries, boutiques, historical sites and a variety of charming restaurants. The second day will be spent discovering the heart of the nation's capital. Within walking distance are Parliament Hill, Chateau Laurier, the ByWard Market, the National Art Gallery, and the Rideau Center (for all shopping needs).

Transportation will be provided for those that need it for a nominal fee (roughly \$20/day). Any entrance fees and meals will be the responsibility of the participants. After registration, participants will be contacted with more details on the tour visits and transportation needs.

For more info on the region, please visit www.explorenorthgrenville.ca and <http://www.ottawatourism.ca/en/>

NABEC 2014 Paper Template is also available on the NABEC website. We encourage you to use this template for your paper to be presented at the 2014 conference. Please bring several copies of your paper for those interested.

Sunday, July 27		
14:00		Registration
16:00		NABEC Planning Meeting
18:30		Evening Welcome Reception
Monday, July 28		
08:00		Registration
08:00		General Session I
08:00		Welcome
08:15		Undergraduate Student Presentations
09:00		Break
09:10		Technical Session IA – Graduate Student Oral Competition (concurrent session)
09:15	14-009	Characterizations of Torrefied Poultry Litter Bimal Acharya , University of Guelph
09:25	14-010	Greenhouse Gas Emissions from Cranberry Fields Under Irrigation and Drainage in Quebec Angela S. Grant , McGill University
09:35	14-012	Densification Characterisation of Miscanthus via Torrefaction and Hydrothermal Carbonization for Energy Applications Harpreet Singh Kambo , University of Guelph
09:45	14-013	Greenhouse Gas Emissions from Drip Irrigated Fields Kerri Edwards , McGill University
09:55	14-015	Sustainable Thermal Energy Production for Rice processing in Africa: The potential of Rice Husk Ebenezer Kwofie , McGill University
10:05	14-019	Heat Transfer During Reciprocation Thermal Processing of Canned Particulates - A Single Versus Multiple Particles Study in a Newtonian Fluid Anubhav Pratap Singh , McGill University
10:15	14-022	Energy Conservation on Small Dairy Farms in New York State Pegi M Ficken , Cornell University
10:25	14-023	Fast Methanolysis of Waste Tallow for Biodiesel Production Assisted by Ultrasonication Peter Adewale , McGill University
10:35	14-024	An Analysis of the Hydrology of a Sugarcane Field in Guyana Naresh Gaj , McGill University
10:45	14-025	Application of GLCM approach to Extract Texture Features of Images of Fried Batters Jamshid Rahimi , McGill University
09:10		Technical Session IB – Graduate Student Oral Competition (concurrent session)
09:15	14-029	Anaerobic Co-digestion of Forage Radish and Dairy Manure in Pilot-scale Complete Mixed Digesters Ashley J. Belle , University of Maryland
09:25	14-031	Influence of Biochar Amendment to Soil on its Cone Index Ahmed S. Ahmed , McGill University
09:35	14-032	Influence of Anaerobic Digestion on Ammonia Emissions From Dairy Farms Leigh Evans , University of Guelph
09:45	14-034	Thermal Inactivation Kinetics of Spores of <i>Clostridium difficile</i> in Ground Beef. Jay Arora , McGill University
09:55	14-036	Changes in pH, Invert Sugar and Colour of <i>Arenga pinnata</i> Sap Inneke Victor , McGill University

10:05	14-038	Effects of Fermentation on Finger Millet and Amaranth Grains Sara Najdi Hejazi , McGill University
10:15	14-053	Yet Another Use for ePTFE: Removing and Capturing Ammonia from Stored Liquid Manure Jessica Singh , University of Guelph
10:25	14-057	Anaerobic Digestion of Poultry Manure: Effects of Co-Digestion, Ammonia and Temperature on Biogas Yield Cameron Farrow , University of Guelph
10:35	14-058	Evaluation of SWATDRAIN model for a Fully Tile-Drained Agricultural Watershed Golmar Golmohammadi , McGill University
10:45	14-060	Integrating SWAT and System Dynamics Models for Water Quality Management in the Petite rivière Du Chêne Basin in Quebec Jérome Boisvert-Chouinard , McGill University
11:00		Break
11:15		Keynote - Dr. Fernando Preto, Executive Director, Canadian Bioenergy Association
12:15		Lunch
13:15		Technical Session IIA – General Poster Session (concurrent session)
	14-039	Effects of Nitrogen Fertilizer Application Rate and Seeding Rate on Sorghum and Millet Production Timothy J. Rennie , University of Guelph
	14-040	Wild Blueberry Phenolics: Extraction and Microencapsulation Rojin Dibazar , Dalhousie University
	14-043	Effects of Different Nitrogen Levels and Genetics on Chlorophyll Content in Warm-Season Grasses in Ontario Ashraf Tubeileh , University of Guelph
	14-055	Effects of Planting Density and Genetics on Production of Sweet Sorghum Ashraf Tubeileh , University of Guelph
	14-070	Irrigated Vegetable Production in Guyana and St. Kitts-Nevis Chandra A. Madramootoo , McGill University
	14-071	Determining Irrigation Requirements in Guyana and St Kitts using the McGill IRRIMOD® Soil Water Balance Model Chandra A. Madramootoo , McGill University
13:15		Technical Session IIB – Graduate Student Poster Competition (concurrent session)
	14-006	Quantifying Post-Harvest Quality Changes of Fresh Crops as Affected by Temperature Fluctuations During Handling Process Patrick E. Cortbaoui , McGill University
	14-008	Odor Classification Using Sensor Fusion of eNose and zNose Measurements Utilizing Neural Networks Fangle Chang , Pennsylvania State University
	14-017	Influence of Biochar Pyrolysis Temperature and Feedstock on Carbon Recalcitrant Capability Yulin Hu , McGill University
	14-020	Overall and Fluid-to-Particle Heat Transfer Coefficients Associated With Canned Particulate Non-Newtonian Fluids During Reciprocation Agitation Thermal Processing. Anika Singh , McGill University
	14-026	Microwave-Vacuum Finish Drying of Fresh and Microwave-Osmotic Dehydration (MWOD) Pretreated Whole Cranberries Derek Wray , McGill University

	14-028	Do the Promises Hold True? - Assessing the newer class EC155 closed-path infrared H ₂ O/CO ₂ gas analyzer Samantha Piquette , Carleton University
	14-030	A Comparison of Spring and Fall Applied Raw Dairy Manure and Digestate on N ₂ O Emissions and N Leaching Emily Schwager , University of Guelph
	14-035	Mathematical Modelling of Thin Layer Drying Kinetics of Broccoli Stalk Slices Nora Salina Md Salim , McGill University
	14-044	Evaluation of a Constructed Wetland System Treating Agricultural Wash-Water from a Potato Storage Facility Vera K Bosak Zurowsky , University of Guelph
	14-045	Microwave Assisted Freezing of Poultry Meat Jia You , McGill University
	14-046	Utilization of Extended DLVO Theory to Understand Protein Surface Interactions in Food Industry Environments Nikhil Hiremath , McGill University
	14-049	Microbiological Contamination of Irrigation Water Supplies Divya Gupta , McGill University
	14-054	Performance of a Subsurface Wetland in the Treatment of Dairy Farm Washwater and Manure Run-off Heather Bromley , University of Guelph
	14-056	Comparison of Thermal Destruction Kinetics of <i>Clostridium difficile</i> in Ground Pork and Ground Turkey Pooja Puthran , McGill University
	14-059	Using SWAT Model to Quantify the Effect of Water Management Practices Golmar Golmohammadi , McGill University
	14-062	Gasification of Waxed Cardboard Feedstock Using an Air Blown Down Draft Reactor Edris Madadian , McGill University
	14-063	Molecular Modeling and its Use in Food Protein Studies Ashutosh Singh , McGill University
	14-064	Food Processing Techniques and Their Effect on the Structural-Functional Properties of Food Proteins Sai Kranthi Kumar Vanga , McGill University
14:45		Technical Session III
14:50	14-033	An Update on the Continued Development of a Hydraulically-Powered Magnetic Resonance Elastography System: Application, Power Delivery, and Control F. Paul Lee, Jr. , Ohio State University
15:00	14-003	Respiratory Resistance Before, During, and After Exercise Art Johnson , University of Maryland
15:10	14-004	Prevention and Control of Biofilms in Food Industries - BioNanotechnology Approaches Suresh Neethirajan , University of Guelph
15:20	14-005	Constructing Homes in Haiti Robert Thompson , USDA-NRCS
15:30	14-007	Evaluation of a Fungal Bioreactor as an Innovative Technology to Remove <i>E. coli</i> from Aqueous Manure Waste Streams Anastasia E M Chirnside , University of Delaware

15:45		Break
16:00		Technical Session IV
16:05	14-011	BioRenewable Systems Programs at Penn State Paul Heinemann , Pennsylvania State University
16:15	14-014	Bioprocessing for the Production of Value Added Products from Marine Processing Waste: A Biorefinery Approach for Sustainability Deepika Dave , Memorial University of Newfoundland
16:25	14-037	Nutrient partitioning in biomass crops Timothy J. Rennie , University of Guelph
16:35	14-018	Technology Needs Assessment For Adaptation And Mitigation Of Climate Change In Agriculture: A Case Study Analysis Of Viet Nam And Thailand William Ritter , University of Delaware
16:45	14-021	Permitting Wetland Restoration & Creation, A Case Study Heather L. Smeltz , USDA-NRCS
18:00		BBQ – on lawns of the Kemptville campus
Tuesday, July 29		
08:00		Registration
08:00		Welcome/Housekeeping
08:10		Technical Session V
08:15	14-050	Update of MRI Compatible Treadmill John Arnold , Ohio State University
08:25	14-016	A Critical Analysis Of The Plan To Restore The Everglades' Ecosystem William Ritter , University of Delaware
08:35	14-041	Microwave Assisted Solar Vapor Absorption Systems for Sustainable Cold Chain in Oman - A Feasibility Analysis Satyanarayan R.S. Dev , A' Sharqiyah University
08:45	14-042	Genotype and Nitrogen Effects on Miscanthus Growth and Production in Eastern Ontario Ashraf Tubeileh , University of Guelph
08:55	14-047	The Design and Installation of Irrigation Reservoirs to Replace Surface Water Sources in Northern Maine in Order to Minimize Aquatic Habitat Impacts. Daniel J. Baumert , USDA-NRCS
09:05	14-027	Design and Testing of Smaller-Scale Anaerobic Digesters for US dairy farms Stephanie Lansing , University of Maryland
09:15		Break
09:35		Technical Session VI
9:40	14-048	Summary of Miscanthus and Switchgrass Combustion in a Small Automatic Biomass Boiler Terrence Sauv�� , OMAF
9:50	14-001	Opportunities and Issues for Advanced Education in the Bioenergy Sector: Professional Master's and Certificate Programs at Penn State Daniel Ciolkosz , Pennsylvania State University
10:00	14-051	An Overview of the Prospects for Coriolis Mass Flow Meters in the Agri-Food Sector Gashaw Ayalew
10:10	14-052	Methane Emissions From Manure Storages on Two Canadian Dairy Farms Hambaliou Bald�� , Agriculture and Agri-Food Canada
10:30		Break
10:45		Panel Discussion: Future of Technology in Agricultural Production and Sustainability
12:00		Lunch

13:00		Technical Session VII
13:05	14-061	Biochar Production From the Solid Fraction of Pig Manure as an Environmental Management Solution Patrick Brassard , McGill University
13:15	14-062	Gasification of Waxed Cardboard Feedstock Using an Air Blown Down Draft Reactor Edris Madadian , McGill University
13:25	14-065	Effect of Harvesting Time and Moisture Content on Energy Consumption of Compressing Switchgrass Jude Liu , Pennsylvania State University
13:35	14-066	Effect of Eggshell Pigmentation on Hyper-Spectral Properties and Characteristics of Brown Chicken Eggs Adeyemi Olutoyin Adegbenjo , McGill University
13:45	14-067	Role of Biochar in Reducing the Pollution of Nonylphenol and Veterinary Antibiotics in Agricultural Soils Eman ElSayed , McGill University
13:55	14-068	Opportunities for Technical Service Providers (TSPs) for Planning, Designing and Installing On-farm Works of Improvement. Wayne Bogovich , USDA-NRCS
14:15		Break
14:35		Technical Session VIII
14:40	14-069	Pitfalls of Solar Drying in Developing Countries Donald G. Mercer , University of Guelph
14:50	14-072	Infiltration Capacity as a Function of Rainfall Intensity Glenn S. Warner , University of Connecticut
15:00	14-073	Economic Analysis of Bioenergy Supply Chains in the Northeastern United States Jingxin E. Wang , West Virginia University
15:10	14-002	The New Cost of Conducting Business Art Johnson , SweetAire Farm
15:30		NABEC Business Meeting
18:00		Reception & Awards Banquet
Wednesday, July 30		
08:00		Technical Tours -Kemptville Campus research facilities Dairy Education and Innovation Center Agro-forestry Education Centre Bioenergy plots - SunTech greenhouses - Carlmar Holsteins