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a local chapter of NORTH CAROLINA STATE BEEKEEPERS ASSOCIATION, INC.

Meetings & Programs

- Tuesday, January 12, 6:30 (covered dish meal) Richard Flanagan of Mecklenburg County Beekeepers Association will give a presentation about an alternative pollinator, the Blue Orchard Bee, also known as the Mason Bee. Come give Richard a hearty Guilford County welcome.
- Tuesday, February 9, 7:00 p.m. (no meal) Wooden Ware choices. No featured speaker this month. However we will be extending an invitation to members of the 2010 Beginner Beekeeping class to come and meet with this months "mentors" and with other club members to talk about equipment options and choices. We will have a variety of wooden ware and equipment at the meeting and "mentors" prepared to answer questions and give reasons for equipment choices they have made. This exchange will give new beekeepers a chance the see and feel the materials and meet other beekeepers.
- Tuesday, March 9, 6:30 p.m. (covered dish meal) Wally Swaim will present his program on removing bees and comb from structures, called "cut outs". He has many years of experiences which he is willing to share with our club. Think about some questions and see if you can stump Wally!

Artides of interest

U of G Using Math to Study Bees

by: <u>University of Guelph</u> | Dec 9th, 2009

December 09, 2009 – News Release
If you wanted to build better beehives or improve crop pollination, you'd probably talk to beekeepers and biologists. But mathematicians? At the <u>University of Guelph</u>, experts in <u>bees</u> and numbers are working together on studies of hive design, pollination webs and <u>disease transmission</u>. "This may be the only math apiculture working group worldwide," said mathematics

and statistics professor Hermann Eberl. He and other department members are now helping researchers in U of G's School of Environmental Sciences to solve problems in hive geometry, viral disease infection and pollination webs. Their work may assist everyone from beekeepers tending hives to ecologists protecting threatened pollinator habitat.

Make happier bees, goes the thinking, and you'll produce happier beekeepers — not to mention healthier consumers and a healthier food industry largely reliant on bees and other pollinators to help produce each year's harvest. Eberl, post-doc Rangarajan Sudarsan and Cody Thompson, a biophysics master's student, are modeling air flow in beehives. Bees keep their hive temperature at a just-so range around 35 degrees by vibrating their wings to generate heat. A couple of degrees higher and the <u>developing</u> brood will die. Too cool and the brood may still develop but the bees will take longer to mature. "The brood chamber is held within very narrow constraints, like human body temperature," said retired environmental sciences professor Peter Kevan.

Air flow also alters concentrations of oxygen, carbon dioxide and water vapour. It may also impact transmission of disease, such as viruses carried by parasites that scientists believe have



devastated bee colonies in North America in recent years.

Guelph statistics professor Ayesha Ali is studying interactions between plants and pollinators through pollination webs. Pollination involves thousands of species of plants and animals, including bees. Teasing out which insects work with particular plants quickly becomes a complex problem, she says. "That's where the math challenges lie. It's a huge network."

Ali hopes to develop models to help biologists understand how problems such habitat loss, forest fragmentation or non-native species introduction can affect plant-pollinator interactions.

Worldwide, insect pollination is worth about \$217 billion a year in food and fibre production. Researchers from across Canada belong to the Canadian Pollination Initiative (NSERC-CANPOLIN) based at U of G. Funded by a five-year, \$5-million grant from the Natural Sciences and Engineering Research Council, the organization aims to stem the growing problem of pollinator decline in agricultural and natural ecosystems in Canada, said Kevan, scientific director of the national research group.

The Guelph bee-math research collaboration began when Thompson, then an undergrad in environmental engineering, started a co-op placement in environmental biology. Working with Kevan, he adapted <u>computing software</u> for simulating building airflow to study air circulation in beehives.

Thompson is now studying the problem with Eberl. Referring to occasional visits to beehives on campus, he said: "I've been stung a few times but it's worth it."



Bee Culture is now available on line!

- Don Hopkins, State Inspector: (336) 376-8250
 Guilford County Beekeepers Association web site
- www.guilfordbeekeepers.org
 North Carolina State Beekeepers Association
 www.ncbeekeepers.org



Guilford County Beekeepers Association

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Norman Faircloth, editor (nfaircloth@northstate.net)

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