



*Beekeeping  
Institute*

---

*2017*



**MAY 10-13**

# ABOUT THE INSTITUTE

This marks the 26th year of the partnership between Young Harris College and the University of Georgia Honey Bee Program to provide one of the largest and most comprehensive beekeeping educational events in the southeastern United States. Due to last year's successful event, and comments from attendees, we have decided to keep the extra day in order to fit everything in!

As always, our objective is to create an educational event that fits the needs of everyone, whether you're an experienced beekeeper or you're interested in getting your first hive. The Institute sponsors two additional and optional training opportunities – the Georgia Master Beekeeper Program and the Welsh Honey Judge certification Program. Details for these optional programs are included in this booklet.

The Institute proper, which takes place Thursday, Friday and Saturday, consists of lectures and workshops covering a vast range of beekeeping topics. Wednesday, May 10 is dedicated to training and examinations for the Welsh Honey Judge program as well as the three highest grades of the Master Beekeeper Program – Journeyman, Master,

and Master Craftsman. Training and exams for the Certified level are incorporated into the normal activities on Thursday, Friday, and Saturday, and classes recommended for Certified candidates are highlighted in blue.

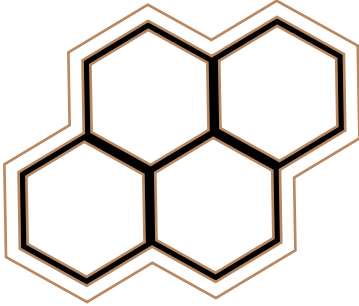
In 2015, our Institute's footprint increased drastically by adding the new 121,000 square ft. Rollins Campus Center, located directly across the street from our long-time home, Maxwell Center. Classes will be held in both locations, so be sure to check the map in the back of this program for classroom locations.

One of the most rewarding opportunities at the Institute is the annual Honey Show. Along with honey, the Honey Show accepts entries in photography, art, candles, section comb honey, mead, and beekeeping gadgets. We urge students to participate in the Honey Show, even if you've never competed before. It costs nothing extra, and it's a fun way to see how your honey compares to others'. You can find the Honey Show rules in this booklet and on our website.



*Thanks for joining us as we celebrate 26 years!*

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## THANKS FOR JOINING US!

On behalf of the speakers and staff, thank you all so much for joining us for the 26th University of Georgia and Young Harris College Beekeeping Institute!



*Beekeeping  
Institute*

*2017*

# MEET OUR GUEST SPEAKERS



*Lewis Bartlett*



*Dr. Berry Brosi*



*Dr. Clarence E. Collison*



*Dr. Debbie Delaney*

## **Lewis Bartlett**

Hailing from Britain, Lewis is an infectious disease biologist and honey bee scientist. He is a PhD student at University of California Berkeley and working with Emory University, University of Georgia and University of Exeter (UK), to better understand how honey bee diseases might be evolving in response to varroa, migratory beekeeping operations and common beekeeping practices. Lewis uses mathematical models to make predictions about how bee diseases should behave which, with the aid of the UGA bee lab, are then matched against what we see in experimental hives.

## **Dr. Berry Brosi**

Dr. Brosi is Winship Distinguished Associate Professor in the Department of Environmental Sciences, Emory University. The goal of his research program is to understand the causes and implications of bee declines, for both native bees as well as managed honey bees.

His work addresses topics such as: the effects of land-use change on bee communities, the impacts of bee species losses on plant pollination in diverse natural communities, the conservation and landscape genetics of bees, and understanding and managing disease threats in bees. His lab uses a range of scientific approaches including comparative and manipulative field studies, controlled laboratory experiments, mathematical modeling, population genetics, stable isotope studies, and GIS and remote sensing.

## **Clarence H. Collison**

Clarence is an Emeritus Professor of Entomology and Emeritus Head of the Department of Entomology and Plant Pathology at Mississippi State University. Before that he was an extension entomologist at The Pennsylvania State University where he served as a beekeeping/pollination specialist and livestock entomologist. His Bachelor of Science, Master of Science and Ph.D. (all in entomology) degrees were from Michigan State University. Both his M.S. and Ph.D. degrees specialized in Apiculture; studying nectar secretion and factors affecting bee behavior and pollination of pickling cucumbers. His areas of research emphasis focused on the effects of insecticidal sprays on honey bee foraging, factors that regulate drone production in honey bee colonies, pollination of birdsfoot trefoil and the distribution of varroa mites within the colony. He writes the monthly column "A Closer Look" and prior to that "Do You Know?" for Bee Culture, conducts numerous workshops around the country and frequently judges honey shows. His book "What Do You Know?" was published in 2003.

## **Dr. Debbie Delaney**

Deborah Delaney is Associate Professor in the Department of Entomology and Wildlife Ecology at the University of Delaware where she mentors graduate and undergraduate students working on various aspects of pollinator health and productivity. She teaches Insects and Society and Apiculture and Pollination Ecology. She has over 20 years of experience working with pollinators,



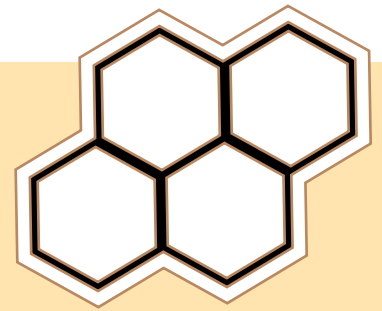
*Dr. David Jenkins*



*Dr. Geoff Williams*



*Michael Young*



specifically honey bees, and maintains between 25–60 colonies in the teaching apiary at UD’s Newark farm. Her research program has four main focal areas: genetic identity and diversity of US honey bees, temporal stability of pollinator populations, and best management solutions for creating sustainable managed pollinator populations, and pollinator nutrition and forage mapping.

### **Dr. David Jenkins**

Dr. David Jenkins studied Entomology and Plant Pathology at Clemson University and continued to study entomology at Montana State University and the University of Georgia. He worked for the University of Georgia as a research entomologist with a focus on pest management in peaches. He then worked for the USDA Agricultural Research Service in Mayaguez, Puerto Rico studying the pests and pollinators impacting tropical fruit crops. Now he works for the South Carolina Forestry Commission as the Forest Health Coordinator, working with landowners statewide to protect South Carolina’s forests.

### **Dr. Geoff Williams**

Born and bred in Canada, Geoff experienced his first bee sting at the ripe age of 23. He has been hooked ever since. His graduate studies at Canada’s Dalhousie University improved our understanding of the fungal parasite *Nosema ceranae*, and his post-doc work at Switzerland’s University of Bern and Agroscope was the first to discern the potential damaging effects of neonicotinoids on honey bee reproduction.

Now as an Assistant Professor in the Department of Insect Pollination & Apiculture at Auburn University, Geoff represents the College of Agriculture’s first faculty member that specializes in bee health. In addition to typical research and teaching duties, Geoff is an enthusiastic member of the honey bee research consortium COLOSS ([www.coloss.org](http://www.coloss.org)), acting both as an Executive Committee member and Vice President. He is also an Editorial Board Member of Scientific Reports and an Adjunct Professor at Chiang Mai University, Thailand.

### **Michael Young**

Michael lives in a Georgian Royal Village in Hillsborough, Northern Ireland. A Georgia Master Beekeeper and keeper of bees for over 30 years he is also a chef and works at the Belfast Hilton. In the year 2000, Michael Founded the Institute of Northern Ireland Beekeepers modeled on the Young Harris Beekeeping Institute after his first visit to Young Harris and the States in 1999. A Senior Honey Judge and expert showman in exhibiting beekeeping products across the world, he has collected over 800 prize cards for his wares. He is skilled in many areas of apiculture including beeswax encaustic painting and mead making. A lover of nature, gardening and photography, he also has a passion for orchids and painting in oils and watercolors. In 2008 Michael was awarded the title of Member of the British Empire, MBE, for his services to apiculture and conservation. Michael was invited as a Beekeeper Advisor to the Obama White House. However, Michael’s most proud accomplishments are his 4 beautiful daughters, 5 granddaughters, and 1 grandson phew!!!

# MEET OUR STAFF & INSTRUCTORS



**Dr. Paul Arnold**  
*Institute Co-Founder, Professor  
Young Harris College*



**Kim Bailey**  
*Environmental Educator*



**Jennifer Berry**  
*UGA Bee Lab  
Apicultural Research Manager*



**Bob Binnie**  
*Blue Ridge Honey Company*



**Robert Brewer**  
*Institute Co-Founder  
Retired Towns County Extension*



**Mary Cahill-Roberts**  
*Georgia Master Beekeeper  
Pediatric Nurse Practitioner*



**Dr. Keith Delaplane**  
*Institute Co-Founder, Professor  
University of Georgia*



**Dr. Will Dix**  
*Emergency Physician  
ACEP Fellow*



**Keith Fielder**  
*Putnam County Extension  
WHJ Program Director*



**Lonnie Funderburg**  
*Two-Term President Alabama  
Beekeepers Association*



**Jack Garrison**  
*UGA Bee Lab Technician*



**Cindy Hodges**  
*Past President of Metro Atlanta  
Beekeepers  
Georgia Master Beekeeper*



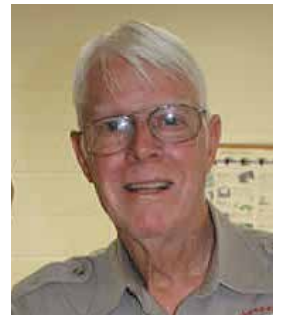
**Slade Jarrett**  
*Jarrett Apiaries*



**Will Johns**  
*UGA Bee Lab Technician*



**Marybeth Kelley**  
*Show Secretary*



**Will Montgomery**  
*Georgia Master Beekeeper*



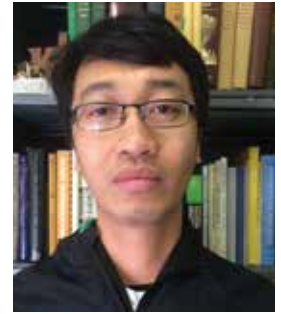
Julia Mahood  
*Georgia Master Beekeeper, Urban Farmer & Graphic Artist*



Bill Owens  
*Georgia Bee Removal Georgia Master Craftsman*



Jay Parsons  
*Master Beekeeper, Senior Welsh Honey Judge & Beekeeper*



Avry Pribadi  
*UGA Bee Lab Staff & MS student*



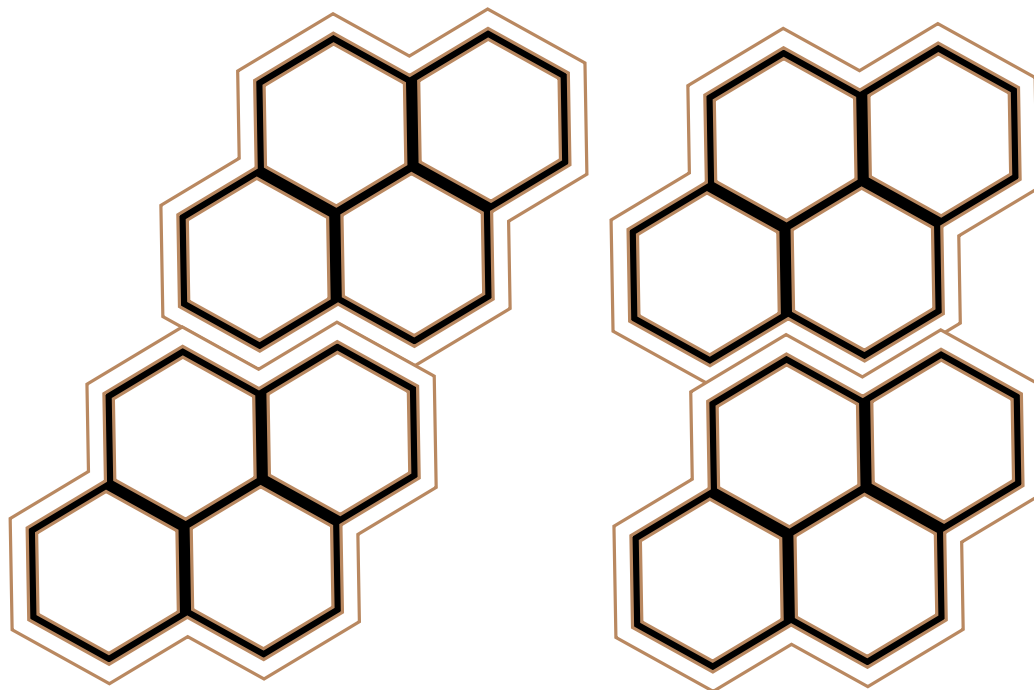
Tom Watson  
*Georgia Journeyman Beekeeper & Active ABA Member*



Nicholas Weaver  
*UGA Bee Lab Apiary Manager*



Lance Wilson  
*Georgia Master Beekeeper*



# GEORGIA MASTER BEEKEEPER PROGRAM

## CERTIFICATION LEVELS:

- Certified
- Journeyman
- Master
- Master Craftsman

## WHERE TO FIND REQUIREMENTS:

[uga.edu/bees/master-beekeeper/index.html](http://uga.edu/bees/master-beekeeper/index.html)

## QUESTIONS/COMMENTS:

Dr. Keith Delaplane at [ksd@uga.edu](mailto:ksd@uga.edu)



In 2017, the Georgia Master Beekeeper Program (GMBP) is offering qualifications at the Certified, Journeyman, Master, and Master Craftsman levels.

If you are interested in beginning this program, sign up for the “Certified exam” during the registration process and attend the conference lectures and exams on Thursday and Friday.

The certified practical exam will also be available Wednesday if you wish to leave more time for classes on Thursday and Friday. The certified level requires one year’s prior beekeeping experience, passing a written exam, and passing a practical exam.

If you are sitting for exams at the Journeyman level or higher, you need to attend the sessions on

Wednesday, which are included in your exam fee.

Applicants to any level must mark their intention on the registration form and pay the appropriate fees. Payment of fee does not guarantee a passing grade. Aspirants to all grades must meet advance requirements detailed on our website (see the link to the left). Applicants at the Certified level must have had at least one year’s beekeeping experience prior to the Institute.

All exam questions are drawn from Institute lectures, lecture notes on the website, and other sources publicly available. It is understood that applicants will bring to the exam a degree of independent and prior knowledge. The official reference text for the program is the 2007 edition of *First Lessons in Beekeeping*, Dadant & Sons.

## IMPORTANT NOTES

- Wednesday’s emphasis is on lectures and exams for Journeyman, Master, Master Craftsman and Welsh Honey Judge candidates. The certified practical exam will be optionally available for those who want to save time on Thursday and Friday. Only those who have registered for one of these exams and have paid the appropriate fees may attend the lectures, audits and exams.
- Certified practical exams are offered by appointment Wednesday from 1-4 p.m., all day on Thursday and Friday morning. Candidates for the Certified Beekeeper certification must complete THREE parts to the exam: inside practical, outside practical (both by appointment), and a written exam on Friday from 1:15-2 p.m.



# WEDNESDAY | MAY 10, 2017

8:00-9:30 a.m.	<b>JOURNEYMAN LECTURES</b> <span style="float: right;">Maxwell 116</span> <b>8:00 a.m.</b> Basic toxicology <i>Geoff Williams</i> <b>8:30 a.m.</b> Products of the hive and honey labeling <i>Nicholas Weaver</i> <b>9:00 a.m.</b> Bees, near-bees and bee nest associates I <i>Keith Delaplane</i>	<b>MASTER LECTURES</b> <span style="float: right;">Maxwell 117</span> <b>8:00 a.m.</b> Valuating pollination <i>David Jenkins</i> <b>8:30 a.m.</b> Varroa resistance mechanisms <i>Keith Delaplane</i> <b>9:00 a.m.</b> State of the art Varroa control <i>Jennifer Berry</i>		
9:30 a.m.	<b>BREAK</b>			
10:00 a.m.-noon	<b>JOURNEYMAN LECTURES</b> <span style="float: right;">Maxwell 116</span> <b>10:00 a.m.</b> Bees, near-bees and bee nest associates II <i>Keith Delaplane</i> <b>10:30 a.m.</b> Disorders I <i>Jennifer Berry</i> <b>11:00 a.m.</b> Disorders II <i>Jennifer Berry</i> <b>11:30 a.m.</b> Highlights for the exam <i>Keith Delaplane</i>	<b>MASTER LECTURES</b> <span style="float: right;">Maxwell 117</span> <b>10:00 a.m.</b> Advanced pathology <i>Debbie Delaney</i> <b>10:30 a.m.</b> Advanced toxicology <i>Geoff Williams</i> <b>11:00 a.m.</b> Drivers of bee decline <i>Debbie Delaney</i> <b>11:30 a.m.</b> Conservation ecology <i>David Jenkins</i>		
Noon.	<b>LUNCH</b>			
1:00-2:00 p.m.	<b>CERTIFIED PRACTICAL EXAMS</b> available by appointment* <i>Staff</i> <span style="color: red;">Maxwell 113, 114</span>	<b>JOURNEYMAN PRACTICAL EXAMINATIONS</b> <i>Will Dix</i> <i>Nicholas Weaver</i> <i>Jack Garrison</i> <span style="color: red;">Maxwell 109</span>	<b>WELSH HONEY JUDGE TRAINING LECTURES</b> <i>Michael Young</i> <i>Keith Fielder</i> <i>Robert Brewer</i> <span style="color: red;">Rollins level 2</span>	<b>MASTER AND MASTER CRAFTSMAN AUDITS</b> <i>Paul Arnold</i> <i>Keith Delaplane</i> <span style="color: red;">Maxwell 116</span>
3:00-4:00 p.m.		<b>JOURNEYMAN AUDITS</b> <i>Bill Owens</i> <i>Jennifer Berry</i> <span style="color: red;">Maxwell 106</span>		
4:00 - 5:00 p.m.	<i>*Certified candidates must sit for two exams: a practical and written. You must sign up for the practical portion at the registration desk. The written exam is Friday at 1:15 p.m.</i>	<b>JOURNEYMAN AND MASTER WRITTEN EXAMINATIONS</b> <i>Jack Garrison</i> <span style="color: red;">Maxwell 117</span>	<b>WELSH HONEY JUDGE EXAMINATION AND AUDITS</b> <i>Micahel Young</i> <i>Keith Fielder</i> <i>Robert Brewer</i> <span style="color: red;">Rollins level 2</span>	

## Color Key

	Journeyman activities		Certified Practical Exams		Journeyman & Master activities
	Master activities		Welsh Honey Judge activities		

# WELSH HONEY JUDGE PROGRAM

## CERTIFICATION LEVELS:

- Level I
- Level II (Senior)

## WHERE TO FIND REQUIREMENTS:

[www.ent.uga.edu/bees/young-harris/certifications.html](http://www.ent.uga.edu/bees/young-harris/certifications.html)

## QUESTIONS/COMMENTS:

Keith Fielder at [kfielder@uga.edu](mailto:kfielder@uga.edu)

The Welsh Bee Keepers Association (UK) partnered with the YHC-UGA Beekeeping Institute in the early 2000s to develop a unique North American version of the honey testing standards employed in the United Kingdom. Compared to American standards, the UK standards are strikingly more “sensory” than analytical. This was the first collaboration of its kind between the USA and the United Kingdom and has since expanded into a sister program with the University of Florida. One can become a certified Welsh Honey Judge (WHJ) in one year. It takes at least one additional year to achieve the rank of Senior WHJ, although candidates for both levels may proceed through the certification process at their own pace.

Please consult the full program description on our website (listed above). If you wish to sit for this training please indicate your intention on the registration form and include the appropriate fee. Questions may be addressed to program director Keith Fielder.



# HONEY SHOW CLASSES

*Honey Show rules are on pages 12 and 13.*

## **EXTRACTED HONEY**

- H1 Three jars Light Honey (*see rules 4, 5 & 6*)
- H2 Three jars Medium Honey (*see rules 4, 5 & 6*)
- H3 Three jars Dark Honey (*see rules 4, 5 & 6*)
- H4 Three jars Chunk Honey (*see rules 4, 5 & 7*)
- H5 Three Jars Creamed Honey (*see rules 4, 5 & 8*)
- H6 Black jar (*see rule 4 & 9*)

## **COMB HONEY**

- H7 Three square sections of honey (*see rule 11*)

## **BEESWAX**

- H8 One piece, not patterned, at least 454g (1lb) weight and at least 25mm (1 inch) thick (*see rule 12*)
- H9 Three matching plain Beeswax Candles, not patterned; all made by molding
- H10 Three matching Beeswax Candles. All to be made by any method other than by molding
- H11 Three matching Beeswax Candles; all made by molding
- H12 Six 28g (1oz) Blocks, matching in all respects

## **CONFECTIONERY**

- H13 Six Small Honey Biscuits or Cookies – not in paper cases (*see rule 14*)

## **MEAD** (*see rule 13*)

- H14 Bottle of Sweet Mead
- H15 Bottle of Dry Mead
- H16 Metheglin or Melomel, etc. – Dry or Sweet (one bottle)

## **MISCELLANEOUS CLASSES**

- H17 Beekeeping Artistry – made by the exhibitor, relating to bees or beekeeping i.e. embroidery, honey pot, painting etc. (not a photograph) (*see rule 17*)
- H18 Photograph of a beekeeping related subject (*see rule 15*)
- H19 Beekeeping gadget (*see rule 16*)

# HONEY SHOW RULES

1. All exhibits are to be staged between 8:00 a.m. – 11:45 a.m. Thursday. Judging commences at **noon**.
2. Staging of exhibits will be carried out exclusively by show stewards. Exhibitors are not allowed in the judging area until after the results are announced. Judges may only enter the judging area once judging has officially commenced.
3. Each individual will certify by a signed affidavit upon making an entry into the institute honey show that said entry was produced directly by the show entrant.
4. Do not label products in any way before arrival. Exhibitors must label every item with the Honey Show Identification Labels supplied. These labels must not be altered, and are to be fixed to honey jars approximately 10–15 mm (0.5”) above the bottom of the jar or mead bottle.
5. All honey and beeswax entries must have been produced by the exhibitor within the last 12 months. This restriction does not apply to entries in mead, photography, art and gadgets.
6. Extracted honey must be submitted in three standard one-pound queenline-type jars. Either plastic or glass is acceptable; jars with tamper-proof seals will be disqualified. All lids in entry must match.
7. Submit chunk honey in three standard one-pound chunk honey jars with wide mouths and straight sides. Insert only one piece of comb per jar.
8. Submit creamed honey in three standard one-pound chunk honey jars with wide mouths and straight sides.
9. Black jar entries must be submitted in a wide mouth 8 oz. Mason jar. Black covers will be given out by the show secretaries upon submission.
10. Beeswax entries must be pure beeswax.
11. Cut comb must be shown in standard clear plastic containers with transparent snap-on lids. Two ID labels should be affixed in specific locations: one to the lid (in the bottom right-hand corner) and the other on the front (at the bottom right of the container).



12. Wax cakes should have two labels affixed in specific locations: one to the underside of the cake, and one to the top of a paper plate, which will be provided by show secretary upon submission.
13. Mead must be submitted in clear, colorless glass, punted bottles of approximately 750 ml capacity with rounded, not sloping, shoulders and without lettering of any kind. Bottles with shallow punts are acceptable. Only t-cork stoppers with plastic flanges are to be used. No alcohol may be added to metheglin or melomel, nor may alcohol or flavoring be added to mead. Additions such as acids, nutrients and tannin may be used. **Metheglin** is honey fermented with spices; **Melomel** is honey fermented with fruit or vegetable juice. Note: the bottles must bear a plain white adhesive label as supplied by the Entries Secretary which specifies the content and whether the entry is sweet or dry.

The label should be placed 25 mm (1 inch) above the ID label (see #4).

14. Biscuits or cookies can be made using your own recipe. The recipe should be included on a 3x5 index card. Submissions should be placed in a bag and should have two labels affixed in specific locations: one to the outside of the bag, and one to the top of a paper plate, both of which will be provided by show secretary upon submission.
15. Photographs can be framed with or without glass or mounted on a piece of stiff card stock (any size). Unmounted or unframed submissions will be disqualified. The identification label and title should be placed below the picture in the middle; submissions must include an accompanying 3x5 index card giving a brief description of the photo. Exhibitors' names must not be shown.
16. Beekeeping gadgets should be accompanied

with a 3x5 index card naming the gadget. The card should also explain the use and function of the gadget. Exhibitors' names must not be shown.

17. Beekeeping artistry should be accompanied by a 3x5 index card titling the work and giving a brief "story" behind the piece. Exhibitors' names must not be shown.
18. Awards: Exhibitors may have more than one entry in a class, but no single entry may be shown in more than one class and an exhibitor shall not be entitled to more than one placed award per class.
19. Judges and stewards are disqualified from the classes they judge. Show secretaries are disqualified from competition.
20. The Honey Show Referee is empowered to:
  - a. Increase the number of awards in any class, should the number and high standards of merit warrant.
  - b. Withhold awards in case of insufficient entries.
  - c. Submit for analysis any exhibit.
  - d. Retain all or any part of any exhibit concerning which a protest has been made, until a decision upon such protest has been taken.
  - e. Decide any question as to the interpretation of the foregoing rules and regulations.
21. The decision of the Show Committee on any matter whatsoever, under or in relation to the foregoing rules and regulations or on any protest or objection in relation thereto or to any exhibit shall be final.



*All hive product entries must be a product of the exhibitors' own bees. Artwork must be produced solely by the exhibitor. All entries will be tasted, burned or handled as applicable.*

**QUESTIONS/COMMENTS:**

Nicholas Weaver at 706-769-1736

8:00-8:15 a.m.	<b>Welcome and opening details</b> <i>Keith Delaplane</i> <i>Rollins Suber</i>							
8:15-9:00 a.m.	<b>Apis in North America</b> <i>Debbie Delaney</i> <i>Rollins Suber</i>							
9:15-10:00 a.m.	<b>Certified Practical Exams Available By Appointment</b> Maxwell 113,114	<b>Queen Biology and Problems</b> <i>Clarence E. Collison</i> Rollins Suber	<b>Parasites</b> <i>Jennifer Berry</i> Rollins Hatcher	<b>Getting started: the principles</b> <i>Lonnie Funderburg</i> Maxwell 106	<b>Pathogens</b> <i>Paul Arnold</i> Maxwell 117	<b>Winter and spring management</b> <i>Tom Watson</i> Behind Maxwell	<b>Encaustic painting</b> <i>Michael Young</i> Maxwell 109	<b>Promoting native bees in the Southeast</b> <i>David Jenkins</i> Maxwell 116
10:15-11:00 a.m.		<b>Honey plants of the Southeast</b> <i>Keith Fielder</i> Rollins Suber	<b>Parasites</b> <i>Lance Wilson</i> Rollins Hatcher	<b>Getting started: the principles</b> <i>Will Dix</i> Maxwell 106	<b>Pathogens</b> <i>Cindy Hodges</i> Maxwell 117	<b>Winter and spring management</b> <i>Bill Owens</i> Behind Maxwell	<b>Encaustic painting</b> <i>Michael Young</i> Maxwell 109	<b>Promoting native bees in the Southeast</b> <i>David Jenkins</i> Maxwell 116
11:15 a.m.-noon		<b>Honey plants of the Southeast</b> <i>Keith Fielder</i> Rollins Suber	<b>Parasites</b> <i>Jennifer Berry</i> Rollins Hatcher	<b>Getting started: the principles</b> <i>Lonnie Funderburg</i> Maxwell 106	<b>Pathogens</b> <i>Paul Arnold</i> Maxwell 117	<b>Winter and spring management</b> <i>Tom Watson</i> Behind Maxwell	<b>Creating Monarch habitats (bees love it too!)</b> <i>Kim Bailey</i> Maxwell 107	<b>Honey bee nutrition</b> <i>Mary Cahill-Roberts</i> Maxwell 116
noon-1 p.m.	<b>Lunch for General Registrants</b> Advance ticket sales will be available in the Rollins lobby. Rollins Cafeteria			<b>Invitational Master Luncheon</b> Open to sitting Master and Master Craftsman beekeepers only. Pre-registration required. <b>Q&amp;A time with speakers</b> Brosi, Collison, Delaney, Delaplane, Jenkins, Williams, Young Rollins third floor student loft				

## IMPORTANT NOTES

- Registration is open Thursday and Friday from 7 a.m. until 5 p.m. and will be closed during lunch.
- Course descriptions can be found on pages 19-21.
- Courses highlighted in BLUE are recommended for beginning beekeepers and/or Certified Exam registrants. Please check your appointment time for practical exams.
- Honey show entries are due by 11:45 a.m. See pages 11-13 for more information.
- Please do not ask Institute instructors for copies of their digital presentations. There are many copyright and intellectual property difficulties.

# THURSDAY | MAY 11, 2017


1:15-2:00 p.m.	Certified Practical Exams Available By Appointment Maxwell 113, 114	<b>What epidemiology can teach us about bee health</b> <i>Berry Brosi</i> Rollins Suber	<b>Biology of individuals</b> <i>Debbie Delaney</i> Rollins Hatcher	<b>Biology of the colony</b> <i>Keith Delaplane</i> Maxwell 117	<b>Getting started: the real thing</b> <i>Will Dix</i> Behind Maxwell	<b>Creating Monarch habitats (bees love it too!)</b> <i>Kim Bailey</i> Maxwell 107	<b>Honey bee nutrition</b> <i>Mary Cahill-Roberts</i> Maxwell 116	<b>Virus and Varroa interactions in Georgia</b> <i>Lewis Bartlett</i> Maxwell 106
2:15-3:00 p.m.		<b>Queen Biology and Problems</b> <i>Clarence E. Collison</i> Rollins Suber	<b>Biology of individuals</b> <i>Geoff Williams</i> Rollins Hatcher	<b>Biology of the colony</b> <i>Lance Wilson</i> Maxwell 117	<b>Getting started: the real thing</b> <i>Jack Garrison</i> Behind Maxwell	<b>Keeping bees alive</b> <i>Slade Jarrett</i> Maxwell 107	<b>Beyond honey: hive products for fun and profit</b> <i>Julia Mahood</i> Maxwell 109	<b>Bee removal from structures</b> <i>Bill Owens</i> Maxwell 106
3:15-4 p.m.		<b>What epidemiology can teach us about bee health</b> <i>Berry Brosi</i> Rollins Suber	<b>Biology of individuals</b> <i>Geoff Williams</i> Rollins Hatcher	<b>Biology of the colony</b> <i>Keith Delaplane</i> Maxwell 117	<b>Getting started: the real thing</b> <i>Will Dix</i> Behind Maxwell	<b>Keeping bees alive</b> <i>Slade Jarrett</i> Maxwell 107	<b>Beyond honey: hive products for fun and profit</b> <i>Julia Mahood</i> Maxwell 109	<b>Bee removal from structures</b> <i>Bill Owens</i> Maxwell 106
4:15 p.m.	<b>Honey Show Awards</b> with ice cream social to immediately follow Rollins Suber							


## GROUP ICE CREAM SOCIAL


### LOCATION

Rollins Suber  
 Immediately following the Honey Show Awards

### Color Key

 Open sessions

 Certified Practical Exams

 Recommended for beginning beekeepers and/or Certified Exam registrants.

 Master activities

8:00-8:15 a.m.	<b>Welcome and opening details</b> <i>Keith Delaplane</i> <i>Rollins Suber</i>								
8:15-9:00 a.m.	<b>Certified Practical Exams Available By Appointment</b> Maxwell 113, 114	<b>Neonics, queens and drones</b> <i>Geoff Williams</i> <i>Rollins Suber</i>							
9:15-10:00 a.m.		<b>The Honey Bee Glandular System/ Colony Development</b> <i>Clarence E. Collison</i> Rollins Suber	<b>All about oxalic</b> <i>Jennifer Berry</i> Rollins Hatcher	<b>Building hive equipment</b> <i>Lonnie Funderburg</i> Maxwell 108	<b>Summer and fall management</b> <i>Nicholas Weaver</i> Behind Maxwell	<b>Basic honey processing</b> <i>Bill Owens</i> Maxwell 117	<b>Ten mistakes new beekeepers make</b> <i>Keith Fielder</i> Maxwell 116	<b>Pollen analysis of honey</b> <i>Paul Arnold</i> Maxwell 109	<b>Varroa management through IPM</b> <i>Lance Wilson</i> Maxwell 106
10:15-11:00 a.m.		<b>The plight of bumble bees in North America</b> <i>Berry Brosi</i> Rollins Suber	<b>Preparing honey for the silver cup</b> <i>Michael Young</i> Rollins Hatcher	<b>Building hive equipment</b> <i>Lonnie Funderburg</i> Maxwell 108	<b>Summer and fall management</b> <i>Will Dix</i> Behind Maxwell	<b>Basic honey processing</b> <i>Bill Owens</i> Maxwell 117	<b>Ten mistakes new beekeepers make</b> <i>Keith Fielder</i> Maxwell 116	<b>Pollen analysis of honey</b> <i>Paul Arnold</i> Maxwell 109	<b>Oxalic acid demo</b> <i>Jennifer Berry</i> <i>Will Montgomery</i> Behind Maxwell
11:15 a.m.-noon		<b>Colony collapse disorder in the tropics</b> <i>David Jenkins</i> Rollins Suber	<b>All about oxalic</b> <i>Jennifer Berry</i> Rollins Hatcher	<b>Building hive equipment</b> <i>Lonnie Funderburg</i> Maxwell 108	<b>Summer and fall management</b> <i>Nicholas Weaver</i> Behind Maxwell	<b>Basic honey processing</b> <i>Bill Owens</i> Maxwell 117	<b>Pieces and parts of a bee hive</b> <i>Bob Binnie</i> Maxwell 116	<b>Top-bar hives</b> <i>Julia Mahood</i> Maxwell 107	<b>Varroa management through IPM</b> <i>Lance Wilson</i> Maxwell 106
noon-12:15 p.m.	<b>Group photo</b> in front of Rollins Image of the group photo can be downloaded from our website at <a href="http://www.ent.uga.edu/bees">www.ent.uga.edu/bees</a> .								
12:15-1:15 p.m.	<b>Lunch</b> Rollins Cafeteria								

## Color Key



Open sessions



Certified Practical Exams



Recommended for beginning beekeepers and/or Certified Exam registrants.



# FRIDAY | MAY 12, 2017

1:15-2:00 p.m.	<b>The Honey Bee Glandular System/ Colony Development</b> <i>Clarence E. Collison</i> Rollins Suber	<b>How to propagate pollinator friendly wildflowers from seed</b> <i>Kim Bailey</i> Rollins Hatcher	<b>Cell-punch method for queen rearing</b> <i>Will Montgomery</i> Maxwell 109	<b>Propolis: applying it for honey bee health</b> <i>Cindy Hodges</i> Maxwell 117	<b>Certified written exam</b> <i>Jack Garrison</i> Rollins Third Floor Student Left	<b>Beekeeping gadgets anybody can make and use</b> <i>Tom Watson</i> Maxwell 116	<b>Mead making</b> <i>Jay Parsons</i> Maxwell 108	<b>Varroa management through IPM</b> <i>Lance Wilson</i> Maxwell 106	<b>Things you need to know before processing honey</b> <i>Bob Binnie</i> Maxwell 107
2:15-3:00 p.m.	<b>The plight of bumble bees in North America</b> <i>Berry Brosi</i> Rollins Suber	<b>Emergent properties in the honey bee colony</b> <i>Keith Delaplane</i> Rollins Hatcher	<b>Cell-punch method for queen rearing</b> <i>Will Montgomery</i> Maxwell 109	<b>Propolis: applying it for honey bee health</b> <i>Cindy Hodges</i> Maxwell 117	<b>Packaging and marketing your hive products</b> <i>Julia Mahood</i> Maxwell 106	<b>Beekeeping gadgets anybody can make and use</b> <i>Tom Watson</i> Maxwell 116	<b>Mead making</b> <i>Jay Parsons</i> Maxwell 108	<b>Cooking with Michael</b> <i>Michael Young</i> Rollins Cafeteria	<b>Things you need to know before processing honey</b> <i>Bob Binnie</i> Maxwell 107
3:15 - 4:00 p.m.	<b>Colony collapse disorder in the tropics</b> <i>David Jenkins</i> Rollins Suber	<b>Creating nesting sites for native bees</b> <i>Kim Bailey</i> Rollins Hatcher	<b>Cell-punch method for queen rearing</b> <i>Will Montgomery</i> Maxwell 109	<b>Small scale commercial beekeeping</b> <i>Slade Jarrett</i> Maxwell 117	<b>Packaging and marketing your hive products</b> <i>Julia Mahood</i> Maxwell 106	<b>How to be a honey show secretary</b> <i>Marybeth Kelley</i> Maxwell 116	<b>Certified Naturally Grown (CNG)</b> <i>Mary Cahill-Roberts</i> Maxwell 108	<b>Cooking with Michael</b> <i>Michael Young</i> Rollins Cafeteria	<b>Apiary safety practices</b> <i>Will Dix</i> Maxwell 107
6:00 p.m.	<b>Group Dinner – Low Country Boil</b> At the Retreat at Hiawassee River (see directions below). Tonight we recognize the new Journeyman, Master, Master Craftsman, and Welsh honey judges.								

## GROUP DINNER INFORMATION



### LOCATION

Hiawassee River Retreat  
 15 Cabin Drive Hiawassee, GA 30546  
 (706) 896-7400  
[www.hiawasseeCabins.com](http://www.hiawasseeCabins.com)

### DRIVING DIRECTIONS FROM YOUNG HARRIS CAMPUS:

- Turn RIGHT onto GA-2 E/US-76 E/Main Street.
- Drive straight for 10.8 miles
- Turn RIGHT onto GA-75 S
- Drive straight for 1.3 miles
- Turn RIGHT onto Cabin Drive
- Immediately turn left and follow signs. Park in the grass behind the pavilion.

*If you are in need of additional directions or assistance, please stop by the registration desk before 5:30 p.m.*

# SATURDAY | MAY 13, 2017

7:00 a.m. -noon	<b>Registration open</b> <i>Rollins Lobby</i>
8:00- 8:15 a.m.	<b>Welcome and Opening Details</b> <i>Keith Delaplane</i> <i>Rollins Suber</i>
8:15- 9:00 a.m.	<b>Take time to smell the roses</b> <i>Debbie Delaney</i> <i>Rollins Suber</i>
9:00- 9:45 a.m.	<b>Genetic Diversity in the Honey Bee Colony</b> <i>Clarence E. Collison</i> <i>Rollins Suber</i>
9:45- 10:00 a.m.	<b>Humans, forests and pollinators</b> <i>David Jenkins</i> <i>Rollins Suber</i>
10:00- 10:45 a.m.	<b>Risk of zika abatement sprays on beekeeping in the Southeast</b> <i>Lewis Bartlett</i> <i>Rollins Suber</i>
11:15	<b>Adjourn, safe travels, and see you in 2018 for our 27th year!</b>

*Thanks for joining us as we celebrate 26 years!*



# COURSE DESCRIPTIONS

## **COURSES ARE LISTED IN ALPHABETICAL ORDER.**

### **ALL ABOUT OXALIC**

Oxalic acid has been used for years in Europe as a Varroa control. Come learn about its efficacy and risks.

### **APIARY SAFETY PRACTICES**

It's 100 degrees, you're miles from home, alone, and the bees are mad. What could possibly go wrong?

### **APIS IN NORTH AMERICA**

A description of the importation history and current distribution of the genus *Apis* in North America.

### **BASIC HONEY PROCESSING**

A live demonstration on processing honey from comb to bottle.

### **BEE REMOVAL FROM STRUCTURES**

Removing bees from hollow walls requires a special skill set, but the rewards can be good. See if bee removal is for you.

### **BEEKEEPING GADGETS ANYBODY CAN MAKE AND USE**

Beekeepers are an innovative lot. Check out these labor-saving gizmos you can make and quickly put to use.

### **BEYOND HONEY: HIVE PRODUCTS FOR FUN AND PROFIT**

Many products can be made with beeswax and propolis. Learn how to use up your wax cappings and create new revenue sources.

### **BIOLOGY OF INDIVIDUALS**

Learn about the amazing life history of the three types of bees that occur in the nest.

### **BIOLOGY OF THE COLONY**

Find out about the life history of a honey bee colony over 12 months.

### **BUILDING HIVE EQUIPMENT**

This is a perennial favorite here at Young Harris, learning basic hive assembly.

### **CELL-PUNCH METHOD FOR QUEEN REARING**

Another perennial favorite - how to rear queens without grafting.

### **CERTIFIED NATURALLY GROWN (CNG)**

How can being CNG registered help your bottom line?

### **COLONY COLLAPSE DISORDER IN THE TROPICS**

CCD is not just for the U.S. See what it looks like in lower latitudes.

### **COOKING WITH MICHAEL**

Back by popular demand, professional chef Michael Young tells his secrets in the Young Harris cafeteria kitchen.

### **CREATING MONARCH HABITAT**

Things you can do to improve the plight of butterflies (and bees) on your property.

### **CREATING NESTING SITES FOR NATIVE BEES**

Wild bees need more than gardens. Simple nest sites you can provide for pollinators in your backyard.

### **EMERGENT PROPERTIES IN THE HONEY BEE COLONY**

A nest of thousands is a fertile field for emergent order - ranging from dance language to hexagonal combs.

### **ENCAUSTIC PAINTING**

An overview and demonstration of the ancient art form of painting with pigmented beeswax.

### **GETTING STARTED: THE PRINCIPLES**

Here's the necessary theoretic background to understanding beekeeping.

### **GETTING STARTED: THE REAL THING**

A live demonstration on how to get a bee colony started in your backyard.

### **HONEY BEE NUTRITION**

Hint: it's more than sugar syrup.

*Continued on next page*

# COURSE DESCRIPTIONS

## **HONEY PLANTS OF THE SOUTHEAST**

An overview of the most important honey plants of our region.

## **HOW TO BE A HONEY SHOW SECRETARY**

The secret behind a successful honey show is a competent and prepared secretary.

## **HOW TO PROPAGATE POLLINATOR FRIENDLY FLOWERS FROM SEED**

Taking pollinator gardens to the next generation.

## **HUMANS, FORESTS AND POLLINATORS**

The unexpected linkages between humans, flora, and fauna - especially the bees.

## **IMPORTANCE OF GENETIC DIVERSITY IN THE HONEY BEE COLONY**

There are numerous direct benefits of a queen mating with multiple unrelated drones. Most importantly are increased colony fitness, greater productivity and disease resistance.

## **KEEPING BEES ALIVE**

Getting a hive started is one thing; keeping it alive and healthy is another.

## **LONG LIVE THE COLONY: HONEY BEE DEFENSE MECHANISMS AGAINST PARASITES**

An overview of honey bee defenses against parasites and how beekeepers can help.

## **MEAD MAKING**

This is what Beowulf drank. Come learn how to make this most ancient of alcoholic libations.

## **NEONICS, QUEENS AND DRONES**

The systemic neonicotinoid insecticides pose a variety of risks to honey bees and other pollinators.

## **OXALIC ACID DEMONSTRATION**

A live outdoor demo on use of oxalic acid for Varroa control.

## **PACKAGING AND MARKETING YOUR HIVE PRODUCTS**

After you extract it, now what? How to make a professional and appealing shelf-ready product.

## **PARASITES**

A primer on the most important macroscopic pests of bees, especially Varroa mite and their treatment.



## **PATHOGENS**

An overview of the chief disease agents of honey bees and their treatments.

## **PIECES AND PARTS OF A BEE HIVE**

Advice from a commercial honey producer on what you need, and what you don't, equipment-wise.

## **POLLEN ANALYSIS OF HONEY**

This class - plus an ordinary stage microscope - will show you how to do it.

## **PREPARING HONEY FOR THE SILVER CUP**

Words from a master British honey judge how to compete at the very highest levels.

## **PROMOTING NATIVE BEES IN THE SOUTHEAST**

Steps any property owner can take to improve wild bee habitat.

## **PROPOLIS: APPLYING IT TO BEE HEALTH**

Long derided by beekeepers, propolis is enjoying a comeback for its health benefits to bees.

## **QUEEN BIOLOGY AND PROBLEMS**

Numerous factors that affect queen quality. We will review several factors that may be responsible for this decline in queen longevity and quality.

# COURSE DESCRIPTIONS

## **RISK OF ZIKA ABATEMENT SPRAYS ON BEEKEEPING IN THE SOUTHEAST**

Benefit: Risk analysis can be complicated and compromising. How to lower zika risk without damaging our pollinators?

## **SMALL SCALE COMMERCIAL BEEKEEPING**

Small scale? Commercial? You have to start where you are. Let this trail-blazer tell you his secrets.

## **SPATIAL AND TEMPORAL PATTERNS TO HONEY BEE DECLINE IN EUROPE**

The U.S. is not alone with bee health issues. Let's hear what our colleagues in Europe are learning.

## **SUMMER AND FALL MANAGEMENT**

Summer can be rich in nectar, or a dearth. Come learn what to watch out for and how to respond.

## **TAKE TIME TO SMELL THE ROSES**

A rhapsody on the joys of beekeeping - with some insights that will make you a better beekeeper.

## **TEN MISTAKES NEW BEEKEEPERS MAKE**

Save yourself needless headache and disappointment and learn what simple mistakes to avoid.



## **THE HONEY BEE GLANDULAR SYSTEM/COLONY DEVELOPMENT**

Secretions of both endocrine and exocrine glands of worker honey bees are tied directly to the division of labor and colony development. These secretions are associated with bee behavior, communication, regulation of metabolic processes, defense and broodnest establishment.

## **THE PLIGHT OF THE BUMBLE BEE IN NORTH AMERICA**

These charismatic native bees have their own set of health risks.

## **THINGS YOU NEED TO KNOW BEFORE PROCESSING HONEY**

Words of advice from a professional honey producer and packer.

## **TOP-BAR HIVES**

A simple hive design ideal for developing countries and gaining popularity in the U.S. too!

## **VARROA MANAGEMENT THROUGH IPM**

Integrated Pest Management uses many means to control mites, not just chemicals.

## **VIRUS AND VARROA INTERACTIONS IN GEORGIA**

Mites are just the beginning of the problem.

## **WHAT EPIDEMIOLOGY CAN TEACH US ABOUT BEE HEALTH**

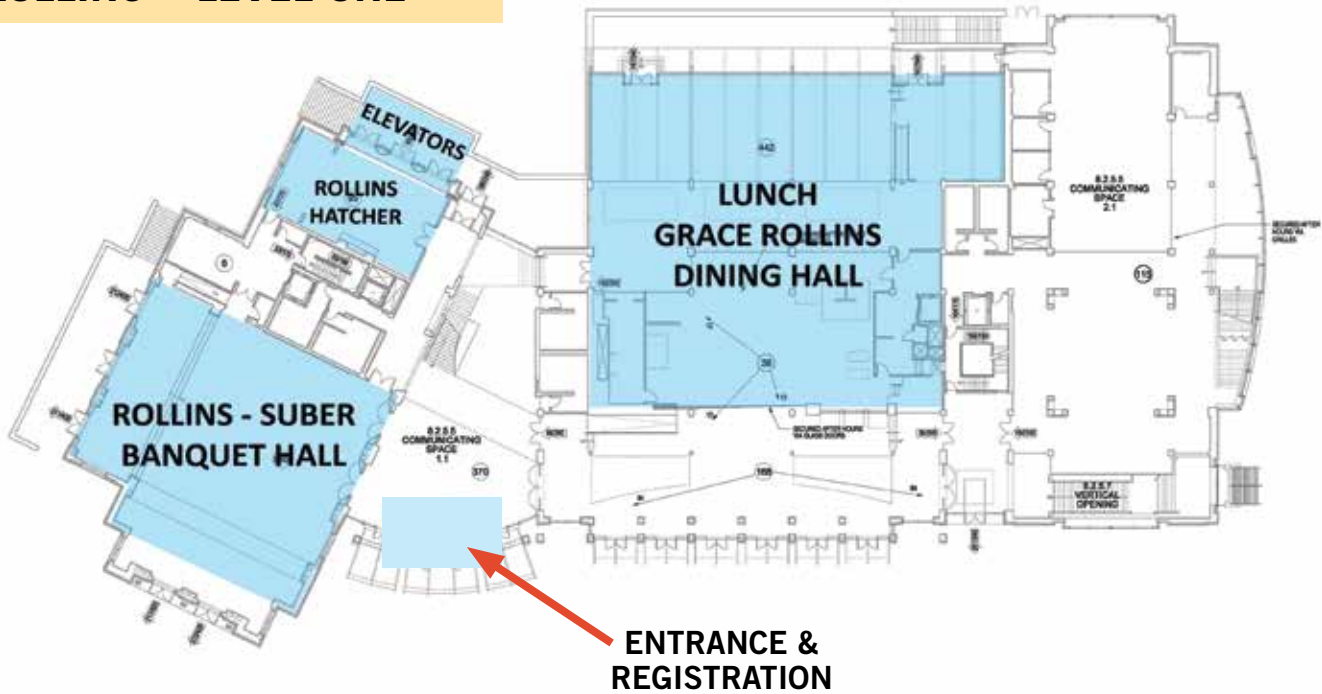
The science of disease spread and virulence can teach us much about colony health at a landscape scale.

## **WINTER AND SPRING MANAGEMENT**

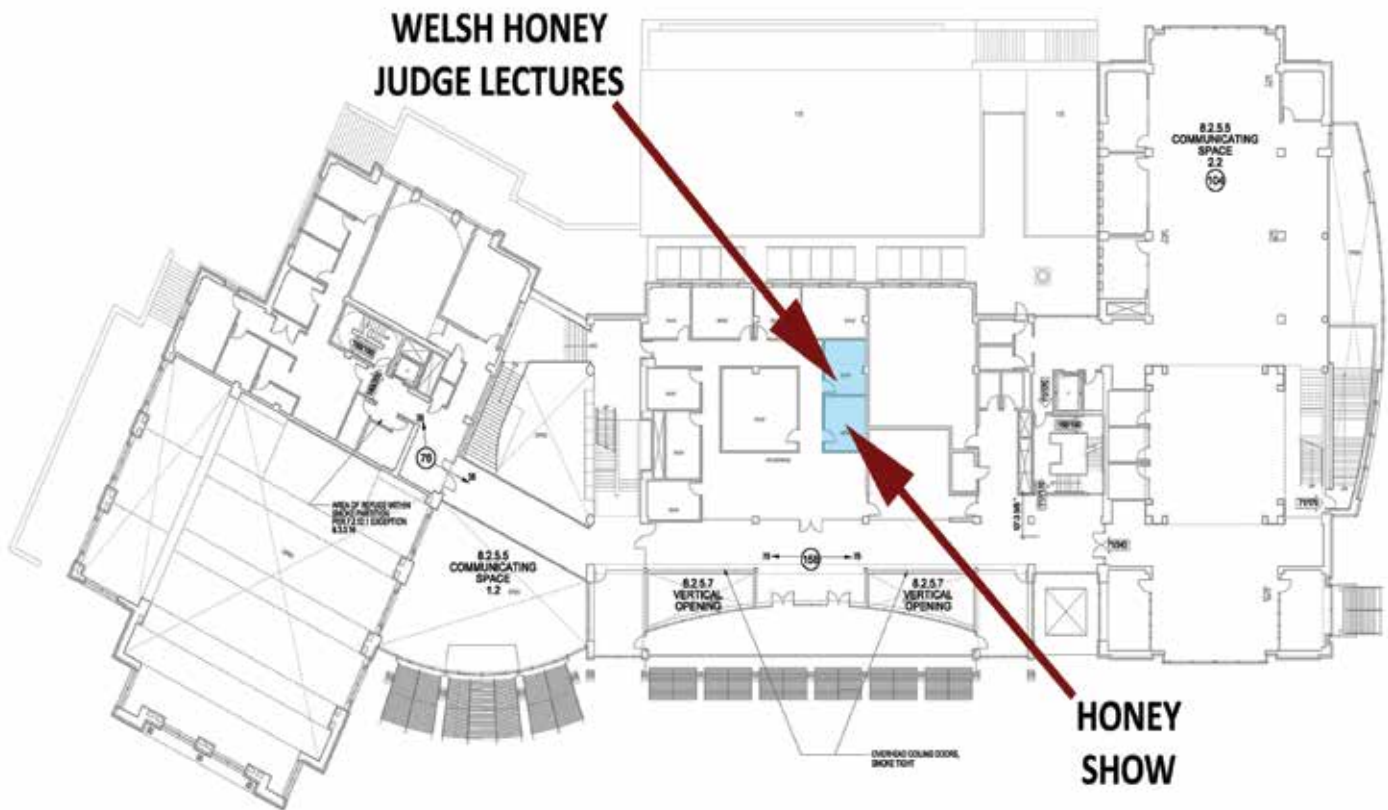
How to keep colonies strong and primed in anticipation of honey production.

# INSTITUTE MAPS

## ROLLINS – LEVEL ONE

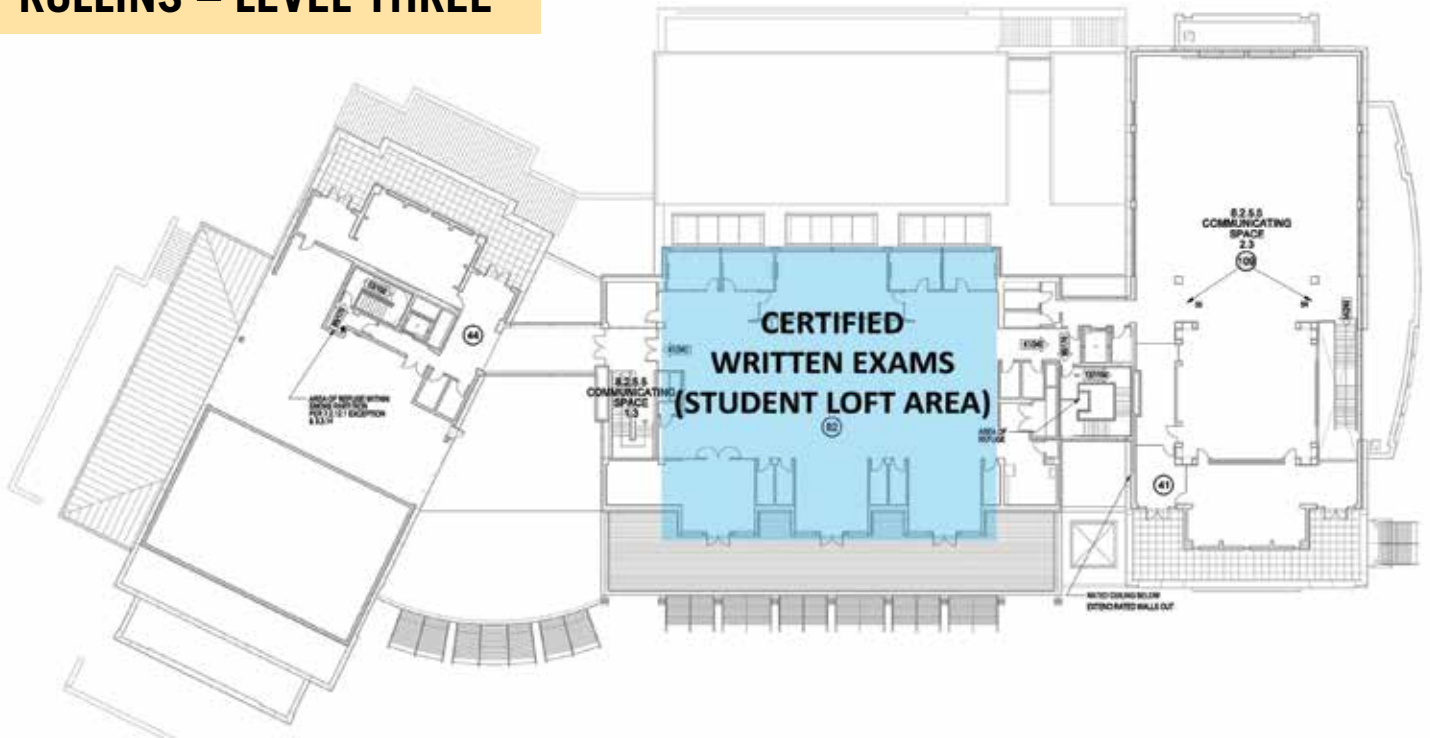


## ROLLINS – LEVEL TWO

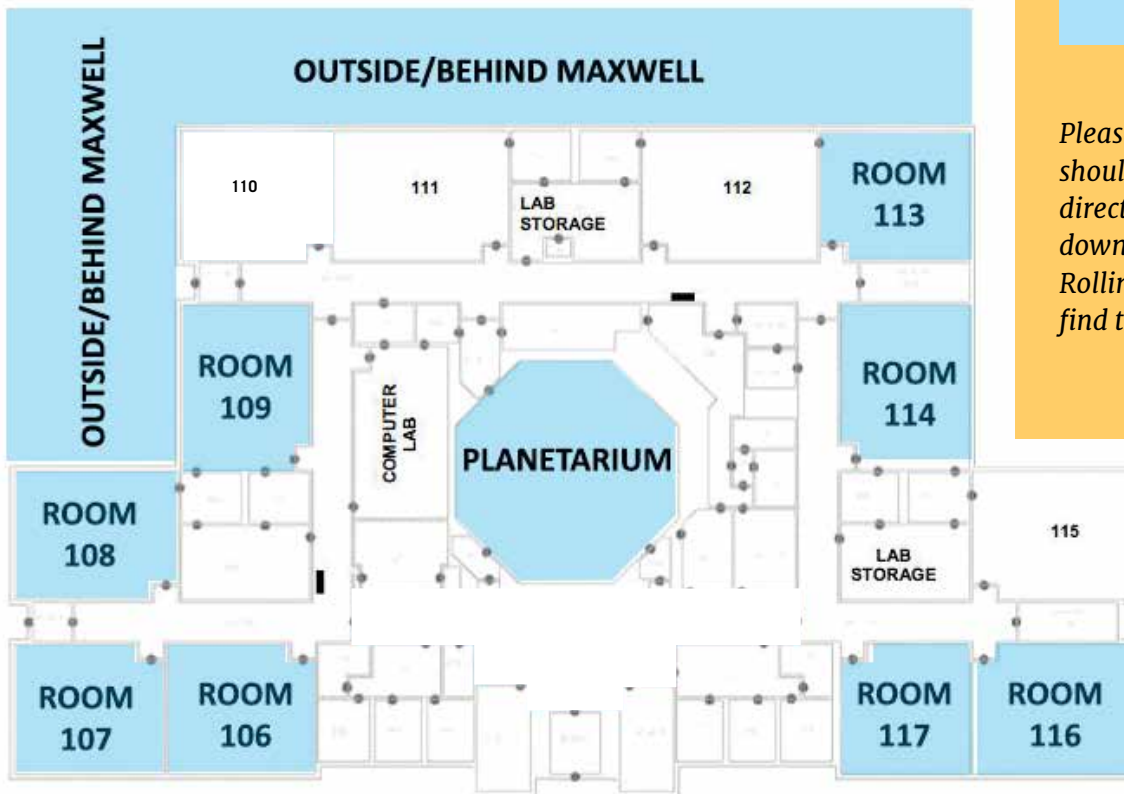



# INSTITUTE MAPS

## ROLLINS – LEVEL THREE

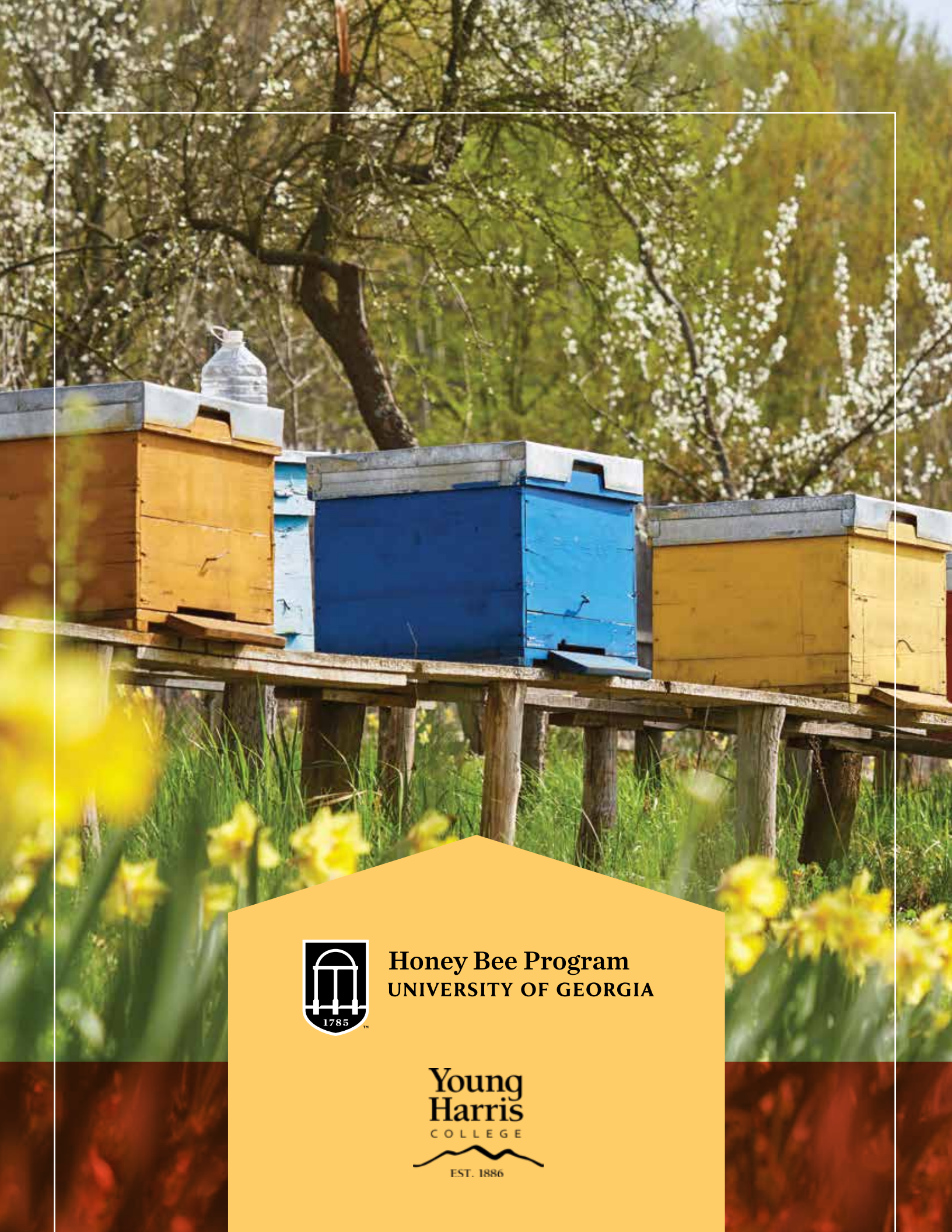


## MAXWELL CENTER



 Classrooms used during the institute

*Please note that there should be an electronic directional sign in the downstairs lobby of the Rollins Center to help you find the classrooms.*



**Honey Bee Program**  
**UNIVERSITY OF GEORGIA**

**Young  
Harris**  
COLLEGE



EST. 1886