

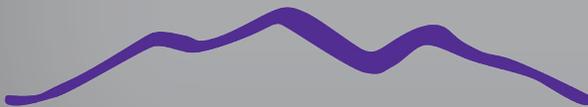
24<sup>TH</sup> ANNUAL

# Beekeeping Institute

MAY 14 - 16, 2015

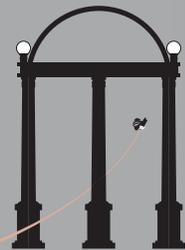
Sponsored by Young Harris College  
and the University of Georgia  
Honey Bee Program

Young  
Harris  
COLLEGE



EST. 1886

University of Georgia



Honey Bee  
PROGRAM

# About the Institute

Young Harris College and the University of Georgia are offering the twenty-fourth annual Beekeeping Institute, May 14-16, 2015 in Young Harris, Georgia.

The Institute is one of the largest and most comprehensive beekeeping educational events in the Southeast. Our objective is to create an educational event that fits the needs of everyone, whether you're experienced or a beginner. 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 program.

The Institute proper, Friday and Saturday, is two days of lectures and workshops covering a range of beekeeping topics. Thursday May 14 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 (entry) level are incorporated into the normal activities for Friday and Saturday, and classes recommended for Certified candidates are highlighted in blue.

2015 marks a significant expansion in the facilities available to the Institute: the new 121,000 square foot Rollins Campus Center, located directly across the street from our long-time home, Maxwell Center. Classes and lectures will be held in both buildings.



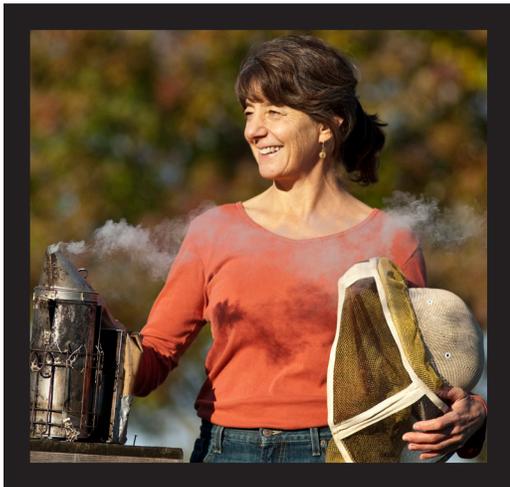
With the addition of the Rollins Center we are delighted to raise our enrollment ceiling to 200. But if history is any indication, spaces will fill up fast. In 2014, registration began March 5 and filled by March 24. **Sign up early!**

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 on page 6 of this program.

We look forward to seeing you at the 2015 Beekeeping Institute!



# Meet our Guest Speakers

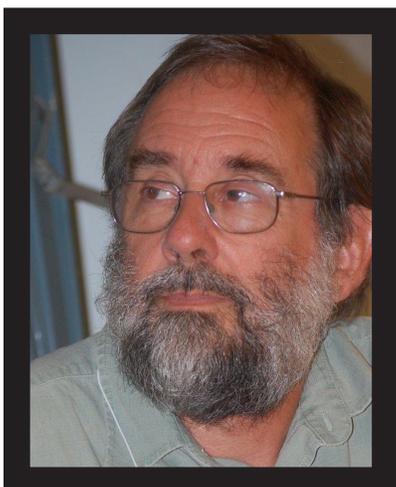


## **Marla Spivak, Ph.D.**

Dr. Marla Spivak is MacArthur Fellow and Distinguished McKnight Professor at the University of Minnesota. Marla's interest in bees began while she worked for a commercial beekeeper in New Mexico. She later completed her B.A. in Biology at Humboldt State University and her PhD at the University of Kansas. She spent two years in Costa Rica conducting her thesis research on the identification and ecology of Africanized and European honey bees. She began as Assistant Professor at the University of Minnesota in 1993. Influenced by Martha Gilliam and Steve Taber from the USDA Bee lab in Tucson, she became interested in hygienic behavior of honey bees. This interest has expanded into studies of "social immunity," including the benefits of propolis to the immune system of honey bees. In June 2013 she presented for the prestigious TED series "Why bees are disappearing," which you can view at this link: <http://bit.ly/1zkcmEd>.

## **Elizabeth (Izzy) Hill**

Izzy Hill is founder and director of the Center for Bee Research, a 501(c)3 research-based nonprofit based out of Washington, DC. Her research combines aspects of entomology, ecology, and the social sciences to create opportunities for beekeepers to participate in honey bee research. Currently, she is working with her research team to examine how beekeepers can best use and rear their own beneficial nematodes as a biocontrol option for controlling small hive beetles. In spring 2014, her team launched an online platform, **Bugonia.com**, where beekeepers can actively participate in large-scale honey bee research studies using their own hives.



## **Thomas Webster, Ph.D.**

Dr. Tom Webster is Associate Professor in the College of Agriculture, Food Science, and Sustainable Systems at Kentucky State University where he has responsibilities in honey bee research and state-wide beekeeping extension. Tom is a co-founder of the Heartland Apicultural Society, a leader in national bee education networks such as BIP and CAP, and a recognized authority in honey bee IPM, especially Nosema disease.

# About the Georgia Master Beekeeper Program

In 2015 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" on the registration form and attend the conference lectures and exams on Friday and Saturday. If you are sitting for exams at the Journeyman level or higher, then you need to attend the sessions on Thursday. 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. Questions about the program may be addressed to GMBP director Keith Delaplane at [ksd@uga.edu](mailto:ksd@uga.edu). Aspirants to all grades must meet advance requirements detailed at <http://www.ent.uga.edu/bees/master-beekeeper/index.html>. Applicants at the Certified (entry) level must have had beekeeping experience prior to the Institute. (Note: beginning next year, 2016, Certified candidates will be required to document at least one year prior beekeeping experience before sitting for exams). Exam questions are drawn from Institute lectures, lecture notes on the website, as well as 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.

# About the Welsh Honey Judge Certification

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 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 at <http://www.ent.uga.edu/bees/young-harris/certifications.html>. If you wish to sit for this training please indicate your intention on the attached registration form and include the appropriate fee. Questions may be addressed to program director Keith Fielder at [kfielder@uga.edu](mailto:kfielder@uga.edu).



# THURSDAY | MAY 14, 2015

Thursday, May 14 is dedicated for those wishing to qualify for the Journeyman, Master, Master Craftsman, or Welsh Honey Judge certifications. Master Craftsman audits and exam times are by advance appointment only. Thursday afternoon will be an elective time for Certified candidates to complete the outdoor portion of their practical exam. Reservations for Certified outdoor practicals and exams can be made at the registration desk.

Please do not ask Institute instructors for copies of their digital presentations.  
There are many copyright and intellectual property difficulties.

**8:00 - 9:45**

## JOURNEYMAN LECTURES

### MAXWELL ROOM 113

For those registrants who have already passed the Certified level exams & have submitted payment for Journeyman level certification.

## MASTER LECTURES

### MAXWELL ROOM 116

For those registrants who have already passed the Journeyman level exams & have submitted payment for Master level certification.

**9:45 - 10:15**

## BREAK

**10:15 - 12:00**

## JOURNEYMAN LECTURES

### MAXWELL ROOM 113

For those registrants who have already passed the Certified level exams & have submitted payment for Journeyman level certification.

## MASTER LECTURES

### MAXWELL ROOM 116

For those registrants who have already passed the Journeyman level exams & have submitted payment for Master level certification.

**12:00 - 1:00**

## LUNCH GRACE ROLLINS DINING ROOM (LEVEL 1 IN ROLLINS CENTER)

### OPEN HIVE TIME FOR CERTIFIED CANDIDATES OUTSIDE MAXWELL

Go through a bee hive with a representative from the Institute. This is for review purposes only and does not count as part of your exam.

### JOURNEYMAN PRACTICAL EXAMS MAXWELL ROOM 109

Practical exams consist of hive and disease identification, among other things. This is part one of a two-part exam, open only to those who have submitted payment and have been Certified for no less than one calendar year.

### WELSH HONEY JUDGE TRAINING LECTURES MAXWELL ROOM 107

Please note that WHJ qualifications have changed. New rules can be found on the UGA website. These lectures are open to those who have registered and submitted payment for honey judge training.

### MASTER PRACTICAL DOCUMENTATION AUDITS - MAXWELL ROOM 116

You must provide all documentation for Master level certification at this time. Please see requirements at <http://bit.ly/1ncmJX7>.

**2:30 - 3:00**

## BREAK

### OPEN HIVE TIME FOR CERTIFIED CANDIDATES OUTSIDE MAXWELL

Continued from before the break.

### JOURNEYMAN & MASTER WRITTEN EXAMS MAXWELL ROOM 116

Part two of the two-part exam, continued from before the break.

### WELSH HONEY JUDGE EXAMS & AUDITS MAXWELL ROOM 107

Please note that WHJ qualifications have changed. New rules can be found on the UGA website. These exams & audits are open to those who have registered and submitted payment for honey judge training.



# FRIDAY | MAY 15, 2015

## Honey Show Rules

**ENTRIES WILL BE ACCEPTED FROM 8:00 A.M. UNTIL 11:45 A.M. FRIDAY IN ROLLINS - SEMINAR ROOM # 257.**

- Only registered Institute participants may enter.
- Judges, stewards, and show secretary are disqualified from competition.
- Institute reserves the right to limit the number of entries on a first-come, first-admitted basis.
- There are fourteen show classes: (1) extracted honey light, (2) amber, (3) dark, (4) chunk honey, (5) black jar, (6) cut-comb, (7) creamed honey, (8) mead, (9) flavored mead, (10) beeswax cake (a single molded piece of two pounds or more), (11) candle (poured or dipped, straight or ornamental), (12) original bee-related photography, (13) original bee-related art, and (14) beekeeping gadgets. Contestant may enter in any or all classes but may enter only once per class.
- All honey and beeswax entries must have been produced by the submitter and within the last 12 months. This restriction does not apply to entries in mead, photography, art, and gadgets.
- All entries for honey and candles must be submitted in triplicate: i.e., three matching jars of honey, three boxes of cut-comb, or three candles. The only exemption is black jar; one is enough.
- Submit extracted honey in standard one-pound Gamber or queenline-type jars. Either plastic or glass is acceptable; jars with tamper-proof seals will be disqualified.
- Submit chunk honey in standard one-pound chunk honey jars with wide mouths and straight sides. Insert only one piece of comb in jar.
- Submit mead in clear 750 ml bottles.
- The sole criterion in the black jar class is flavor. Bring entry in a jar spray-painted black.
- Beeswax entries must be pure beeswax.
- Art and photography must be presented in a self-standing frame, and each accompanied with a 3 x 5 card giving the title, artist, and brief "story" behind the piece.
- Do not label products in any way; an identifying code sticker will be assigned to your entry at registration

**JUDGING CRITERIA ARE SELECTED AT THE DISCRETION OF SENIOR JUDGE.**

**ALL ENTRIES ARE JUDGED ON INDIVIDUAL MERIT; CLASS RIBBONS ARE AWARDED AT JUDGE'S DISCRETION.**

**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.**



# FRIDAY | MAY 15, 2015

## IMPORTANT NOTES:

- Course descriptions can be found on pages 11-12 in this program.
- Courses highlighted in **BLUE** are recommended for beginning beekeepers and/or Certified Exam registrants.
- Those taking the Certified Exam will need to sign up for a certified practical time slot at the registration desk as soon as possible. All certified practical exams will be given on SATURDAY, MAY 16.
- Honey show entries are due by 11:45 a.m. See page 6 for more information.

Please do not ask Institute instructors for copies of their digital presentations.  
There are many copyright and intellectual property difficulties.

<b>7:00a - 6:00p</b>	REGISTRATION DESK OPEN MAXWELL LOBBY						
<b>8:00 - 8:15</b>	WELCOME AND OPENING DETAILS ROLLINS SUBER BANQUET HALL Keith Delaplane						
<b>8:15 - 9:00</b>	HONEY BEE SOCIAL IMMUNITY ROLLINS SUBER BANQUET HALL Marla Spivak						
<b>9:15 - 10:00</b>	VARROA IPM ROLLINS SUBER Izzy Hill	GETTING STARTED: THE PRINCIPLES ROLLINS HATCHER Philip Quinn	BIOLOGY OF INDIVIDUALS MAXWELL 117 Brett Nolan	BIOLOGY OF THE COLONY MAXWELL PLANETARIUM Keith Delaplane	KEEPING BEES ALIVE MAXWELL 107 Jennifer Berry	SENSES OF THE HONEY BEE MAXWELL 106 Tom Rearick	MAKING CREAMED HONEY MAXWELL 116 Keith Fielder
<b>10:15 - 11:00</b>	HONEY BEE DIGESTIVE SYSTEM ROLLINS SUBER Thomas Webster	GETTING STARTED: THE PRINCIPLES ROLLINS HATCHER Will Dix	BIOLOGY OF INDIVIDUALS MAXWELL 113 Cindy Hodges	BIOLOGY OF THE COLONY MAXWELL PLANETARIUM Keith Delaplane	KEEPING BEES ALIVE MAXWELL 107 Jennifer Berry	SENSES OF THE HONEY BEE MAXWELL 106 Tom Rearick	MAKING CREAMED HONEY MAXWELL 116 Keith Fielder
<b>11:15 - 12:00</b>	THE MINNESOTA URBAN BEE SQUAD ROLLINS SUBER Marla Spivak	GETTING STARTED: THE PRINCIPLES ROLLINS HATCHER Philip Quinn	BIOLOGY OF INDIVIDUALS MAXWELL 117 Brett Nolan	BIOLOGY OF THE COLONY MAXWELL PLANETARIUM Keith Delaplane	MEDICINE FROM THE HIVE MAXWELL 107 Michael Steinkampf	NUTRITION MGMT FOR ROBUST POPULATIONS MAXWELL 106 Lance Wilson	NATIVE BEE ID, NESTS & CONSERVATION MAXWELL 110 Izzy Hill
<b>12:00 - 12:15</b>	GROUP PHOTO IN FRONT OF MAXWELL						
<b>12:15 - 1:15</b>	LUNCH GRACE ROLLINS DINING ROOM (LEVEL 1 IN ROLLINS CENTER)						
<b>1:15 - 2:00</b>	EVOLUTIONARY LESSONS FOR BEEKEEPING ROLLINS SUBER Keith Delaplane	PARASITES ROLLINS HATCHER Thomas Webster	PATHOGENS MAXWELL 117 Cindy Hodges	GETTING STARTED: THE REAL THING BEHIND MAXWELL (outside) MAXWELL Will Dix	MEDICINE FROM THE HIVE MAXWELL 107 Michael Steinkampf	NUTRITION MGMT FOR ROBUST POPULATIONS MAXWELL 106 Lance Wilson	NATIVE BEE ID, NESTS & CONSERVATION MAXWELL 110 Izzy Hill

# FRIDAY | MAY 15, 2015

CONTINUED

2:15 - 3:00	<b>HONEY PLANTS OF THE SOUTHEAST</b> <b>ROLLINS SUBER</b> Keith Fielder	<b>PARASITES</b> <b>ROLLINS HATCHER</b> Paul Arnold	<b>PATHOGENS</b> <b>MAXWELL 117</b> Brett Nolan	<b>GETTING STARTED: THE REAL THING BEHIND</b> <b>MAXWELL</b> (outside) Nick Weaver	<b>TREASURES FROM THE HIVE I</b> (continues to part II) <b>MAXWELL 109</b> Cyndi Ball	<b>HONEY BEE COGNITION</b> <b>MAXWELL 106</b> Tom Rearick	<b>CLASSICAL QUEEN REARING I</b> <b>MAXWELL 108</b> Jennifer Berry
3:15 - 4:00	<b>PARASITES</b> <b>ROLLINS HATCHER</b> Thomas Webster	<b>PARASITES</b> <b>MAXWELL 117</b> Cindy Hodges	<b>GETTING STARTED: THE REAL THING BEHIND</b> <b>MAXWELL</b> (outside) Will Dix	<b>TREASURES FROM THE HIVE II</b> (continued from part I) <b>MAXWELL 109</b> Cyndi Ball	<b>HONEY BEE COGNITION</b> <b>MAXWELL 106</b> Tom Rearick	<b>CLASSICAL QUEEN REARING I</b> <b>MAXWELL 108</b> Jennifer Berry	
4:00 - 4:30	REST, REFRESH & REVIEW						
4:30 - 5:30	<b>CERTIFIED WRITTEN EXAM</b> <b>STUDENT ORGANIZATION LOFT, ROLLINS TOP FLOOR</b> Nathan Beach						
6:00	<b>GROUP DINNER</b> This year, the group dinner will be at the <b>HIWASSEE RIVER RETREAT</b> in <b>HIWASSEE, GA</b> . The cost is included in your registration fee. If you have registered to bring a guest, or if you would like to add a guest, please stop by the registration desk before 5:30 p.m. to pick up and/or pay for their ticket.						

## Group Dinner Information

**LOCATION:**

Hiwassee River Retreat

**GPS ADDRESS:**

15 Cabin Drive  
 Hiwassee, GA 30546

**PHONE:**

(706) 896-7400

**WEBSITE:**

www.hiwasseeecabins.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
- Follow the road until you reach the pavilion (it will be on your **left**) and park in the grass behind the building.

If you are in need of additional directions, please stop by the registration desk or call Tabitha Weaver at (770)744-5280.

# SATURDAY | MAY 16, 2015

## IMPORTANT NOTES:

- Course descriptions can be found on pages 11-12 of this program.
- Courses highlighted in **BLUE** are recommended for beginning beekeepers and/or Certified Exam registrants.
- All certified practical exams will be given on SATURDAY, MAY 16 between 9:15 a.m. and 12:00 p.m. Please make sure to sign up for a time slot at the registration desk, if you have not already done so.

Please do not ask Institute instructors for copies of their digital presentations.  
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<b>7:00a - 4:00p</b>	REGISTRATION DESK OPEN MAXWELL LOBBY						
<b>8:00 - 8:15</b>	WELCOME AND OPENING DETAILS ROLLINS SUBER BANQUET HALL Keith Delaplane						
<b>8:15 - 9:00</b>	A BLOOD TEST FOR BEES? NUTRITIONAL & IMMUNE STATUS OF WORKERS PREDICTS COLONY SURVIVORSHIP ROLLINS SUBER BANQUET HALL Marla Spivak						
<b>9:15 - 10:00</b>	BEE TECH TRANSFER TEAMS ROLLINS SUBER Marla Spivak	NEW IDEAS FOR OBSERVATION HIVES HATCHER Thomas Webster	CERTIFIED PRACTICAL EXAM MAXWELL 110	SPRING MANAGEMENT BEHIND MAXWELL (outside) Keith Fielder	BASIC HONEY PROCESSING MAXWELL 114 Gary Cook	TREASURES FROM THE HIVE I <i>(continues to part II)</i> MAXWELL 109 Cyndi Ball	CLASSICAL QUEEN REARING II MAXWELL 108 Jennifer Berry
<b>10:15 - 11:00</b>	UPDATE ON SHB CONTROL ROLLINS SUBER Izzy Hill	HOW URBAN HABITATS AFFECT BEES & HOW WE CAN HELP THEM ROLLINS HATCHER Jennifer Kraft Leavey	CERTIFIED PRACTICAL EXAM MAXWELL 110	SPRING MANAGEMENT BEHIND MAXWELL (outside) Keith Fielder	BASIC HONEY PROCESSING MAXWELL 114 Gary Cook	TREASURES FROM THE HIVE II <i>(continued from part I)</i> MAXWELL 109 Cyndi Ball	CLASSICAL QUEEN REARING II MAXWELL 108 Jennifer Berry
<b>11:15 - 12:00</b>	HONEY BEE THERMO-REGULATION ROLLINS SUBER Thomas Webster	HOW URBAN HABITATS AFFECT BEES & HOW WE CAN HELP THEM ROLLINS HATCHER Jennifer Kraft Leavey	CERTIFIED PRACTICAL EXAM MAXWELL 110	SPRING MANAGEMENT BEHIND MAXWELL (outside) Keith Fielder	BASIC HONEY PROCESSING MAXWELL 114 Gary Cook	RAISING YOUR OWN NEMATODES FOR SHB CONTROL MAXWELL 116 Izzy Hill	PESTICIDE MANAGEMENT THROUGH COMB ROTATION MAXWELL 106 Lance Wilson
<b>12:00 - 1:15</b>	LUNCH GRACE ROLLINS DINING ROOM (LEVEL 1 IN ROLLINS CENTER)						
<b>1:15 - 2:00</b>	AN ALTERNATIVE VIEW TO "LET ALONE" BEEKEEPING ROLLINS SUBER Jennifer Berry	TEACHING KIDS ABOUT BEES AND POLLINATORS ROLLINS HATCHER Kim Bailey	CELL-PUNCH METHOD FOR QUEEN REARING MAXWELL 109 Wil Montgomery	OFF-SEASON MANAGEMENT BEHIND MAXWELL (outside) Nick Weaver	BUILDING HIVE EQUIPMENT MAXWELL 108 Lonnie Funderburg	RAISING YOUR OWN NEMATODES FOR SHB CONTROL MAXWELL 116 Izzy Hill	PESTICIDE MANAGEMENT THROUGH COMB ROTATION MAXWELL 106 Lance Wilson

# SATURDAY | MAY 16, 2015

CONTINUED

<p><b>2:15 - 3:00</b></p>	<p>HONEY BEE ANATOMY <b>ROLLINS SUBER</b> Brett Nolan</p>	<p>TEACHING KIDS ABOUT BEES AND POLLINATORS <b>ROLLINS HATCHER</b> Kim Bailey</p>	<p>CELL-PUNCH METHOD FOR QUEEN REARING <b>MAXWELL 109</b> Wil Montgomery</p>	<p>OFF-SEASON MANAGEMENT <b>BEHIND MAXWELL (outside)</b> Nick Weaver</p>	<p>BUILDING HIVE EQUIPMENT <b>MAXWELL 108</b> Lonnie Funderburg</p>	<p>SAFETY &amp; BIO MECHANICS IN THE APIARY <b>MAXWELL 107</b> Mary Cahill-Roberts</p>	<p>APIARY FIRST AID <b>MAXWELL 106</b> Will Dix</p>
<p><b>3:15 - 4:00</b></p>	<p>CELL-PUNCH METHOD FOR QUEEN REARING <b>MAXWELL 109</b> Wil Montgomery</p>	<p>OFF-SEASON MANAGEMENT <b>BEHIND MAXWELL (outside)</b> Nick Weaver</p>	<p>BUILDING HIVE EQUIPMENT <b>MAXWELL 108</b> Lonnie Funderburg</p>	<p>SAFETY &amp; BIO MECHANICS IN THE APIARY <b>MAXWELL 107</b> Mary Cahill-Roberts</p>	<p>APIARY FIRST AID <b>MAXWELL 106</b> Will Dix</p>		
<p><b>4:00</b></p>	<p>CLOSING CONVOCATION ANNOUNCEMENT OF NEWLY-QUALIFIED CERTIFIED BEEKEEPERS <b>ROLLINS SUBER BANQUET HALL</b> Keith Delaplane</p>						

Thanks for joining us at the 2015 Beekeeping Institute!

## General Information

The Institute is held at Young Harris College in Young Harris, GA.

The address is:  
**1 College Street**  
**Young Harris, GA**  
**30582**



# Course Descriptions

The course descriptions that follow are listed in order of scheduled presentation time. Please stop by the registration desk if you have any questions or comments.

## FRIDAY

- **HONEY BEE SOCIAL IMMUNITY (KEYNOTE LECTURE)**

Honey bee colonies have amazing defenses against pathogens and parasites, including hygienic behavior and propolis collection.

- **VARROA IPM**

An overview of multi-faceted mite control that minimizes applications of miticides

- **HONEY BEE DIGESTIVE SYSTEM**

Understanding the anatomy behind Nosema disease

- **THE MINNESOTA URBAN BEE SQUAD**

A new way to engage backyard beekeepers, businesses, and the public

- **GETTING STARTED: THE PRINCIPLES**

Theoretic background behind colony start-up

- **BIOLOGY OF INDIVIDUALS**

Development and behavior of workers, drones, and queens

- **BIOLOGY OF THE COLONY**

Seasonal life history of the honey bee colony as a superorganism

- **KEEPING BEES ALIVE**

It's not as easy as it used to be but it can still be done.

- **SAFETY AND BIOMECHANICS IN THE APIARY**

The right way and wrong way to handle hives and equipment

- **SENSES OF THE HONEY BEE**

Worker bees are rich in sensory perception.

- **HONEY BEE COGNITION**

Collective group decision making and the workers that make it happen

- **MAKING CREAMED HONEY**

This is a delicacy hive product sure to please.

- **NATIVE BEE IDENTIFICATION, NESTS, AND CONSERVATION**

Nest construction, basic ID, collection methods, and ways to encourage their numbers

- **EVOLUTIONARY LESSONS FOR BEEKEEPING**

Studying the biology of the bee for clues to better bee health and management

- **HONEY PLANTS OF THE SOUTHEAST**

A survey of the distribution and seasonality of the region's honey plants

- **PARASITES**

A survey of the parasites affecting bees with an emphasis on Varroa

- **PATHOGENS**

A survey of the most important diseases the beekeeper is likely to encounter

- **GETTING STARTED: THE REAL THING**

Taking the principles of beginning beekeeping and applying them in the field

- **TREASURES FROM THE HIVE I & II**

Two part hands-on workshop primer and demonstration on using hive products to fund your hobby (soap making, salves, lip balm).

- **NUTRITION FOR ROBUST POPULATIONS**

A survey of the protein and carbohydrate demands for optimum colony growth

- **CLASSICAL QUEEN REARING I**

The principles and necessary equipment

# Course Descriptions, continued

The course descriptions that follow are listed in order of scheduled presentation time. Please stop by the registration desk if you have any questions or comments.

## SATURDAY

### • A BLOOD TEST FOR BEES? (KEYNOTE LECTURE)

Nutritional and immune status of workers predicts colony survivorship.

### • BEE TECH TRANSFER TEAMS

A new way to help commercial beekeepers monitor colony health and breed better bees

### • UPDATE ON SHB CONTROL

The latest sustainable methods for controlling small hive beetles

### • HONEY BEE THERMOREGULATION

Learn how a bee colony can control its core temperature as well as a large mammal.

### • NEW IDEAS FOR OBSERVATION HIVES

A window into understanding our bees without disturbing them

### • TREASURES FROM THE HIVE I & II

Two part hands-on workshop primer and demonstration on using hive products to fund your hobby (soap making, salves, lip balm).

### • HOW URBAN HABITATS AFFECT BEES AND HOW WE CAN HELP THEM

Fragmented habitats, pesticides, and non-native flora all play a role in bee health.

### • SPRING MANAGEMENT

Swarm prevention, colony buildup, supering for the honey flow

### • BASIC HONEY PROCESSING

How to take it from the comb to the bottle

### • RAISING YOUR OWN NEMATODES FOR SHB CONTROL

Predatory soil nematodes control small hive beetle

larvae; here's how to raise them.

### • CLASSICAL QUEEN REARING II

Grafting, cell management, emergence, and mating

### • PESTICIDE MANAGEMENT THROUGH COMB ROTATION

Combs can be called the "liver of the colony." Here's how to minimize their pesticide exposure.

### • HONEY BEE ANATOMY

The beauty and evolutionary wonder of honey bee morphology

### • AN ALTERNATIVE VIEW TO "LET ALONE" BEEKEEPING

Here's one expert's opinion on "survival of the fittest" Varroa control.

### • TEACHING KIDS ABOUT BEES AND POLLINATORS

Activities and resources for educating youth about pollinators

### • CELL-PUNCH METHOD FOR QUEEN REARING

A popular repeat workshop on a grafting-free method to produce queen cells

### • OFF-SEASON MANAGEMENT

How to manage colonies for optimum survival through late summer, autumn, and winter

### • BUILDING HIVE EQUIPMENT

A popular repeat workshop on the construction of hive equipment

### • APIARY FIRST-AID

A physician beekeeper's advice on emergency response

# Meet our Staff & Instructors



- Paul Arnold is professor of biology at Young Harris College. He is co-founder and host of the Beekeeping Institute.



- Keith Delaplane is professor of entomology at the University of Georgia and co-founder of the Beekeeping Institute.



- Robert Brewer is retired Towns County Extension Director and co-founder of the Beekeeping Institute.



- Jennifer Berry is Apicultural Research Coordinator and Apiary Manager at the University of Georgia.



- Nicholas Weaver is the Research Project Supervisor with the University of Georgia Honey Bee Program. He manages all of UGA's honey bee colonies.



- Brett Nolan is a Ph.D student with the University of Georgia Honey Bee Program.



- Kim Bailey is an environmental educator with the GA Department of Natural Resources.



- Mary Cahill-Roberts is a pediatric nurse practitioner and Georgia Master Beekeeper.



- Gary Cook is a longstanding member and officer of the Tara (Clayton County) Beekeepers Association.



- Jennifer Kraft Leavey is Coordinator of the Integrated Science Curriculum at Georgia Tech College of Sciences, and Director of the Georgia Tech Urban Honey Bee Project.



- Wil Montgomery is a Georgia Master Beekeeper and long-time supporter of the Beekeeping Institute.



- Cindy Hodges is a Georgia Master Beekeeper, President of the Metro Atlanta Beekeepers Association, and 2012 Georgia Beekeeper of the Year.



- Cyndi Ball is a beekeeping educator, advocate for sustainable farming practices, and owner of lazy b farms ([thelazybfarm.com](http://thelazybfarm.com)).



- Lonnie Funderburg is a Georgia Master Beekeeper and two-term president of the Alabama Beekeepers Association.



- Will Dix is a practicing physician in Athens, GA, a Fellow of the American College of Emergency Physicians, and a Journeyman Beekeeper.



- Keith Fielder is Putnam County Extension Director with the University of Georgia Cooperative Extension Service and Director of the Institute Honey Show.



- Tom Rearick is a Georgia Master Beekeeper with a special interest in the intersection between beekeeping and technology.



- Lance Wilson is a GA Master Beekeeper who lives and keeps bees in Llano & Travis counties (central Texas), and is co-organizer of the Austin Area Beekeepers Association.



- Ben Rouse is a research technician at the UGA Honey Bee Lab and an aspiring artist & photographer.



- Nathan Beach is a research technician at the UGA Honey Bee Lab.



- Jack Garrison is a research technician at the UGA Honey Bee Lab.



- Tabitha Weaver has worked with the Institute since 2011, and is the 2015 YHC-UGA Bee Institute Manager and materials designer.



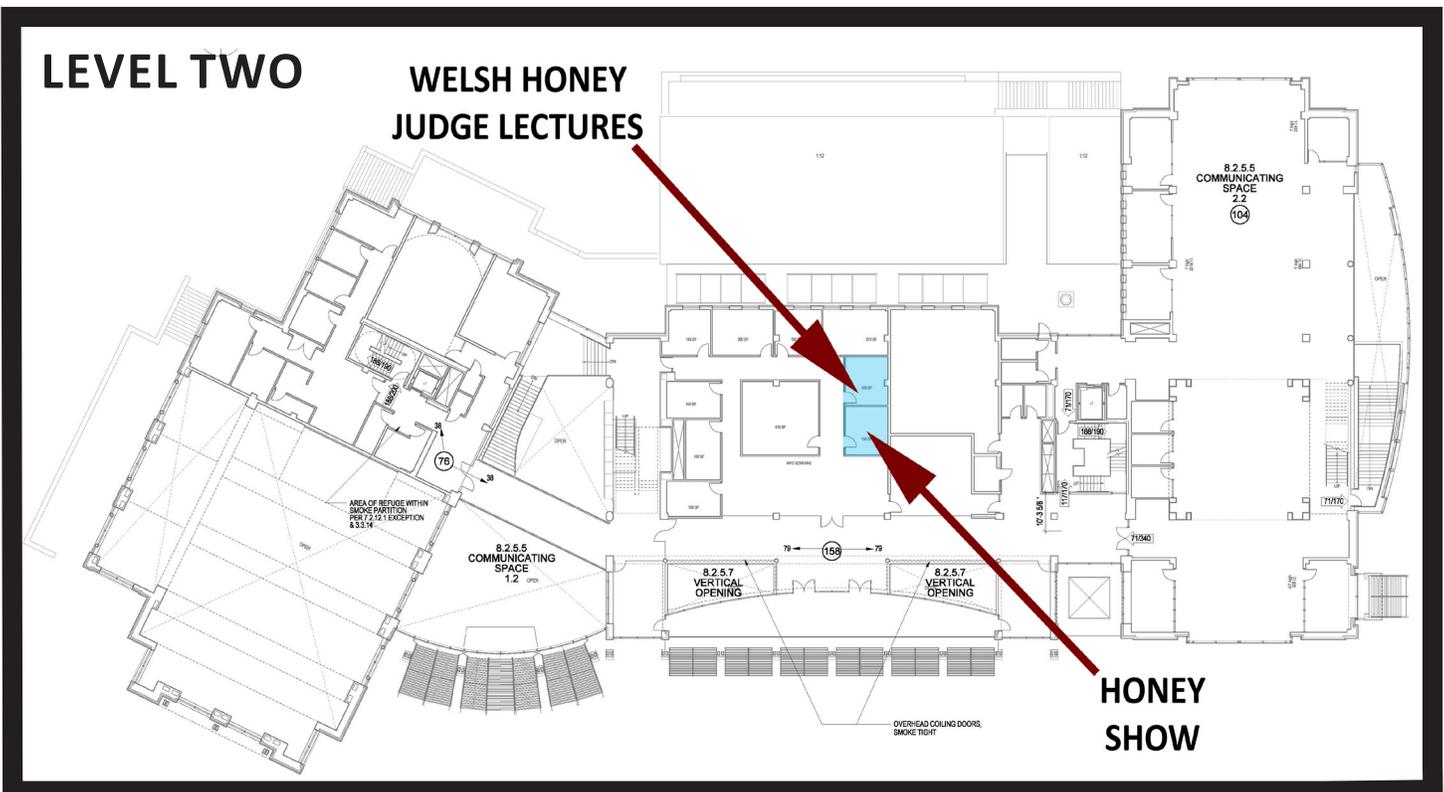
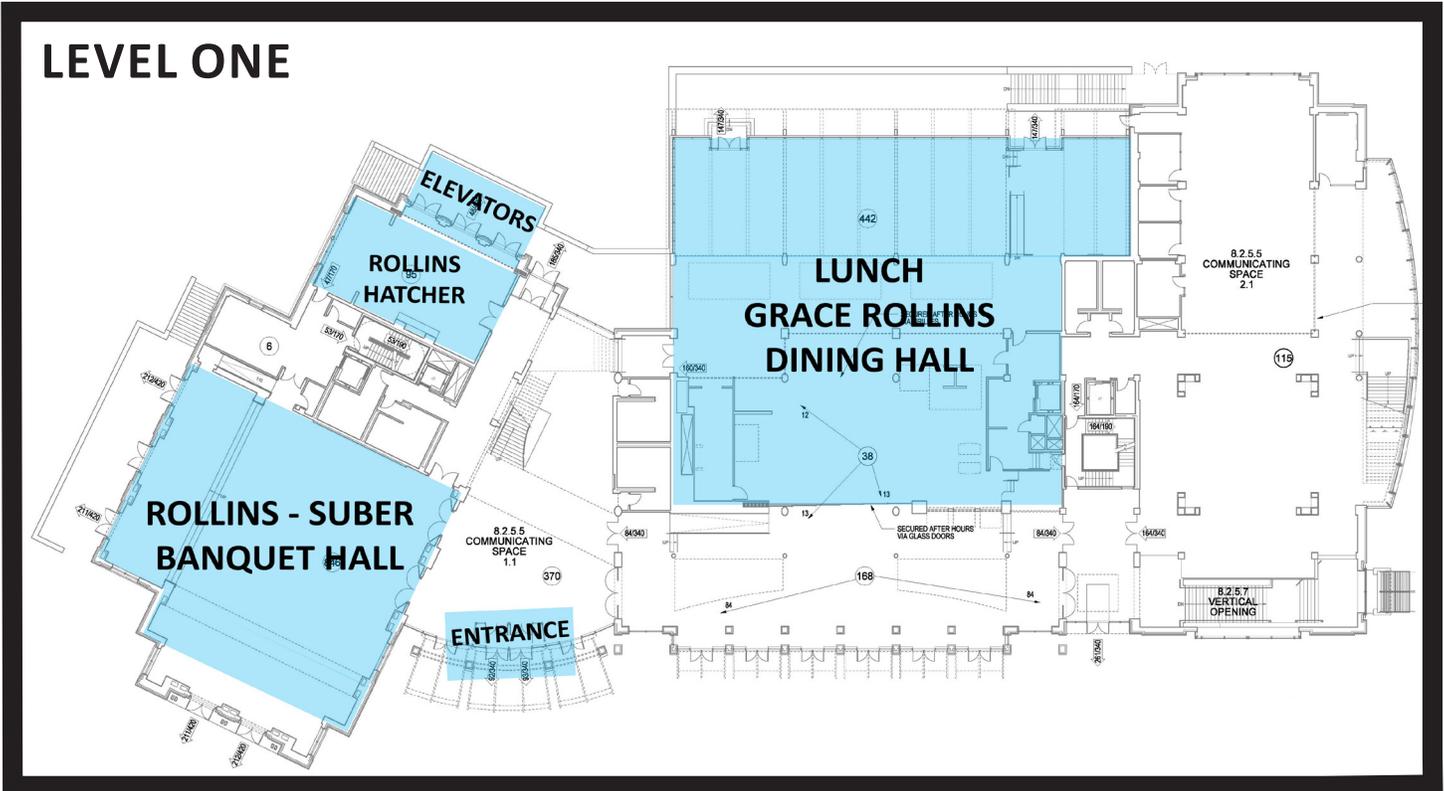
- Philip Quinn is a GA Master Beekeeper, a bee removal specialist, accomplished speaker, and a former research technician with the UGA Honey Bee Lab.



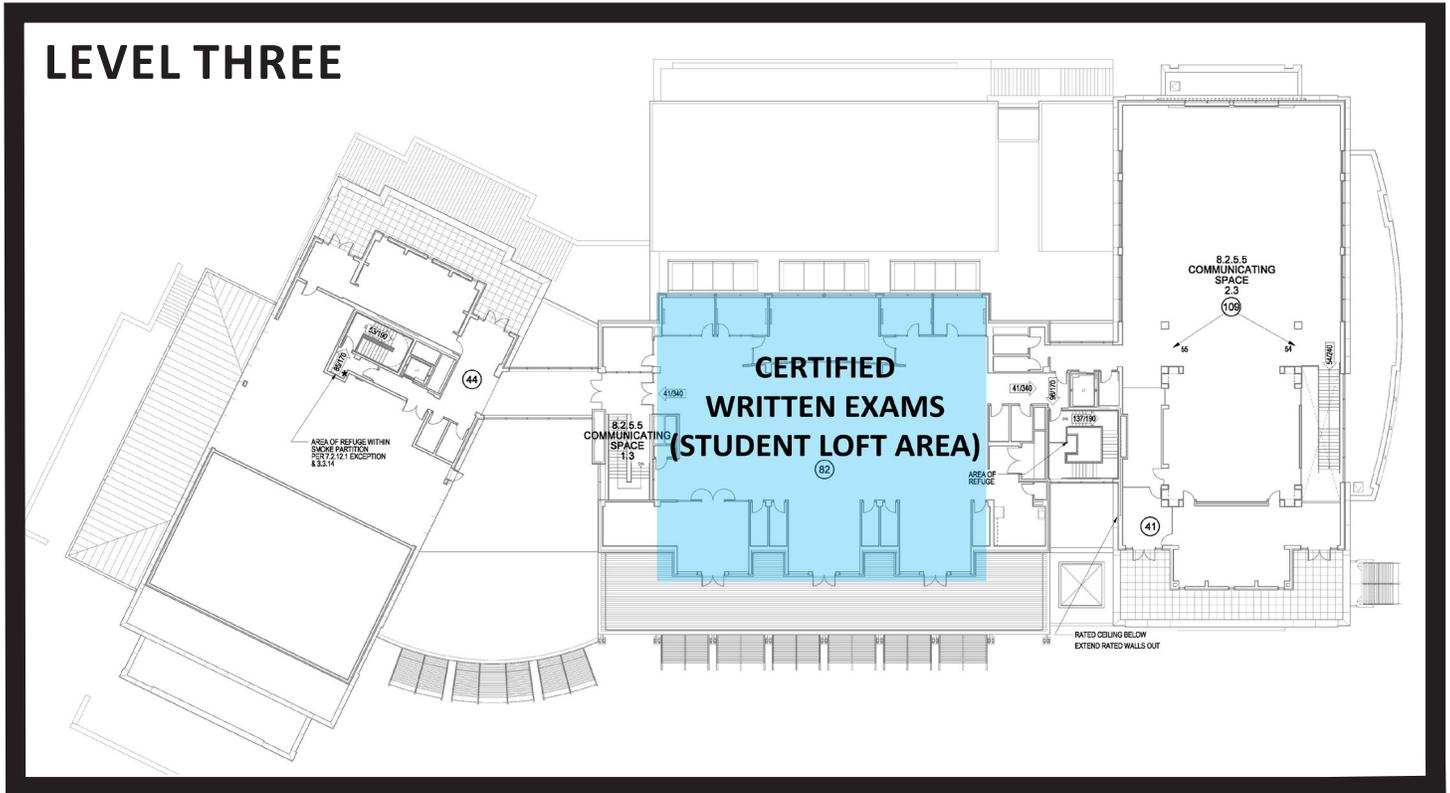
- Michael Steinkampf is a practicing physician, Director of AL Fertility Specialists in Birmingham, & a GA Master Beekeeper.

# Maps of Rollins Student Center

PLEASE NOTE THAT THERE SHOULD BE AN ELECTRONIC DIRECTIONAL SIGN IN THE DOWNSTAIRS LOBBY OF THE ROLLINS CENTER IN THE EVENT THAT YOU CANNOT FIND THE CLASSROOM YOU ARE LOOKING FOR.

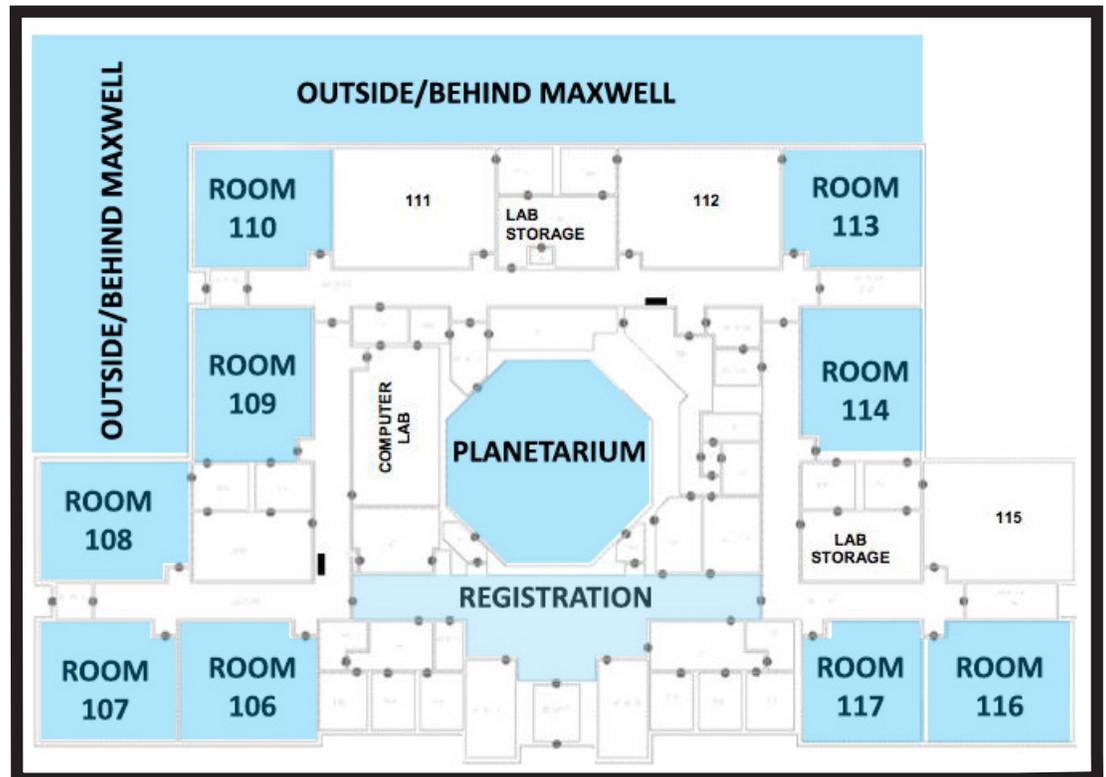


# Map of Rollins - Level 3



# Map of Maxwell

 = classrooms used during the institute



.....*Notes*.....