

The Blue Ridge Chemist

The Blue Ridge Chemist, since 1947 the
Official Local Section Publication of the
Virginia Blue Ridge Section, American Chemical Society



VOLUME LXVII

February 17, 2014

No. 2

**THE ABCs OF
FORENSIC DNA ANALYSIS**

VIRGINIA BLUE RIDGE SECTION
AMERICAN CHEMICAL SOCIETY

Monday, February 17, 2014

J. Thomas McClintock, Ph.D.
Department of Biology and Chemistry
Liberty University

Roanoke College Hosts February Meeting

<http://www.acs-vbrs.org>

VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

661st SECTION MEETING
Roanoke College

Monday February 17, 2014

PROGRAM:

5-6pm Social Hour Pickle Lounge in the Colket Center
6-7pm Dinner Go through the line in the Commons--then
bring food to Pickle Lounge
7-8pm Talk Massengill Auditorium

The dinner will take place in the Pickle Lounge of the Colket Center at Roanoke College. The talk will be in Massengill Auditorium. The speaker will be Dr. Tom McClintock, talking on "ABCs of Forensic DNA Typing". For dinner we will be going through the cafeteria line bringing trays back to the Pickle Lounge. The usual menu includes two entrees, a salad bar, various sides and other items, with desserts and ice cream. Cost for the dinner will be \$10.00 for everyone.

Reservations for the dinner must be made by FRIDAY, FEBRUARY 14, (3 DAYS BEFORE THE MEETING) by contacting Debbie Duncan at 540-375-2441, or by e-mail to duncan@roanoke.edu, or by mail to Debbie Duncan, Department of Chemistry, Roanoke College, Salem, VA 24153.



**Dr. J. Tomas McClintock, Professor of
Microbiology, Department of Biology and
Chemistry Liberty University**

Dr. McClintock is a Professor in the Department of Biology and Chemistry at Liberty University in Lynchburg, VA where he teaches courses in microbiology and virology. Dr. McClintock previously held a faculty position in the Department of Molecular and Microbiology at George Mason University in Fairfax, VA where he taught graduate courses in forensic DNA analysis and forensic entomology. The course in forensic DNA analysis focused on current laboratory methods and applications in forensic DNA profiling and effective presentation of DNA evidence at trial. His latest book (In Press), entitled "Forensic Analysis of Biological Evidence: A Laboratory Guide for Serological and DNA Typing" focuses on the newest techniques available for the analysis of biological material.

In 2008, Dr. McClintock was a guest on the Nancy Grace Show and provided his insights on the use of DNA testing in the investigation of a missing 3-year old Florida girl named Caylee Anthony (See www.CNN.com/CNN/Programs/Nancy.Grace for details).

Dr. McClintock was recently named among the [top 15 DNA analysis professors](#) in the country by ForensicsColleges.com, a

leading website on forensics programs across the nation. Criteria for the selection of these professors included practical experience outside the academic setting, involvement in cutting-edge research, and being published in academic journals. McClintock was recognized alongside professors from other prominent institutions across the U.S., including the University of California (Berkeley), Boston University, Penn State University, the University of Arizona, the University of North Texas, West Virginia University, and the University of Virginia.

Among his many notable accomplishments, McClintock founded [DNA Diagnostics, Inc.](#) in 1993, a forensic service company which provides DNA analysis and expert advice in criminal and paternity cases. The company also gives seminars and Workshops to investigators and law enforcement officials on topics such as presenting DNA evidence in the courtroom, and handling and analyzing evidence. **DNA Diagnostics, Inc.** has provided services for over 300 cases in 18 states, three territories, and three European countries.

Dr. McClintock received a Bachelor of Science degree from the Department of Biology at James Madison University, Harrisonburg, VA, a Masters of Science degree from the Department of Entomology, and a Doctorate of Philosophy degree from the Department of Microbiology at the University of Maryland in College Park. After completing a Postdoctoral Fellowship, Dr. McClintock became Group Leader at Digene Diagnostics, Inc. where he directed the research on the development and use of DNA probes for the detection and diagnosis of human pathogens.



The ABCs of Forensic DNA Typing

By

J. Thomas McClintock, Ph.D.

DNA typing has revolutionized criminal investigations and has become a powerful tool in the identification of individuals in criminal investigations and paternity-related matters. The general public has become familiar with forensic DNA typing based on exposure from media coverage (*e.g.*, the O.J. Simpson trial, the President Clinton and Monica Lewinsky scandal, and identification of individuals killed in the September 11, 2001 attack on the World Trade Center (WTC) in New York city and the Pentagon in Arlington, VA) and television (*e.g.*, *Forensic Files*, *CSI: Miami*). Although these cases have generated widespread media attention, they represent only a small fraction of the thousands of forensic DNA and paternity cases that are conducted by public and private laboratories in the United States and abroad.

The purpose of this presentation is to provide the participants with a fundamental understanding of forensic DNA analysis as well as introducing various DNA typing methods used in forensic DNA laboratories in the Commonwealth of Virginia and across the country. The challenge to the forensic DNA analyst is how to apply this technology in criminal and legal investigations to evidentiary samples determined to be of non-human origin. Emphasis will also be placed on the advantages and limitations of various DNA analytical techniques used in the analysis of such forensic evidence. Each topic area will be supported with relevant case studies.

Announcement

Hollins University is seeking a one-semester sabbatical replacement instructor for a position in general chemistry for Fall 2014 semester. For more information please contact Bansi Kalra bkalra@hollins.edu.

The Virginia Blue Ridge Section of the American Chemical Society is sponsoring the twenty-first Annual Undergraduate/High School Poster Session as a part of the April 16, 2014 meeting at Radford University. Poster boards will be provided.

If you have a student or students, who will be participating, submit the following information by email to Chris Hermann (chermann@radford.edu) by April 9, 2014. **This is a firm deadline. No poster submissions will be accepted after this time.** All students and faculty will get email confirmation. If you did not get an email reply, then your submission was not received and you cannot present.

Name of Project _____

Name(s) of Student(s): _____

Affiliation (name of high school, college, or university):

Class of Student(s) (freshman, sophomore, junior, senior): _____

Student(s) email address: _____

Advisor's Name, Address, Telephone Number, and email
address: _____

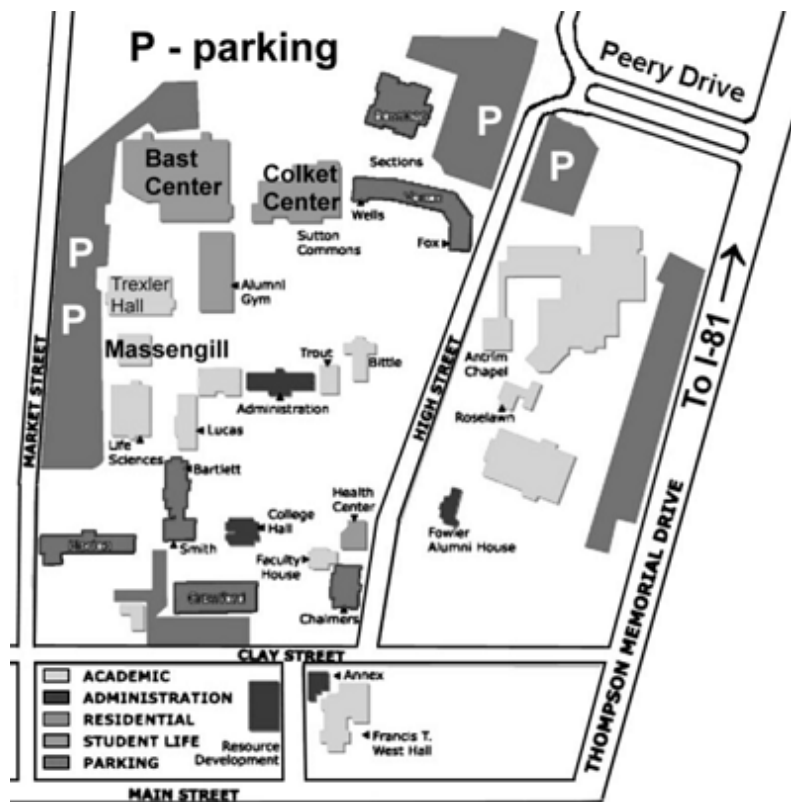
48" by 48" poster board with tripod on table or just table will be provided. Please specify what you need.

_____ poster board with tripod on table

_____ table needed

Directions to Roanoke College

From I-81 take exit 140 (Route 311) and go south into Salem, on Thompson Memorial Drive. Turn right onto Peery Drive to enter the campus. You may park in one of the lots ahead, which are near the Colket Center, or you may take High Street, Clay Street, and Market Street to park near Massengill. For disability access routes, please contact Ben Huddle or Gary Hollis. The talk is in Massengill Auditorium, with the dinner in the Pickle Lounge of the Colket Center.



Map of Roanoke College

Non-Prof. Org.
U.S. Postage
PAID
Lynchburg, VA
24502
Permit No. 493

1B3005

c/o Nancy Richardson, Editor
for VA Blue Ridge Section, American Chemical Soc.
Department of Biology and Chemistry
Liberty University
1971 University Blvd
Lynchburg, VA 24515

Return Service Requested

The next meeting will be March 27, 2014 at Roanoke Valley Governor's School. The speaker will be Cathy Sarisky speaking on the Biochemistry of addiction.