

Curriculum Vitae

HEATHER MILLER COYLE, PH.D., ASSOCIATE PROFESSOR
FORENSIC SCIENCE DEPARTMENT, HENRY C. LEE COLLEGE OF CRIMINAL JUSTICE & FORENSIC SCIENCES
UNIVERSITY OF NEW HAVEN, 300 BOSTON POST ROAD
WEST HAVEN, CT 06516 USA TEL. 203-479-4595 EMAIL:
HCOYLE@NEWHAVEN.EDU

Employment

ASSOCIATE PROFESSOR - FORENSIC SCIENCE DEPARTMENT, UNIVERSITY OF NEW HAVEN
PRIVATE CONSULTANT – IDENTACODE CONSULTING LLC (WWW.IDENTACODE.ORG)

Education

1994-PH.D. PLANT BIOLOGY, UNIVERSITY OF NEW HAMPSHIRE
1989-M.S. PLANT SCIENCE, UNIVERSITY OF NEW HAMPSHIRE
1986-B.S. IN VITRO CELL BIOLOGY, STATE UNIVERSITY OF NEW YORK @ PLATTSBURGH

Specialized Training

2015-EDU: ELIMINATE CAMPUS SEXUAL VIOLENCE, 1 HR. ON-LINE COURSE, WEST HAVEN, CT
2014-ADVANCED STR & Y-STR MIXTURE STATISTICS, NEAFS WORKSHOP, VALHALLA, NY
2011-FAMILIAL DNA WORKSHOP, 22ND INTERNATIONAL SYMPOSIUM ON HUMAN IDENTIFICATION, NATIONAL HARBOR, MD
2004-DNA AUDITOR COURSE, FBI SPONSORED, ST. PAUL, MN
2004-FORENSIC MITOCHONDRIAL DNA TRAINING, FBI ACADEMY, QUANTICO, VA
2003-INTERMEDIATE CRIME SCENE INVESTIGATION, H.C. LEE INSTITUTE OF FORENSIC SCIENCE/NATIONAL CRIME SCENE TRAINING CENTER, NEW HAVEN, CT
2001-FORENSIC STATISTICS IN THE COURTROOM, DR FRED BIEBER, CODIS WORKSHOP-FBI, FEBRUARY 7, 2001, CRYSTAL CITY, VA
2001-CSFSL GENETICS AND STATISTICS COURSE, DR FRED BIEBER, APRIL 04, 2001, MERIDEN, CT
1999-ADVANCES IN SNP DETECTION, PE BIOSYSTEMS SYMPOSIUM, NEW HAVEN, CT
1999-STR ANALYSIS AND CAPILLARY ELECTROPHORESIS, FSL, WESTCHESTER, NY
1999-ARNOLD MARKLE SYMPOSIUM-CRIMES AGAINST CHILDREN, UNH, NEW HAVEN, CT
1998-FORENSIC BIOLOGY TRAINING, CT FORENSIC LABORATORY, MERIDEN, CT
1997-INTRODUCTION TO IMMUNOLOGY, YALE UNIVERSITY, NEW HAVEN, CT
1996-ADVANCED IMMUNOLOGY, UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA

Professional Affiliations

AMERICAN ASSOCIATION FOR SCIENCE AND TECHNOLOGY (AASCIT)
AMERICAN ACADEMY OF FORENSIC SCIENCES (AAFS)
NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS (NEAFS)

Professional Teaching & Experience

-ASSOCIATE PROFESSOR (2011-CURRENT) FORENSIC SCIENCE UNDERGRADUATE AND GRADUATE COURSES IN FORENSIC BIOLOGY AND DNA; ADVISOR FOR STUDENT RESEARCH PROJECTS IN BIOLOGICAL EVIDENCE, FORENSIC BOTANY/PLANT GENETICS, HUMAN REMAINS, LOW COPY NUMBER AND TOUCH DNA FROM EPITHELIAL CELLS.

-CONSULTANT (2002-PRESENT) REVIEW OF CASEWORK, TESTIMONY, BIOLOGICAL EVIDENCE, TRIAL PREPARATION, TESTIMONY IN FRYE HEARING ON LCN AND FST (2013)

-ASSISTANT PROFESSOR (2006-2011) FORENSIC SCIENCE UNDERGRADUATE AND GRADUATE LEVEL COURSES IN FORENSIC BIOLOGY AND DNA, PROFESSIONAL PRACTICES; ADVISOR FOR STUDENT RESEARCH PROJECTS IN DNA AND FORENSIC BOTANY.

-LECTURER/LABORATORY COORDINATOR (2005-2006) LECTURED FOR FORENSIC SCIENCE UNDERGRADUATE AND GRADUATE LEVEL COURSES, TRAINING WORKSHOPS; SUPERVISED GRADUATE TEACHING ASSISTANTS IN THE ORGANIZATION AND PREPARATION OF LABORATORY EXPERIMENTS FOR THE FORENSIC SCIENCE PROGRAM; OVERSIGHT OF GENERAL LABORATORY OPERATIONS AND BUDGET FOR SUPPLIES AND EQUIPMENT.

-EDITOR AND CO-AUTHOR OF A BOOK ENTITLED *"NON-HUMAN DNA TESTING: PRINCIPLES AND APPLICATIONS"*, C. 2007, CRC PRESS, BOCA RATON, FL.

-EDITOR AND CO-AUTHOR OF A BOOK ENTITLED *"FORENSIC BOTANY: PRINCIPLES AND APPLICATIONS"*, C. 2005, CRC PRESS, BOCA RATON, FL.

-TECHNICAL LEADER/LEAD CRIMINALIST (2003-2004)-ORGANIZED AND MANAGED THE TECHNICAL OPERATIONS OF THE REGIONAL MITOCHONDRIAL DNA SECTION AT THE CSFSL IN MERIDEN, CT. SUPERVISED DAILY ACTIVITIES OF THE MITOCHONDRIAL DNA ANALYSIS TEAM, RESPONSIBLE FOR TRAINING OF PERSONNEL AND VALIDATION OF ALL NEW TESTING PROCEDURES. DEVELOPED AND IMPLEMENTED THE QUALITY ASSURANCE PROGRAM FOR THE REGIONAL FACILITY (CT LABORATORY-FBI COLLABORATION).

-RESEARCH & VALIDATION COORDINATOR (2001-2003)-PRINCIPLE INVESTIGATOR FOR NIJ GRANT FOR PLANT DNA TYPING METHODS. SCIENTIFIC ADVISOR/SUPERVISOR FOR STUDENTS AND RESEARCH ASSOCIATES WORKING ON THE FOLLOWING PROJECTS AT CSFSL: DNA ANALYSIS OF STOMACH CONTENTS, VALIDATION OF AFLP FOR PLANT DNA TYPING, CONSTRUCTION OF A MARIJUANA AFLP DATABASE, CONSTRUCTION OF A CT STATE YSTR DATABASE, VALIDATION OF YPLEX6 METHOD, VALIDATION OF THE 3100 CE DETECTION PLATFORM AND IDENTIFILER MEGAPLEX FOR DNA DATABASE SAMPLES.

-CRIMINALIST (1998-2004)-CT STATE FORENSIC SCIENCE LABORATORY (CSFSL), DIVISION OF SCIENTIFIC SERVICES, MERIDEN, CT. RESPONSIBLE FOR EXAMINATION OF BIOLOGICAL EVIDENCE, DNA TESTING OF EVIDENCE, INTERPRETATION OF RESULTS, COURT TESTIMONY AND CONVICTED OFFENDER DNA SAMPLE PROCESSING.

Additional Teaching Experience

2014-INSTRUCTOR, FORENSIC SCIENCE FOR EDUCATORS, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2014-INSTRUCTOR, FORENSIC ANTHROPOLOGY and HUMAN REMAINS, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2012-INSTRUCTOR, BIOLOGICAL EVIDENCE COLLECTION, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2012-INSTRUCTOR, FORENSIC SCIENCE FOR HIGH SCHOOL EDUCATORS, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2005-INSTRUCTOR, LATENT EVIDENCE WORKSHOP, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2004-INSTRUCTOR, CRIME SCENE ANALYSIS AND RECONSTRUCTION, H.C. LEE INSTITUTE OF FORENSIC SCIENCE
2003-ADJUNCT FACULTY, ADVANCED FORENSIC SCIENCE I, UNIVERSITY OF NEW HAVEN
2002-ADJUNCT ASSISTANT PROFESSOR, DNA IN FORENSIC SCIENCE, UNIVERSITY OF CONNECTICUT
2002-INSTRUCTOR, FORENSIC SCIENCE FOR HIGH SCHOOL TEACHERS, PFIZER CORPORATION
2001-ADJUNCT ASSISTANT PROFESSOR, DNA IN FORENSIC SCIENCE, UNIVERSITY OF CONNECTICUT
2001-INSTRUCTOR, CONNECTICUT PROSECUTOR TRAINING: ADVANCES IN DNA SCIENCE, CSFSL
2001-INSTRUCTOR, FORENSIC SCIENCE, NEW MILFORD HIGH SCHOOL
2000-INSTRUCTOR, CONNECTICUT PROSECUTOR TRAINING: ADVANCES IN DNA SCIENCE, CSFSL
2000-ADJUNCT ASSISTANT PROFESSOR, DNA IN FORENSIC SCIENCE, UNIVERSITY OF CONNECTICUT
1999-INSTRUCTOR, DNA IN FORENSIC SCIENCE, WESLEYAN UNIVERSITY
1992-TEACHING ASSISTANT, INTRODUCTION TO GENETICS, UNIVERSITY OF NEW HAMPSHIRE
1991-TEACHING ASSISTANT, INTRODUCTION TO BIOLOGY, UNIVERSITY OF NEW HAMPSHIRE
1988-TEACHING ASSISTANT, INTRODUCTION TO PLANT PHYSIOLOGY, UNIVERSITY OF NEW HAMPSHIRE

Invited Speaker

2015-ERROR RATES IN PROBABILISTIC GENOTYPING SOFTWARE FOR DNA MIXTURES IN HUMAN IDENTIFICATION – HOW TO COMPARE? INTERNATIONAL SYMPOSIUM ON FORENSIC SCIENCE ERROR MANAGEMENT [JULY 21-24, 2015, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)]
2015-CONTINUING LEGAL EDUCATION (CLE) PRESENTATION/PARTICIPATION “UPDATE ON THE USE OF FST AND LCN TESTING” (JANUARY 14, 2015; SPEAKER/SPONSOR – ATTORNEY KYLE WATTERS)
2013-CONTINUING LEGAL EDUCATION (CLE) PRESENTATION/PARTICIPATION “UNWRAPPING THE MYSTERIES OF DNA AND USE OF FST” –BRONX HALL OF JUSTICE, NEW YORK, NY (MARCH 14, 2013; SPEAKER/SPONSOR – ATTORNEY KYLE WATTERS)
2013-CONTINUING LEGAL EDUCATION (CLE) PRESENTATION “BASIC DNA AND CONTEXTUAL CONTAMINATION IN CASES” – ASSIGNED COUNSEL, NEW YORK, NY (OCTOBER 17, 2013; SPONSOR – ATTORNEY MICHAEL ALPERSTEIN)
2013-CONTINUING LEGAL EDUCATION (CLE) PRESENTATION “INTERPRETATION OF DNA AND MIXTURES” –ASSIGNED COUNSEL, NEW YORK, NY (NOVEMBER 7, 2013; SPONSOR – ATTORNEY MICHAEL ALPERSTEIN)
2010-NATIONAL MARIJUANA INITIATIVE –CAMP MEETING, SAN DIEGO, CA
2009-AMERICAN ACADEMY OF FORENSIC SCIENCES, SEATTLE, WA
2009-NATIONAL MARIJUANA INITIATIVE –CAMP MEETING, SACRAMENTO, CA
2009-FACULTY BROWN BAG LUNCHEON, UNH, ‘FORENSIC BOTANY’
2008-GREENWICH SCIENCE CENTER, GREENWICH MIDDLE AND HIGH SCHOOLS-‘FORENSIC SCIENCE AND CAREERS’, GREENWICH, CT 2006-HARVARD WEBINAR SERIES, ‘FORENSIC BOTANY’
2005-FOURTH EUROPEAN-AMERICAN SCHOOL IN FORENSIC GENETICS, DUBROVNIK, CROATIA
2005-FIFTH ANNUAL DNA GRANTEE’S WORKSHOP, NIJ/ILJ, WASHINGTON, DC
2005-AMERICAN ACADEMY OF FORENSIC SCIENCES, NEW ORLEANS, LA
2004-OFFICE OF NATIONAL DRUG CONTROL POLICY, WASHINGTON, DC
2004-DNA FORENSICS: ENABLING INVESTIGATIVE EXAMINATION, CAMBRIDGE HEALTHTECH INSTITUTE, MCLEAN, VA
2004-CTLA CIVIL JUSTICE FOUNDATION SEMINAR SERIES ON CRIMINAL LITIGATION, NEW HAVEN, CT
2003-FOURTH ANNUAL DNA GRANTEE’S WORKSHOP, NIJ/ILJ, WASHINGTON, DC
2003-FUTURE PROBLEM SOLVING PROGRAM OF CONNECTICUT DNA IDENTIFICATION WORKSHOP, UCONN, STORRS, CT
2003-CHILD ABUSE INVESTIGATION TEAM, WINSTED, CT

2003-THIRD EUROPEAN-AMERICAN SCHOOL IN FORENSIC GENETICS, ZAGREB, CROATIA
2003-NEW DNA TECHNOLOGY EXPEDITION, PROMEGA CORPORATION, PORTLAND, ME
2002-THIRD ANNUAL DNA GRANTEE'S WORKSHOP, NIJ/ILJ, WASHINGTON, DC
2001-SECOND EUROPEAN-AMERICAN SCHOOL IN FORENSIC GENETICS, DUBROVNIK, CROATIA
2001-YOUNG WOMEN IN SCIENCE PROGRAM, SIMON'S ROCK COLLEGE OF BARD, HOUSATONIC, MA
2001-MELANIE ILENE RIEGER MEMORIAL CONFERENCE AGAINST VIOLENCE, CENTRAL CT STATE UNIVERSITY, NEW BRITAIN, CT
2000-TRI-STATE GENETICS IN THE COURTS CONFERENCE FOR JUDGES, KILLINGTON GRAND RESORT, KILLINGTON, VT
1999-DNA TYPING TECHNIQUES, CRIMINAL JUSTICE PROGRAM, CENTRAL CT STATE UNIVERSITY, NEW BRITAIN, CT
1999-FORENSIC DNA TYPING TECHNIQUES, PRE-LAW AND FORENSIC NURSING PROGRAM, WESTERN CT STATE UNIVERSITY, DANBURY, CT
1992-GENE TRANSFER IN PLANTS, BIOLOGY DEPARTMENT, UNIVERSITY OF NEW HAMPSHIRE, MANCHESTER, NH
1989-DNA AND FOSSILS, BIOLOGY DEPARTMENT, ST. ANSELM COLLEGE, MANCHESTER, NH

Scientific Publications

- H. MILLER COYLE. 2015. QUALITY CONTROL AND DUPLICATION FOR CONCORDANCE IN FORENSIC DNA SAMPLES: IMPLICATIONS FOR INTERPRETATION OF MIXTURES. INTERNATIONAL RESEARCH JOURNAL OF COMPUTER SCIENCE. 2(6): 16-18.
- H. MILLER COYLE. 2015. SOURCES OF COMPUTATIONAL ERROR IN PROBABILISTIC GENOTYPING SOFTWARE USED FOR DNA MIXTURE INTERPRETATION. INTERNATIONAL RESEARCH JOURNAL OF COMPUTER SCIENCE. 2(5): 12-16.
- J. MILES, H. MILLER COYLE. 2015. QUALITY CONTROL AND TRANSFER OF TOUCH DNA IN FINGERPRINTING METHODS. NORTHEASTERN ASSOCIATION OF FORENSIC SCIENTISTS (NEAFS) NEWSLETTER. 40(3): 38-43.
- K.B. WATTERS, H. MILLER COYLE. 2014. UNWRAPPING THE MYSTERIES OF THE FORENSIC STATISTICAL TOOL (FST): A PROBABILISTIC GENOTYPING SOFTWARE PROGRAM. (manuscript submitted).
- M. HAZELL-SMITHEN, T. CALLAHAN, H. MILLER COYLE. 2014. TOUCH DNA AND THE ABILITY TO DETECT THE CORRECT SOURCE. INTERNATIONAL JOURNAL OF ADVANCED TECHNOLOGY AND SCIENCE. 1 (1): 45-51.
- K. BAYLOR, H. MILLER COYLE. 2014. COLD CASE HOMICIDE WITH PATERNITY AS AN INVESTIGATIVE LEAD (PEOPLE OF STATE OF NEW YORK V. ROBERT SYMONDS, JR.). JOURNAL OF FORENSIC RESEARCH AND CRIMINAL STUDIES. 1:102.
- K. CURTIS, H. MILLER COYLE. 2014. DEVELOPMENT OF A QUANTITATIVE REAL-TIME POLYMERASE CHAIN REACTION (RT-PCR) ASSAY FOR PLANT SPECIES. JOURNAL OF FORENSIC RESEARCH AND CRIMINAL STUDIES. 1: 104.
- H. MILLER COYLE. 2012. THE IMPORTANCE OF SCIENTIFIC EVALUATION OF BIOLOGICAL EVIDENCE – DATA FROM EIGHT YEARS OF CASE REVIEW. SCIENCE & JUSTICE, DOI: 10.1016/J.SCIJUS.2012.01.002.
- P. MASSEY, P. VALENTIN, H. MILLER COYLE. 2012. BOTANY AND BODIES –FORENSIC SCIENCE APPLICATIONS TO THE CRIME SCENE. J. ROBERTS, N. MARQUEZ-GRANT (EDS). IN: FORENSIC ECOLOGY: FROM CRIME SCENE TO COURT. WILEY-BLACKWELL (UK).
- N. SHIRLEY, L. ALLGEIER, T. LANIER, H. MILLER COYLE. 2012. ANALYSIS OF THE NMIO1 MARKER FOR A POPULATION DATABASE OF CANNABIS SEEDS. JOURNAL OF FORENSIC SCIENCES, DOI: 10.1111/1556- 4029.12005.
- L. ALLGEIER, J. HEMENWAY, N. SHIRLEY, T. LANIER, H. MILLER COYLE. 2011. FIELD TESTING OF DNA COLLECTION CARDS FOR CANNABIS SATIVA WITH A SINGLE HEXANUCLEOTIDE MARKER. JOURNAL OF FORENSIC SCIENCES. 56(5):1245-59.
- H. MILLER COYLE. 2011. CAPILLARY ELECTROPHORESIS OF DNA FROM *CANNABIS SATIVA* FOR CORRELATION OF SAMPLES TO GEOGRAPHIC ORIGIN. A. ALONSO (ED). IN: DNA ELECTROPHORESIS PROTOCOLS FOR FORENSIC GENETICS. HUMANA PRESS (USA).
- K. M. REIDY, A. GAREIS, D. SUN, R. AUCLAIR, T. WONG, R. LANG, H. MENG, H. MILLER COYLE, H.C. LEE AND A. B. HARPER. 2009. GENDER IDENTIFICATION DIFFERENCES OBSERVED FOR DNA QUANTIFICATION VERSUS DNA GENOTYPING OF MUMMIFIED HUMAN REMAINS –HOW IT RELATES TO HUMAN IDENTIFICATIONS IN FORENSIC SCIENCE. INVESTIGATIVE SCIENCES JOURNAL. 1: 1-12.
- H. MILLER COYLE. 2009. FORENSIC BOTANY: EVIDENCE AND ANALYSIS. FORENSIC SCIENCE REVIEW. 1:16-23.
- H. MILLER COYLE. 2009. AN INTRODUCTION TO FORENSIC SCIENCE AND DNA. IN: THE USE OF FORENSIC ANTHROPOLOGY, EDITOR: R. PICKERING, D. BACHMAN. CRC PRESS, BOCA RATON, FL.
- H.MILLER COYLE, C.-L. LEE, W.-Y. LIN, H. C. LEE AND T. M. PALMBACH. 2005. FORENSIC BOTANY: USING PLANT EVIDENCE TO AID IN FORENSIC DEATH INVESTIGATION. CROATIAN MEDICAL JOURNAL 46(4): 606-612.
- C.-L. LEE, H. MILLER COYLE, E. CARITA, C. LADD, N. YANG, T. M. PALMBACH, I. C. HSU AND H. C. LEE. 2005. DNA ANALYSIS OF DIGESTED TOMATO SEEDS IN STOMACH CONTENTS. AMERICAN JOURNAL OF FORENSIC MEDICINE AND PATHOLOGY 26:330-333.

H.MILLER COYLE, T. PALMBACH, N. JULIANO, C. LADD AND H.C. LEE. 2003. AN OVERVIEW OF DNA METHODS FOR THE IDENTIFICATION AND INDIVIDUALIZATION OF MARIJUANA. CROATIAN MEDICAL JOURNAL 44(3): 315-321.

H.C. LEE, H. MILLER COYLE AND C. LADD. 2003. DNA TYPING METHODS USING BONE SAMPLES IN HUMAN IDENTIFICATION CASEWORK. IN: TO THE ALEUTIANS AND BEYOND-THE ANTHROPOLOGY OF WILLIAM S. LAUGHLIN. PUBLICATIONS OF THE NATIONAL MUSEUM ETHNOGRAPHICAL SERIES, VOL. 20. P. 227-242.

H. MILLER COYLE, G. SHUTLER, S. ABRAMS, J. HANNIMAN, S. NEYLON, C. LADD, T. PALMBACH AND H.C. LEE. 2003. A SIMPLE DNA EXTRACTION METHOD FOR MARIJUANA SAMPLES USED IN AMPLIFIED FRAGMENT LENGTH POLYMORPHISM (AFLP) ANALYSIS. J. FORENSIC SCIENCES 48(2): 343-347.

H. MILLER COYLE, B. BUDOWLE, M. BOURKE, E. CARITA, J. HINTZ, C. LADD, C. ROY, N.C.S. YANG, T. PALMBACH AND H.C. LEE. 2003. POPULATION DATA FOR SEVEN Y-CHROMOSOME STR LOCI FROM THREE DIFFERENT POPULATION GROUPS RESIDING IN CONNECTICUT. J. FORENSIC SCIENCES 48(2): 435- 437.

H. MILLER COYLE, C. LADD, T. PALMBACH AND H.C. LEE. 2001. THE GREEN REVOLUTION: BOTANICAL CONTRIBUTIONS TO FORENSICS AND DRUG ENFORCEMENT. CROATIAN MEDICAL JOURNAL 42(3): 340-345.

H. MILLER COYLE, C. LADD AND H.C. LEE. DATABASE FACILITATES INVESTIGATION. THE CONNECTICUT LAW TRIBUNE. FEBRUARY 26, 2001.

H. MILLER COYLE, C. LADD AND H.C. LEE. THE SCIENCE OF DNA TESTING: THE NEW STR TECHNOLOGY. THE CONNECTICUT LAW TRIBUNE. FEBRUARY 26, 2001.

C. SCHERCZINGER, J. HINTZ, B. PECK, M. ADAMOWICZ, M. BOURKE, H. MILLER COYLE, C. LADD, N.C.S. YANG, B. BUDOWLE AND H.C. LEE. 2000. ALLELE FREQUENCIES FOR THE CODIS CORE STR LOCI IN CONNECTICUT POPULATIONS. J. FORENSIC SCIENCES 45(4): 938940.

H.C. LEE, C. LADD AND H. MILLER COYLE. 1999. FORENSIC BIOLOGY. IN: 9 EDITION OF MCGRAW- HILL ENCYCLOPEDIA OF SCIENCE AND TECHNOLOGY. MCGRAW-HILL PUBLISHERS (WWW.ACCESSSCIENCE.COM)

University and Community Service

Connecticut Agricultural Experimental Station (CAES) Biosafety Committee member
Scientific Advisory Board member
University of New Haven Budget & Finance Committee Chair
Undergraduate Core Curriculum Committee member
University of New Haven Faculty Senate member
Ph.D. Program Committee – Criminal Justice Department, member
University Grievance Committee member
Guest reviewer for Journal of Forensic Science
Guest reviewer for Journal of Food and Drug Analysis
Private Consultant – criminal and civil casework DNA review on request by legal counsel