COLORADO SPRINGS (January 8, 2020) – The 72nd Annual Scientific Meeting of the American Academy of Forensic Sciences (AAFS) will take place Feb. 17-22, 2020, at the Anaheim Convention Center, Anaheim, California. Themed “Crossing Borders,” AAFS President Zeno J. Geradts, PhD, will lead the scientific community of nearly 4,000 national and international forensic professionals in the discussion of the most current research and updates in their fields and exchange ideas through collaboration, networking, and cross-pollination of knowledge across the forensic community.

More than 1,000 scientific papers, seminars, workshops, and other special sessions are presented relating to the 11 disciplines of the forensic sciences, which cover a multidisciplinary range of human, technical, medical, and scientific endeavors to search for the truth in the name of justice. More than 150 exhibitors will showcase the cutting-edge technology and services of this ever-changing profession.

The scientific meeting begins with a public outreach event: The CSI Adventure and artificial-intelligence lecture, presented in partnership with Discovery Cube Orange County. The family-friendly event will be held at Discovery Cube Orange County, 2500 N. Main St., Santa Ana, California, from 11:00 a.m. to 2:00 p.m., Sunday, Feb. 16, 2020. AAFS forensic professionals will facilitate several hands-on experiments, from DNA testing of fruit to facial-recognition reconstruction and crime-scene investigation techniques.

From 9:00 a.m. to 11:30 a.m., Wednesday, Feb. 19, the opening plenary session, “Crossing Borders,” will examine knowledge gained through experience and will also cover some of the advances on the horizon. Topics include Biometrics: Identity Verification and Identity Discovery with Finger, Face, and DNA; Mass Fatality Preparedness–Lessons Learned from the October 1, 2017 Shooting in Las Vegas; and Invisible Children in the World of Global Human Trafficking. A panel discussion will follow the presentations.
For updates on AAFS during the scientific meeting, visit the AAFS newsfeed at www.aafs.org.

COMPLIMENTARY REGISTRATION FOR JOURNALISTS: Individuals able to document a current direct connection with the news media may receive free registration at the AAFS registration desk, as may journalism students, by presenting letterhead/stationery certification that they are attending as part of a class activity. Individuals seeking access to any aspect of the annual meeting must be registered. Press attending special functions (e.g., workshops, seminars, luncheons) are required to pre-register and pay the designated fees by the pre-registration deadline of January 20, 2020.

About AAFS

The American Academy of Forensic Sciences is a multidisciplinary professional organization providing leadership to advance science and its application to the legal system. The objectives of the Academy are to promote professionalism, integrity, competency, and education, and to foster research, improve practice, and encourage collaboration in the forensic sciences.

Organized in 1948, AAFS serves a distinguished and diverse membership of more than 6,700 forensic-science professionals who are the focal point for public information when forensic-science issues are addressed in the public domain. AAFS publishes the internationally recognized Journal of Forensic Sciences. For more information, visit www.aafs.org.

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February 17, 2020

CROSSING BORDERS

WHO: American Academy of Forensic Sciences (AAFS)

WHAT: A rare opportunity for media to hear from professionals in the forensic sciences at the Plenary Session that opens the 2020 AAFS Annual Scientific Meeting. AAFS 2020-21 President Zeno Geradts, PhD, hosts “Crossing Borders,” an engaging session that will examine biometrics: identity verification and identity discovery with finger, face, and DNA; mass fatality preparedness; and invisible children in the world of global human trafficking. Presenters include:

- Thomas F. Callaghan, PhD, Federal Bureau of Investigation, Quantico, Virginia
- John Fudenberg, MBA, Clark County Office of the Coroner/Medical Examiner, Las Vegas, Nevada
- David Reichert (former Congressman), Gordon Thomas Honeywell, Auburn, Washington

The AAFS 72nd Annual Scientific Meeting takes place Feb. 17-22, at the Anaheim Convention Center, Anaheim, California.

WHERE: Anaheim Convention Center
800 W. Katella Ave., Anaheim, California 92802

WHEN: Wednesday, Feb. 19, 2020, from 9:00 a.m. to 11:30 a.m., as part of the AAFS 72nd Annual Scientific Meeting, which takes place Feb. 17-22.

NOTE: Members of the media must check in at the AAFS meeting registration desk and provide press credentials in order to be escorted to the presentation.

MORE INFO: Media Kit available at www.aafs.org

COMMENTS: Presenters may be available for interviews; no photography or video permitted during the presentation.
About the AAFS

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It is the policy of the American Academy of Forensic Sciences (AAFS) to allow accredited members of the press to audit scientific sessions during the annual meeting. Complimentary press passes are issued at the AAFS on-site registration desk. Members of the press are required to provide evidence of accreditation in the form of a valid press badge or other verifiable proof.

Press personnel attending special functions (e.g., workshops, breakfast seminars, luncheons, etc.) are required to pre-register and pay the fees designated for special sessions by the pre-registration deadline of January 20, 2020. If press have not pre-registered by this date, access to the special session will not be permitted.

No audio or videotaping is permitted without prior written approval from AAFS. AAFS will take the following steps should press violate any part of the Press Policy:

- Press/Reporter will delete or relinquish any audio and/or video recordings to AAFS.
- Press/Reporter will relinquish the AAFS issued press pass.
- Press/Reporter will be escorted from the premises and will not be permitted to return for the duration of the meeting.
- Should the Press/Reporter violate the Press Policy a second time, no future press passes will be issued.

__________________________
Press Agency

__________________________ Date: _______________________
Name (print)

__________________________
Signature
FACT SHEET

PURPOSE: The American Academy of Forensic Sciences is a multidisciplinary professional organization that provides leadership to advance science and its application to the legal system. The Academy promotes integrity, competency and education, fosters research, improves practice, and encourages collaboration in the forensic sciences.

FOUNDED: 1948

MEMBERSHIP: 6,700
Members are divided into eleven sections spanning the forensic enterprise. Included among the Academy's members are physicians, attorneys, dentists, toxicologists, anthropologists, document examiners, psychiatrists, physicists, engineers, criminalists, educators, digital evidence experts, and others. Representing all 50 United States, Canada, and 60 other countries worldwide, they actively practice forensic science and, in many cases, teach, and conduct research in the field as well.

FORENSIC SECTIONS:
- Anthropology
- Criminalistics
- Digital & Multimedia Sciences
- Engineering & Applied Sciences
- General
- Jurisprudence
- Odontology
- Pathology/Biology
- Psychiatry & Behavioral Science
- Questioned Documents
- Toxicology

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EXECUTIVE DIRECTOR: Anne Warren
awarren@aafs.org

WEBSITE: www.aafs.org

A professional society dedicated to the application of science and law.
LEADERSHIP
Dr. Zeno Geradts is a senior forensic scientist at the Netherlands Forensic Institute in the Digital and Biometric Traces department. He is also a full professor at the University of Amsterdam in the field of Forensic Data Science.

In 1999, Dr. Geradts became a member of the American Academy of Forensic Sciences (AAFS). He was awarded the status of Fellow in the Digital & Multimedia Sciences Section in 2008. He has served on the American Academy of Forensic Sciences (AAFS) Board of Directors since 2010 and has been involved in various committees since 2004. He is currently AAFS President and is Chairman of the European Network of Forensic Science Institutes (ENFSI) Forensic IT Working Group. As chairman of the International Affairs Committee, he strongly supported the Brazilian Academy of Forensic Sciences to become the first “sister academy” of AAFS. He has written numerous papers in the field of digital and multimedia science, as well as book chapters and is a regularly invited speaker at major conferences around the world. In 2012, he received the ENFSI Distinguished Forensic Scientist Award. Within the Horizon 2020 projects of the European Commission, Dr. Geradts is active on several European projects. He regularly testifies in court on forensic multimedia cases and has written more than 700 forensic reports since 1991.

Dr. Geradts has received numerous awards, including the Distinguished Forensic Scientist Award, European Network of Forensic Science Institutes (ENFSI), 2012; the Young Investigator Award, International Association of Forensic Sciences (IAFS), Tokyo, Japan, 1996; and the Young Investigator Award, National Research Institute of Police Science, Tokyo, Japan, 1995. He was awarded the Engineering Sciences Section Founder’s Award in 2007 and the Digital & Multimedia Sciences Section Carrie Morgan Whitcomb Award in 2016.

Dr. Geradts was born in Oosterhout (The Netherlands) and graduated from Technische Hogeschool Rijswijk, Rijswijk, Netherlands with a bachelor of science in 1988. He was awarded a PhD in 2002 from Utrecht University, Utrecht, Netherlands.
Dr. Jeri Ropero-Miller is a Chief Scientist in the Applied Justice Research Division at RTI International. With expertise in the areas of forensic toxicology and criminal justice research, she has published on topics such as postmortem drug studies, emerging drugs, hair-drug studies, drug surveillance and intelligence, program evaluation, and technology evaluation and adoption. Ongoing projects she supports include the National Institute of Justice’s Forensic Technology Center of Excellence and its Criminal Justice Technology and Evaluation Consortium, the Drug Enforcement Administration-funded National Forensic Laboratory Information System, the Bureau of Justice Statistics-funded 2018 Census of Medical Examiners/Coroners’ Offices and the 2019 Census of Publicly Funded Forensic Crime Laboratories.

Dr. Ropero-Miller is board certified by the American Board of Forensic Toxicology. She is currently the President-Elect of the American Academy of Forensic Sciences and served on the Toxicology Subcommittee of the National Institute of Standards and Technology, Organization of Scientific Area Committees until 2019 and continues to serve as an Affiliate for OSAC. She received her doctoral degree in Clinical Chemistry and Forensic Toxicology from the University of Florida College of Medicine. Her work has been published extensively, and she is recognized nationally and international for her work in criminal justice research.

Dr. Ropero-Miller is a Fellow of the AAFS and a member of the AAFS Toxicology Section.
Dr. Bruce Goldberger is a Professor and the Chief of the Forensic Medicine Division in the Department of Pathology, Immunology and Laboratory Medicine in the College of Medicine at the University of Florida in Gainesville, Florida. Dr. Goldberger holds a joint Professor position in the Department of Psychiatry Division of Addiction Medicine. Additionally, he is the Director of the William R. Maples Center for Forensic Medicine and the Program Director of the Florida Emergency Mortuary Operations Response System.

Dr. Goldberger is the Technical and Administrative Director of the Forensic Toxicology Laboratory at the University of Florida which provides toxicological services to Medical Examiner Offices and State and local law enforcement agencies throughout the State of Florida. Dr. Goldberger has been qualified as an expert witness more than 360 times in Federal, State, Military and Canadian courts of law. Dr. Goldberger is an opioid consultant for the Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention and is a member of the White House Office of National Drug Control Policy Emerging Threats Committee.

Dr. Goldberger received a Bachelor of Arts Degree in Zoology from Drew University in Madison, New Jersey and Master of Science and Doctor of Philosophy Degrees in Forensic Toxicology from the University of Maryland School of Medicine in Baltimore, Maryland. Dr. Goldberger is a Fellow of the American Board of Forensic Toxicology and the AACC Academy.

Dr. Goldberger is the editor-in-chief of the Journal of Analytical Toxicology. Dr. Goldberger is a Past President of the American Academy of Forensic Sciences and the Society of Forensic Toxicologists, and the current President of the American Board of Forensic Toxicology and the Forensic Specialties Accreditation Board. He has published numerous articles, reviews chapters related to forensic toxicology, and is co-editor of the Handbook of Workplace Drug Testing, 1st and 2nd editions, On-Site Drug Testing and Garriott's Medicolegal Aspects of Alcohol, 6th Edition.

In recognition of Dr. Goldberger's achievements, he has received the following honors and awards: American Academy of Forensic Sciences Toxicology Section’s Sunshine Award; American Association for Clinical Chemistry's Outstanding Scientific Achievements by a Young Investigator Award; The International Association of Forensic Toxicologists’ mid-career achievement award for excellence in forensic toxicology; American Academy of Forensic Sciences Toxicology Section's Alexander O. Gettler Award in recognition of outstanding contributions to the field and profession of forensic toxicology; Florida Association of Medical Examiners' Outstanding Achievement Award; Drew University’s Achievement in the Sciences Award; National Safety Council’s Robert F. Borkenstein Award for outstanding contributions to alcohol- and drug-related traffic safety; and Northeastern University’s Richard Saferstein Memorial Award in Forensic Science.
AAFS The CSI Adventure and Artificial Intelligence Lecture

WHO: American Academy of Forensic Sciences (AAFS), in partnership with Discovery Cube Orange County

WHAT: The AAFS 2020 Annual Scientific Meeting, which is being held in Anaheim, California, begins with a public outreach event, The CSI Adventure, presented in partnership with Discovery Cube Orange County. The family-friendly event will be held from 11:00 a.m. till 2:00 p.m. at the Discovery Cube Orange County. AAFS forensic professionals will present several hands-on experiments, including DNA testing of fruit, bone identification, and a crime scene and evidence activity. AAFS President Zeno J. Geradts, PhD, and AAFS President-Elect Jeri D. Ropero-Miller, PhD, will present a lecture on artificial intelligence and the opioid crisis, respectively, at 12:00 noon in the Discovery Cube lecture hall. This is a highly visual event.

The CSI Adventure and lecture is included with Discovery Cube General Admission or Discovery Cube Membership.

Each year, AAFS presents a public outreach event as a part of its annual scientific meeting, which is held in a different city throughout the country each year.

The AAFS 72nd Annual Scientific Meeting takes place Feb. 17-22, at the Anaheim Convention Center, Anaheim, California.

WHERE: Discovery Cube Orange County
2500 N. Main Street, Santa Ana, CA 92705

WHEN: 11:00 a.m. - 2:00 p.m., Sunday, Feb. 16, 2020

MORE INFO: The AAFS Media Kit is available at https://www.aafs.org/home-page/meetings/2020-aafs-annual-scientific-meeting/. Event information can be found at oc.discoverycube.org or by calling the Discovery Cube Orange County at (714) 542-2823.

COMMENTS: Onsite AAFS presenters may be available for interviews.
About the AAFS

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AMERICAN ACADEMY OF FORENSIC SCIENCES

A PROFESSIONAL SOCIETY DEDICATED TO THE APPLICATION OF SCIENCE TO THE LAW.
It was this thought that inspired Dr. Rutherford B.H. Gradwohl to organize fellow scientists, doctors, and lawyers to form the First American Medicolegal Congress. On January 19, 1948, at the St. Louis Police Academy, R.B.H. Gradwohl, MD, greeted 150 forensic authorities from around the world. Their immediate purpose was the exchange of scientific information.

The ultimate goal of the founding members of the Academy became the establishment of a professional organization to engender the confidence and respect of the nation’s courts and to see the ends of justice attained. Through their hard work and dedication, they formed a most prestigious worldwide forensic science organization.

For over 60 years, the American Academy of Forensic Sciences (AAFS) has served a distinguished and diverse membership. Its 6,000 members are divided into 11 sections spanning the forensic enterprise:

• Criminalistics
• Digital & Multimedia Sciences
• Engineering Sciences
• Jurisprudence
• Odontology
• Pathology/Biology
• Physical Anthropology
• Psychiatry & Behavioral Science
• Questioned Documents
• Toxicology
• Multidisciplinary (General Section)

Included among the AAFS members are physicians, attorneys, dentists, toxicologists, physical anthropologists, document examiners, psychiatrists, engineers, physicists, chemists, criminalists, digital evidence experts, educators, and other professionals. Representing all 50 United States, Canada, and 61 other countries worldwide, AAFS members actively practice forensic science and, in many cases, teach and conduct research in their respective disciplines.

Each section provides opportunities for professional development, personal contacts, awards, and recognition. Many sections publish periodic newsletters and mailings, which keep their members abreast of activities and developments in their disciplines.

As a professional society dedicated to the application of science to the law, the AAFS is committed to the promotion of education and the elevation of accuracy, precision, and specificity in the forensic sciences. As the world’s most prestigious forensic science organization, the AAFS represents its membership to the public and serves as the focal point for public information concerning the forensic science profession. It accomplishes these goals through:

• The Journal of Forensic Sciences, an internationally recognized scientific journal
• The Academy News Feed
• The annual scientific meeting
• Seminars and conferences
• Initiation of actions and reactions to various issues of concern
• Placement services

Each February, the AAFS annual meeting gathers together more than 4,000 world-renowned professionals to present the most current information, research, and updates in their fields. More than 800 scientific papers, seminars, workshops, and other special sessions are presented. In addition, more than 120 exhibitors showcase the cutting-edge technology and services of this ever-changing profession.

The Academy also offers professional continuing education credits for physicians, dentists/odontologists, attorneys, chemists, and toxicologists attending workshops, seminars, and scientific sessions at the annual meeting. The AAFS has obtained accreditation from the following national and state agencies:

• Accreditation Council for Continuing Medical Education (ACCME)- Category I of the Physician’s Recognition Award of the American Medical Association
• Academy of General Dentistry for AGD Mastership, Fellowship, and membership maintenance credit
• Dental Board of California
• Continuing Legal Education American Association of Clinical Chemistry (ACCENT® credit)
ACCOMPLISHMENTS

The Academy’s members and their contributions to the advancement of the forensic sciences have made the American Academy of Forensic Sciences what it is today. This following is a sampling of the most notable Academy’s achievements:

1956  Published the first issue of the Journal of Forensic Sciences

1972  Established the Forensic Sciences Foundation (FSF) to further research and education in the forensic sciences

1975  Created certification boards for anthropology, document examination, odontology, psychiatry, and toxicology

1975  Created the Crime Laboratory Proficiency Testing Program

1978  Served as advisors before the U.S. House of Representatives Select Committee on Assassinations

1984  Published the definitive work on death investigation through the FSF

1991  Published the Alcohols Bibliography through the FSF

1994  Published the Cigarette Butt Identification Manual through the FSF

1995  Established the Young Forensic Scientists Forum (YFSF) for professionals new to their careers

1996  Published the Forensic Insect Field Identification Cards through the FSF

1997  Published the Medicolegal Death Investigation: Treatises in the Forensic Sciences through the FSF

1997  Conducted a joint two-day workshop on Firearms Identification with the Association of Firearms and Toolmark Examiners

1998  Celebrated its 50th Anniversary

1998  Conducted a joint workshop on Trace Evidence with the National Forensic Science Technology Center

1999  Served as a sponsoring organization of the 15th Triennial Meeting of the International Association of Forensic Sciences

2000  Joined the Consortium of Forensic Science Organizations (CFSO), which promotes forensic science issues in Washington, DC

2002  Provided the Journal of Forensic Sciences online through www.aafs.org

2002  Conducted the first Forensic Science Educational Conference to introduce middle and high school teachers to the forensic sciences

2002  Served as a co-sponsor with the National Institute of Justice, U.S. Department of Justice, at the annual National Conference on Science and the Law

2003  The Forensic Science Education Programs Accreditation Commission (FEPAC) awarded accreditation to five institutions

2004  The Forensic Specialties Accreditation Board (FSAB) awarded its first accreditation

2005  Established the International Educational Outreach Program (IEOP) to foster international and professional exchange

2008  Served as a sponsoring organization of the 18th Triennial Meeting of the International Association of Forensic Sciences

2008  The Forensic Science Education Programs Accreditation Commission (FEPAC) recognized by the Association of Specialized & Professional Accreditors (ASPA)

2010  $130,000 in research grants awarded by the FSF during the past 20 years

2010  The Forensic Science Education Program Accreditation Commission (FEPAC) is accepted for review by the Council for Higher Education Accreditation (CHEA)

2011  AAFS Reference Series (2002 – 2011) was published

2012  AAFS sponsored the first AAFS CSI Summer Camp for teens at San Jose State University Campus

2013  NIST presented its Forensic Science Initiative to the AAFS Board of Directors

2014  Initiated the AAFS Human Rights Resource Center

2015  The Academy Standards Board was established

2016  FEPAC-Accredited programs at the graduate and undergraduate levels reached 40 at 37 institutions

2017  IAFS 21st Triennial Meeting held in Toronto, Ontario, Canada
BENEFITS OF MEMBERSHIP

Your inclusion in the AAFS will give you access to the most experienced forensic scientists in the world via personal contacts, workshops, seminars, and the AAFS annual scientific meeting. As an AAFS member, you may attend the annual meeting at the reduced registration fee. Even with the expansion of electronic communication, there is no substitution for face-to-face discussions with your colleagues at the annual meeting.

In addition to your membership in one of the established fields of forensic science, you will be able to participate in the professional programs of scientists outside your forensic specialty.

You will receive the *Journal of Forensic Sciences*, the official bi-monthly publication of the AAFS devoted to the publication of original investigations, observations, scholarly inquiries, and reviews in the various branches of the forensic sciences. You also will have online access to this publication.

QUALIFICATIONS

Membership is available only to those persons of professional competence, integrity, and good moral character:

- who are actively engaged in the field of forensic sciences and who have made some significant contribution to the literature of forensic science, or
- who have advanced the cause of the forensic science in some other significant manner, or
- who satisfy the requirements for membership of the section applied to or recommended for, and
- who have earned a baccalaureate or higher academic degree from an accredited college or university (except Student Affiliates).

Trainee Associate level is a temporary status that exists for individuals who have completed the educational requirements and who are completing the experience requirements for Associate Member. Status may be maintained only until experience requirements for Associate Member are met.

Student Affiliate level is a temporary status that exists for individuals who are enrolled in forensic science undergraduate or graduate programs. Student Affiliate status may be maintained as long as the Student Affiliate is enrolled full-time in a program leading to a forensic science degree.

Applications for membership are acted upon at the AAFS annual meeting held in February. To be considered at the annual meeting, a completed application, including recommendation forms, must be received in the AAFS office no later than October 1. The toll free number, (800) 701-AAFS (2237), is available for individuals requesting an application or for questions regarding membership. Questions and/or requests may also be sent by mail to the AAFS headquarters at: 410 North 21st Street, Colorado Springs, CO 80904. Phone (719) 636-1100. Fax: (719) 636-1993. E-mail: membership@aafs.org. Website: www.aafs.org.

MAINTAINING STANDARDS

As a member of the Academy you may be assured that the highest standards are maintained on your behalf. As set forth in the Academy Bylaws, all AAFS members and affiliates are expected to adhere to the AAFS Code of Ethics. Simply stated:

- Every member and affiliate of the AAFS shall refrain from exercising professional or personal conduct adverse to the best interests and purposes of the Academy.

- Every member and affiliate of the AAFS shall refrain from providing any material misrepresentation of data upon which an expert opinion or conclusion is based.

Misrepresentation of one or more criteria for membership in the AAFS shall constitute a violation of this section of the code.

- Every member and affiliate of the AAFS shall refrain from providing any material misrepresentation of education, training, experience, or area of expertise.

- Every member and affiliate of the AAFS shall refrain from issuing public statements which appear to represent the position of the Academy without specific authority first obtained from the Board of Directors.
“The objectives of this Academy shall be to promote professionalism, integrity, and competency in the membership actions and associated activities; to promote education for and research in the forensic sciences; to encourage the study, improve the practice, elevate the standards and advance the cause of the forensic sciences; to promote interdisciplinary communications; and to plan, organize and administer meetings, reports, and other projects for the stimulation and advancement of these and related purposes.”

—AAFS Bylaws
MILESTONES
SIX DECADES OF MILESTONES

1948 – 2018
SIX DECADES OF MILESTONES

Preamble

At the 2007 Annual Meeting, President Bruce Goldberger introduced the Milestones concept to the Board of Directors and the Section Chairs and asked for their assistance. He appointed Carla Noziglia as Chair and she formed the Milestones Committee consisting of Ken Field, Doug Lucas, Joe Peterson and Ken Williams.

The Chair sent the first notice electronically to all AAFS Board of Directors representatives, Section Officers and the President on April 6, 2007. It read in part:

"Forensic science has taken many hits in the media in the last few years. This bad publicity has almost completely overshadowed the staggering accomplishments in our field. President Bruce Goldberger wants to do something about this. During the meeting, President Goldberger introduced you to the Milestone Committee concept."

The final document traces an exceptional journey of progress, a credit to the ingenuity, hard work, dedication and curiosity of many scientists.
1948 US Army operates the Central Identification Laboratory, Hawaii (CILHI) for the purpose of identifying thousands of US casualties from WWII.

First symposium on applied anthropology held at the American Association of Physical Anthropology meetings in Washington, DC.

1952 Trotter and Gleser publish a study of stature in American Whites and Blacks.

1957 McKern and Stewart publish *Skeletal Changes in Young American Males*, also known as the “Quartermaster’s Report.”

1960’s Development of a keystone academic program in forensic anthropology at the University of Kansas in the 1960’s, organized by William M. Bass III, Ellis R Kerley and Thomas McKern. This initiative not only produced key academic scholars in forensic anthropology but also created a foundation for the development of similar programs at other universities.

1962 Wilton Krogman publishes *The Human Skeleton in Forensic Medicine*, a landmark reference text.

1963 Giles and Elliot publish “Sex determination by discriminant function analysis of crania.”

1965 Ellis Kerley publishes “The microscopic determination of age in human bone”

1971 William Bass establishes what will become the Forensic Anthropology Center at the University of Tennessee.

1972 AAFS Physical Anthropology Section created.


1977 The American Board of Forensic Anthropology is organized to provide a program of certification for forensic anthropologists.

1979 T. Dale Stewart publishes *Essentials of Forensic Anthropology*, a synthesis of current methods and techniques.

1980 The first decomposition research facility is established at the Forensic Anthropology Center of the University of Tennessee.

1981 Establishment of the Mountain, Desert & Coastal Forensic Anthropologists. The founding of this first regional forensic anthropology group was followed in a few years by the
Mountain, Swamp and Beach, the Northeast Forensic Anthropological Association and the Biological Anthropology, Archaeology, and Forensic Anthropology Association. Development of full-time state forensic anthropology positions in Kentucky and New Jersey.


1986  Forensic Data Bank created by the Forensic Anthropology Center of the University of Tennessee.

Clyde Snow begins to establish and train human rights teams through the American Association for the Advancement of Science (AAAS), starting with the Argentine Forensic Anthropology Team (EAAF).

Judy Suchey and colleagues publish several papers introducing a method for aging the pubic symphysis based on a large modern forensic sample.

William Maples founds the C.A. Pound Human ID Laboratory at the University of Florida, the first privately funded laboratory devoted to forensic anthropology.

1991  C.A. Pound Human Identification Laboratory established at University of Florida.

1993  Richard Jantz and Stephen Ousley create the first version of FORDISC, a forensic anthropology software program.

2000  The Ellis Kerley Foundation is established as the first funding source, at the national level, solely for research in forensic anthropology.

2003  JPAC/CIL becomes the first forensic anthropology laboratory to obtain accreditation by American Society of Crime Laboratory Directors-Laboratory Accreditation Board.

2006  The International Association for Identification recognizes Forensic Anthropology as a forensic discipline.

Decomposition research facility established at Western Carolina University.

2007  Two- and three-dimensional facial reconstruction techniques assist in identifying skeletal remains.

2014  Physical Anthropology Section name changed to Anthropology Section.

The AAFS Forensic Science in Focus Book Series organized and edited by Doug Ubelaker

2015  The AFFS Humanitarian and Human Rights Resource Center formed and chaired by Doug Ubelaker, PhD.
Criminalistics Section

1950 School of Criminology, University of California at Berkley established by police chief August Vollmer.


James Dewey Watson works with Francis Harry Compton Crick to elucidate double helix molecular structure of DNA.

1971 Protocols and methods for typing of protein and enzyme markers published by Brian Culliford.

1977 Fourier transforms infrared spectrophotometer (FTIR) adapted for use in forensic laboratories.

Automated Fingerprint Identification System (AFIS) introduced by FBI.

1980 David Botstein and co-workers exploit small variations in DNA of different people by “Restriction Fragment Length Polymorphism” (RFLP).

1984/5 DNA profiling test developed by Sir Alec Jeffreys; findings published in Nature coining “DNA fingerprinting.”

1985 Polymerase chain reaction (PCR) technique published by Mullis

1986 DNA evidence used by Sir Jeffreys to identify Colin Pitchfork as murderer of two young girls in England.


1988 DNA casework begun by the FBI.

1991 Bulletproof launched by Forensic Technology Inc. (FTI) and developed in collaboration with the Bureau of Alcohol Tobacco and Firearms (ATF) for digital imaging and data basing of cartridge cases and projectiles.

1992 DRUGFIRE – an automated imaging system to compare marks left on fired cartridge cases was launched.

1993 Short tandem repeat (STR) DNA analysis kits.
1996  Mitochondrial DNA typing admitted in U.S. court *Tennessee v. Ware*.

1998  National DNA Indexing System (NDIS) initiated by FBI.


2007  DNA field analysis sensors for elimination of persons at the scene. Progressing from RFLP to PCR to STR to SNPTS.

Heptanes on labels and tapes to recover them for adhesive side processing.

Bluing develops latent prints on cartridge casings.

Molybdenum disulfide used for processing latent prints.
The Advisory Panel on White House Tapes publishes its final report regarding the technical investigation of the Nixon/Watergate audiotape containing the 18-1/2 minute gap.

Florida Computer Crime Act deals with computer crimes.


The International Symposium on the Forensic Applications of Digital Image Processing held at the FBI Academy, Quantico, VA.

The Morris Worm affects Internet.

Computers and floppy disks submitted to Federal forensic laboratories.

International Association of Computer Investigation Specialists formed.

FBI formed Computer Analysis and Response Teams.

FBI hosts First International Computer Forensic Conference at Quantico, VA.

FBI hosts Second International Conference at Baltimore, MD.

International Organization on Computer Evidence (IOCE) is formed.

Presentation on digital evidence given at INTERPOL Forensic Science Symposium.

Scientific Working Group on Imaging Technology formed.

EnCase computer forensics software published.

Digital evidence defined as "information of probative value that is stored or transmitted in a binary form" including digitized text, numerals, sound, images and video by Scientific Working Group on Digital Evidence (SWGDE).

INTERPOL Forensic Science Symposium makes digital evidence permanent discipline.

Defense Computer Forensics Laboratory established by the US Department of Defense.

The Coroner’s Toolkit (TCT) open source computer forensics software developed and released by Wietse Venema and Dan Farmer.

Workshop on digital evidence given at IAFS meeting in Los Angeles, CA.

2000 G-8 High Tech Crimes, aka Lyon Group made the following recommendations:
- Each member State is encouraged to consider the following principles when establishing procedures for the collection, preservation and use of digital evidence, according to its national law and standards bodies, and to be aware of potential differences when collecting evidence at the request of other States. These principles should be submitted by IOCE to other national, regional and international standards making bodies and organizations responsible for the promotion of procedures relating to digital evidence for review.
- IOCE should develop in consultation with the above-mentioned bodies, a generic good practice guide for the collection, preservation and use of digital evidence, encompassing the range of existing sources of digital evidence. The high-tech crime subgroup should review regularly the work of IOCE.

2001 Autopsy open source computer forensics software released by Brian Carrier.

2001 FBI, University of Tulsa, and the National Center for Forensic Science at the University of Central Florida host first Computer Forensic Educators’ Working Group.

2001 Air Force Research Laboratory hosted an international conference on digital forensics research, the Digital Forensic Research Workshop (DFRWS) held in Ithaca, NY.

2001 SWGDE members give workshops at American Academy of Forensic Sciences annual meeting.

2002 NIST Establishes Computer Forensics Tool Testing group.

2002 Workshop on digital forensics related to High Technology Terrorism presented at AAFS.

2002 Special interest group within General Section of AAFS for Digital Forensics Formed.


2003 American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) Delegate Assembly approved Digital and Multimedia Evidence Section.

2003 American Society of Crime Lab Directors/Laboratory Accreditation Board approved digital evidence as official crime laboratory discipline.

2004 Peer reviewed journal dedicated to digital forensics, Digital Investigation published.

2005  DFRWS organized as a private not for profit to continue the DFRWS Conference

2005  Audio Engineering Society (AES) hosts the first International Conference on Audio Forensics in Denver, CO, with subsequent conferences taking place in 2008 (Denver, CO), 2010 (Hillerød, Denmark), 2012 (Denver, CO), and 2014 (London, England).


2007  Digital Forensics Quality Solutions (DFQS) provider of competency and external proficiency tests for digital forensics examiners through the University of Central Florida’s Continuing Education Department.

2008  Digital & Multimedia Sciences Section formed in AAFS.

2012  Certified Cyber Forensics Professional Certification from (ISC)2.

2013  Formation of the Forensic Sciences Standards Board.

2013  Formation of the Organization of Scientific Area Committees.

1950s  Vehicle-to-vehicle impacts studied with the use of human volunteers.

1960s  High-resolution satellite and aerial photography used in classified applications.

        Scanning electron microscope and magnetic resonance imaging used in engineering applications.

        Advanced photographic and instrumentation techniques used to monitor the results of human volunteer impact tests.

1970s  Numerical models developed to describe vehicle dynamics.

        CALSPAN Corporation introduced the CRASH (Computer Reconstruction of Automobile Speeds on the Highway) program.

1980s  Automotive “black boxes” introduced by various vehicle manufacturers.

        Instrumented test dummies used to study vehicle impacts.

        High-resolution satellite and aerial photography used in global positioning.

        Positron emission tomography (PET) used in engineering applications.

1990s  Computers used to input and analyze data for accident reconstructions.

        Automotive “black boxes” associated with the introduction of air bags in response to Federal Motor Vehicle Safety standards.

        Computer modeling improved through the advent of fast and inexpensive desktop computers and software.

        High-resolution satellite and aerial photography used in commercial applications.

        Impact test databases established by the Air Force, the University of New Orleans and the National Highway Traffic Safety Administration (NHTSA).

2000s  Vetronix Corporation unveiled the Crash Data Retrieval (CDR) System for the retrieval of “black box” data.

        Genetic (DNA) fingerprinting of molds and toxins applied in engineering applications.
Photographic and measurement techniques improved for accident reconstruction investigation and reconstruction standards developed for accident reconstruction.

Black boxes on airplanes monitor systems and detect problems.

Additional parameters added to black boxes, changes made to fuel chemistry and modifications made to seats and emergency exists to reduce injuries and fatalities.

Analysis of injured/fatal airline passengers prompt modifications to seats, emergency exists, etc reducing number of injuries and fatalities based upon engineering changes.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1904</td>
<td>Forensic geology evidence first used in criminal case,</td>
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<tr>
<td>1923</td>
<td>Frye Case—that established the &quot;general acceptance&quot; rule governing forensic evidence until supplanted by <em>Daubert</em>,</td>
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<tr>
<td>1930s</td>
<td>Invention of the polygraph instrument.</td>
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<td></td>
<td>Implementation of the Northwestern University Crime Laboratory, the first in the nation, and eventually purchased by the Chicago Police Department.</td>
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<tr>
<td>1930-31</td>
<td>Forensic accountant key to conviction of Al Capone.</td>
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<tr>
<td>1950s</td>
<td>Identi-KIT used to build composite of suspects; now computerized version.</td>
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<tr>
<td>1951</td>
<td>Adhesive tape used to collect trace evidence.</td>
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<tr>
<td>1955</td>
<td>Bloodstain evidence interpretation recognized in US court.</td>
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<tr>
<td>1974</td>
<td>Gunshot residue detected using scanning electron microscopy with electron dispersive X-rays.</td>
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<tr>
<td>1975</td>
<td>Publication of the first book on forensic geology</td>
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<tr>
<td>1970s</td>
<td>Sexual Assault Nurse Examiner (SANE): registered nurse who has advanced education and clinical preparation in forensic examination of sexual assault victims, including identification of forensic cases and collection and preservation of evidence.</td>
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<td>1978</td>
<td>Basic training course for medicolegal death investigators at Saint Louis University School of Medicine conducted three times each year.</td>
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<td></td>
<td>Cyanoacrylate (SuperGlue) fuming visualizes latent prints.</td>
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<td>Early 1980s</td>
<td>Recognition for professional standardization within disciplines (publications of NIJ guides).</td>
</tr>
<tr>
<td>1982</td>
<td>National Association of Medical Examiners recognizes Medicolegal Death Investigators as Affiliate Members.</td>
</tr>
<tr>
<td>1983</td>
<td>International Association of Bloodstain Pattern Analysts promotes knowledge, techniques and understanding of bloodstain pattern evidence.</td>
</tr>
</tbody>
</table>
Early 1990s Incorporation of proficiency testing within various forensic disciplines.

Scientific and Technical Working Groups created for purpose of developing best practice methods and standards for digital evidence, firearms and tool mark, footwear and tire tracks, crime scene, and bloodstain pattern analysis.

International Association for Identification establishes certification requirements and testing in latent prints, crime scene, bloodstain pattern analysis, footwear/tire track, forensic art, and forensic photography/imaging.

1996 Forensic Nursing made subspecialty of American Nurses Association by Congress of Nursing Practice.


1998 American Board of Medicolegal Death Investigators (ABMDI) certification program for Medicolegal Death Investigators.

International Association of Forensic Radiographers was formed.

1999 National Association of Medical Examiners incorporated into Accreditation Policy that chief or principal investigator of medical examiner/coroner office be ABMDI certified.

2002 Curriculum development for forensic science programs created for use in secondary education programs.

2005 Forensic Specialties Accreditation Board (FSAB) accredits ABMDI as professional certification body for medicolegal death investigators.

2005 Tennessee legislature passes requirement “medical investigator shall be licensed EMT, paramedic, registered nurse, physician’s assistant or person registered (certified) by or Diplomate of American Board of Medicolegal Death Investigators.”

2006 Texas law requires all nurses have education in evidence collection.

National Association of Medical Examiners implements Unidentified Decedent Reporting System (UDRS), web-based, comprehensive, and extensively searchable database containing information about unidentified deceased individuals.
Additional General Section Milestones:

General section is the birthplace of new forensic disciplines for the AAFS.

Development of peer reviewed journal publications.

International Association of Forensic Nursing (IAFN) Scope and Standards of Practice require nurses follow chain of custody, identify diagnosis that are consistent with findings of other health care, law enforcement and judicial professional that facilitate a controlled pathway through the judicial process.

Chemical “sniffers” detect nitrate residue and accelerants.

Instantaneous chemical analysis using DART technology.

Alternate light sources have power and portability.

Portable hand-held X-rays assist in identification in the field, particularly for mass casualty incidents.

Forensic artists used to provide media with drawings of unidentified decedent.

Age progression of photographs by artists and computer programs.

Entomologists determine post-mortem interval (PMI) using flies from the scene.

Forensic computer animation assists in crime scene reconstruction.

Continuing education required for membership in many associations/organizations forensic certification programs raise perception of professionalism.

Increased training and educational opportunities for various forensic disciplines.
1975 Congress adopts Federal Rules of Evidence, including FRE 702: “If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, training, or education, may testify thereto in the form of an opinion or otherwise.”

At state level, *Frye v. United States* (1923) remains undisturbed as test of admissibility for scientific evidence.

1985 United States Supreme Court recognizes indigent criminal defendants’ Due Process rights to the assistance of experts at state expense in *Ake v. Oklahoma*.

1987 Automation of storage and retrieval of latent and ten-print fingerprints begins.

1988 First person in the United States convicted as a result of DNA evidence in *Andrews v. Florida*.

1989 DNA evidence leads to reversal of Gary Dotson’s conviction.

Virginia becomes first state to create database of previously convicted sex offenders.

1990 Combined DNA Index System (CODIS), database of DNA profiles of convicted felons, begun.

1993 *Daubert v. Merrell Dow Pharmaceuticals, Inc* makes reliability of scientific evidence, rather than its “general acceptance in the scientific community,” the lynchpin of the judicial admission of expert evidence.

1995 Courts question whether polygraph results should be *per se* inadmissible and consider whether such results should be admissible if relevant and meet the *Daubert* criterion of reliability

*United States v. Starzecpyel* finds questioned document testimony is “technical,” and not “scientific knowledge” under *Daubert*.


AAFS Jurisprudence Section members influence an appellate court to order admission of evidence of the negative test of the appellant’s hair to refute the positive urinalysis.
1998 CODIS becomes nationally integrated and operational under auspices of FBI through the DNA Identification Act (1994).

1999 Integrated Automated Fingerprint Identification System (IAFIS) becomes fully operational through the FBI.

*Kumho Tire Co. Ltd. v. Carmichael*, third prong of the *Daubert trilogy*, holds that *Daubert*’s reliability requirement applies to all expert opinions.

FBI and ATF unify DRUGFIRE and IBIS systems to create NIBIN (National Integrated Ballistics Information Network) for the automated identification of cartridges cases and bullets.

2000 Congress amends FRE 702 to reflect *Daubert* decision’s emphasis on the trial court’s duty to assess the reliability of the principles and methodology of forensic evidence prior to admission. The revision provides: “If a witness is qualified as an expert by knowledge, skill, experience, training or education, may testify in the form of an opinion if (1) testimony is based upon sufficient facts or data, (2) testimony is the product of reliable principles and methods, and (3) witness has applied the principles and methods reliably to the facts of the case.”

DNA Analysis Backlog Elimination Act authorizes collection of DNA samples from all federally convicted felons.


American Society of Law, Medicine and Ethics begins a series of workshops to explore effect of DNA testing on civil liberties.

2004 *Crawford v. Washington*, 541 U.S. 36 (2004) – In a Sixth Amendment right of confrontation case, the Supreme Court held that an out-of-court statement that is "testimonial" in nature is not admissible unless the declarant is unavailable to testify in court AND the defendant has had a prior opportunity to cross-examine the declarant.

2005 Andre A. Moenssens is conferred the honor of Distinguished Fellow.

After the defense bar raises questions about comparative lead bullet analysis, the FBI discontinues its use. (Sept. 2005)

2006 The fingerprint misidentification of Brandon Mayfield alerted the legal community to the fallacy of the “no error rate” claim in latent fingerprint examination.
2007  *City of Seattle v. Roger Kennedy*, King County, WA, Case No.496912, Nov. 2007. Jurisprudence Section member Ted W. Vosk was the attorney of record in this case, which established that Anne Marie Gordon, the Washington State Crime Laboratory’s toxicology manager, filed false and perjured certifications regarding breath alcohol simulator solutions; the decision resulted in the suppression of the lab’s toxicology test results.

2008  Carol E. Henderson is elected AAFS President.

2009  The National Academy of Sciences (Feb. 2009) issues a report, “Strengthening Forensic Sciences: A Path Forward,” outlining concerns about various forensic science disciplines, calling for additional study, and advocating the need for judges and lawyers to learn more about science. The NAS Report was severely critical of an apparent law enforcement culture in forensic crime labs and advocated independent crime labs.

Melendez-Diaz v. Massachusetts, 129 S.Ct. 2527, 557 US 305 (2009) The Supreme Court held a report that identified a controlled substance in a drug case was “testimonial” in nature and thus subject to the Sixth Amendment’s Confrontation Clause, as interpreted by Crawford v. Washington, 541 U.S. 36 (2004).

The Executive Office of the White House created a subcommittee on forensic science, with Kenneth E. Melson, co-chair.

2010  *State v. Fausto*, No.C076949 (King Co. Dist. Ct. WA – 9/20/10) and *State v. Weimer*, No.7036A-09D (Snohomish Co. Dist. Ct. WA – 3/23/10). Ted Vosk was the attorney of record in these two cases of first impression, in which the trial courts ruled that breath and blood alcohol test results are inadmissible unless accompanied by uncertainty determinations. Although overturned on appeal, (State v. King County Dist. Court West Div., 175 Wash.App. 630 (Wash. App. Div.1, (2013), both cases are continuously cited in support of the inadmissibility of breath and blood alcohol test results unless accompanied by uncertainty determinations. Other state and federal jurisdictions have adopted uncertainty requirements concerning scientific evidence.

2011  *Bullcoming v. New Mexico*, 131 S.Ct. 2075 (2011) The Supreme Court, in reversing the lower court’s decision to admit the testimony of a supervisor regarding the blood alcohol results of a non-testifying analyst’s report, held that a defendant’s Sixth Amendment right of confrontation is not satisfied by the opportunity to cross-examine someone from the laboratory who was knowledgeable about the testing procedure but was not the actual analyst who performed the test and analysis at issue. The Supreme Court pointed out, for example, that the defendant would have been entitled to question the analyst about why he had been placed on a two-week unpaid suspension.

Sen. Patrick Leahy (D-Vt) introduces the “Criminal Justice and Forensic Science Reform Act” (SB-132) to improve the quality of forensic science evidence routinely used in the criminal justice system. (Jan. 2011)
2012  James E. Starrs receives the R.B.H. Gradwohl Award.

Haskell Pitluck is conferred the honor of Distinguished Fellow.

The Supreme Court rules that the admission of expert testimony that a known DNA sample cannot be eliminated as a possible contributor to a questioned sample, where the analyst who actually performed the DNA testing at issue did not testify, does not violate the Confrontation Clause of the Sixth Amendment.

*People v. Matthew David Jensen*, No.19HA-CR-09-3463, Dakota County, MN. (July, 2012). Jurisprudence members Lauri M. Traub and Christine Funk were the attorneys of record in this case, which led to the closure of the St. Paul Police Crime Laboratory’s drug testing and finger print units as a result of evidence demonstrating an absence of standard operating procedures, faulty testing techniques, illegible reports, and a failure to apply basic scientific techniques.

2013  The National Forensic Science Commission is created through NIST and DOJ to enhance quality and reliability of forensic science. Kenneth E. Melson, Senior Forensic Science Advisor in the Office of Legal Policy at DOJ was instrumental in the formation of this joint Commission. Paul Giannelli, Ted R. Hunt, Peter Neufeld and Pamela King, are appointed to the Commission.

Betty Layne DesPortes is elected Vice President of the Academy.

Hon. Roderick T. Kennedy becomes Chief Judge of the New Mexico Court of Appeals.

2014  Betty Layne DesPortes and Andrew Sulner each receive the Kenneth S. Field Award for Outstanding Service to the Academy.

Kenneth E. Melson appointed head of Ethics Committee for the Academy, replacing long time chair Haskell Pitluck.

Hon. Joseph J. Maltese is appointed to New York State’s appellate court by Governor Andrew M. Cuomo. (Jan. 2014)

The Organization of Scientific Area Committees (OSAC) is initiated by NIST and DOJ to strengthen forensic science in the USA. Christine Funk, Lynn Garcia, Ted R. Hunt, Haskell Pitluck, Christopher J. Plourd, and William C. Thompson are appointed as members. (Nov. 2014)
Odontology Section

1954  First reported bitemark case in United States is Texas case of *Doyle v. State*.

1962  Establishment of forensic odontology courses at the Armed Forces Institute of Pathology (AFIP), Washington, DC.

1970  Odontology Section of the American Academy of Forensic Sciences formed.

1970  American Society of Forensic Odontology (ASFO) founded; largest forensic dental organization in the world.

1975  Scanning electron microscopy (SEM) used in bitemark analysis by Solheim.

1976  American Board of Forensic Odontology (ABFO) founded to establish, enhance, and revise standards of qualification for those who practice forensic odontology, and to certify qualified specialists.

1979  243 of 273 victims identified in the American Airlines DC 10 crash, majority by a team of 20 forensic dentists working without the benefit of computers.

1982  *Preliminary Research on the Preservation of Traumatic Injury Patterns* and 1984 *Preservation of and Transillumination in Bite Mark Evidence* (both by Dorion); postmortem bitemarks can be excised three dimensionally, retained, studied, stored and preserved while transillumination provided additional information.

1984  American Board of Forensic Odontology workshop addressed bitemark terminology, methodology, literature review and critique, injury analysis, report writing and guidelines for bitemark evidence including methods of preserving bitemarks, comparing bitemarks to suspect dentitions, terms used to describe and interpret bitemarks, and ordinate ranking of terms used to describe that injury is a bitemark.


1988  Hyzer and Krauss introduced *The Bite Mark Standard Reference Scale – ABFO No. 2*.

1988  Introduction of WinID software and subsequent hybrids WinID2, WinID3, and WinID on the Web; dental identifications in mass disasters with multiple victims become much less cumbersome.

1995  First digital radiography use in mass disaster dental identification in TWA Crash.
1997  Bitemark computer imaging, enhancement, measurement, analysis and overlays by Robert Dorion.

1997  Double swab technique to recover saliva from human skin by Sweet, Lorente, Lorente, Valenzuela, and Villanueva.


2000  *Digital Analysis of Bite Mark Evidence* by Bowers and Johansen.

2005  Textbook on the subject of *Bitemark Evidence*, Dorion, editor.

2006  ABFO revised bitemark guidelines.


2009  UVIS, Unified Victim Identification System, by the NYC Office of the Chief Medical Examiner with a Dental Identification module (UDIM) Section.


2010  *Forensic Dentistry 2nd Edition*, Editors David Senn and Paul Stimson


2013  *Forensic Science Current Issues. Future Directions*, Douglas Ubelaker Editor, Iain pretty Chapter Editor Odontology

2013  *Manual of Forensic Odontology 5th Edition*, Published by the ASFO, David Senn and Richard Weems editor

2013  The ABFO Develops the Bitemark Decision Tree.

2014  WidId3 ownership transferred to the ABFO, Jim McGivney founder.
Pathology/Biology Section

1959  Forensic Pathology officially recognized by American Board of Pathology as subspecialty; first Board examination offered.

1966  National Association of Medical Examiners (NAME) founded “for purpose of fostering professional growth, education, and dissemination of professional and technical information vital to improvement of the medical investigation of violent, suspicious and unusual deaths.”

1980  NAME’s American *Journal of Forensic Medicine and Pathology* published.


1984  First symposium on forensic entomology held during the annual meeting of the Entomological Society of America in San Antonio, TX.

1988  NAME prepares inspection-based accreditation standards for the purpose of improving quality of medicolegal death investigations.

1996  American Board of Forensic Entomology formed to provide certification and stability to the field.

2005  Forensic Autopsy Performance Standards approved by NAME.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>1948</td>
<td>Forensic behavioral sciences assist in founding the American Academy of Forensic Sciences and the International Academy of Forensic Sciences.</td>
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<tr>
<td></td>
<td>Introduce psychological testing.</td>
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<td></td>
<td>Develop highly sophisticated profiling techniques for specific crimes.</td>
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<td></td>
<td>Develop interrogation techniques.</td>
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<tr>
<td>1960s</td>
<td>Develop scientific methods for competency assessments to aid courts with relevant issues.</td>
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<td></td>
<td>Semi-structured psychiatric interviews for assessing competence to stand trial.</td>
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<tr>
<td>1970s</td>
<td>Short-term and long-term risk assessment of violent and other dangerous behaviors.</td>
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<tr>
<td>1980s</td>
<td>Professional boards in forensic psychology and psychiatry established.</td>
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<td></td>
<td>Develop training programs in Forensic Psychiatry, Forensic Psychology and other forensic behavioral fields post-doctoral programs in forensic psychiatry and forensic psychology developed educational efforts of other behavioral forensic scientists in formal programs professional organizations developed, American Academy of Psychiatry and the Law.</td>
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<tr>
<td>1990s</td>
<td>Static brain scan technologies (CT, MRI) result in great contributions to forensic neuropsychiatry and forensic neuropsychology.</td>
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<td></td>
<td>Develop modern actuarial instruments for static factor risk assessment in sex offenders</td>
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<td></td>
<td>Phallometry used routinely in evaluation of sex offenders</td>
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<tr>
<td>2000s</td>
<td>Invention of neuroanatomical brain scan technology, which results in impressive knowledge base regarding normal brain and nature of brain abnormal states.</td>
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<td></td>
<td>Improvements in brain science to the forensic field.</td>
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<td></td>
<td>• Emergence of social neuroscience and its intense interest in studying various topics of psychiatric-legal importance.</td>
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</table>
• Impressive progress in ability to teach forensic scientists and society about nature of brain related states and their potential association to legally relevant problems.
• Provide intellectual and social infrastructure in which necessary discourse concerning the relevance of social neuroscience to forensic sciences is possible and currently developing notable contributions to understanding and resolution of serious world problems.
• War and peace studies.
• Conflict resolution.
• Domestic and international terrorism.

Application of transcultural approaches from forensic psychiatry, forensic psychology and from other behavioral scientific fields increases ability of world community to deal with most pressing dilemmas of our times, including some problems of great concern for future of humanity.

Develop dynamic sex offender risk assessment instruments.

Practice guidelines published by AAPL for evaluation of competency to stand trial.

Ethical guidelines adopted by AAPL for the practice of forensic psychiatry.

Practice guidelines published by AAPL regarding psychiatric disability.

Guidelines published by the APA for psychological test user qualifications.

2010s Improvement/refinement in functional neuroimaging.

Advancement in social neuroscience and its application to forensic mental health questions, particularly related to culpability.

Further refine psychiatric diagnoses: DSM-5.

Specialty Guidelines for Forensic Psychologists published by the APA (psychology).

Practice guidelines published by AAPL for the evaluation of insanity defense.

Guidelines for Psychological Evaluations in Child Protection Matters published by the APA (psychology).

Guidelines for Child Custody Evaluations In Family Law Proceedings published by the APA (psychology).

Beginning movement towards etiological based diagnosis with NIMH’s Research Domain Criteria.
1948/50 Document examiners George Swett, Albert Osborne, Ordway Hilton, Clark Sellars, David Purtell active in establishing the American Academy of Forensic Sciences.

1950s Questioned document examination texts updated with post-war technology boom:
1956 Ordway Hilton Scientific Examination of Questioned Documents.
1959 James V.P. Conway Evidential Documents.

1950/60s Developments and new concepts in typewriting technologies present challenges in methods of examination and identification:
1950’s Electric typewriters including proportional spacing machines replace manuals.
1961 IBM introduces interchangeable, single-element machines.
1960’s Foreign typewriters become very large portion of US market.

1950/80s Developments in writing instrument technologies that supplant the nib pen present challenges in handwriting and ink examination and lead to new methods of analysis:
1950 Ballpoint pen (increasing acceptance).
1955 Liquid lead pencil.
1963 Fiber tip pen.
1968 Roller ball pen.
1970’s Erasable ball pen ink.
1984 Gel pen.

1950s Image converters supplement (and eventually supplant) film for infrared examinations.

1960 Xerox 914 photocopier revolutionizes standard office practices and methods of analysis.
1960s Infrared luminescence and dichroic filters adopted for ink examinations.
1968 Bureau of Alcohol, Tobacco and Firearms’ Standard Ink Library established.

1970s Interpol Typewriting Classification System, Haas Pica Atlas, and systems designed by Dr. David Crown and Douglas Cromwell become laboratory standards.

1972 ASTM Committee E30 on Forensic Science approves standard E 444 on scope of forensic document examiners’ work.

1978 Electrostatic Detection Apparatus (ESDA), developed by Foster & Freeman, provides dramatic technique for visualization of latent indented writing impressions.

1979 Video Spectral Comparator (VSC-1), developed by Foster & Freeman, provides variety of light sources and camera viewing in visible and near infra-red spectra.

1983 *Classification and Identification of Modern Office Copiers* by James H. Kelly.

1984 Hewlett Packard introduces LaserJet; Apple introduces Mac; desktop publishing arrives.


1993 PC-based Typewriter Classification Systems developed by Dr. Phillip D. Bouffard.

1994 First of Dr. Moshe Kam’s empirical studies on handwriting identification published in *Journal of Forensic Science*.


2002 Dr. Sargur N. Srihari’s study on individuality of handwriting published in *Journal of Forensic Sciences*.

2000s QD texts for new millennium:
- Roy A. Huber and A.M. Headrick *Handwriting Identification*
- Jan Seaman Kelly *Forensic Examination of Rubber Stamps*
- Jan Seaman Kelly and Brian S. Lindblom (edited)
- *Scientific Examination of Questioned Documents*

2005 ASTM 2388-05 The Standard Guide for Minimum Training Requirements for Forensic Document Examiners is published. This standard is now ASTM E2388-11 as well as a SWGDOC standard by the same name.
Toxicology Section

1950  Toxicology Section of the American Academy of Forensic Sciences formed.

*Partition Ratio of Alcohol between Air and Water, Urine and Blood*, Harger, et al. (J. Biol. Chem.) basis for modern day headspace analysis.


1953  Implied consent law passes in New York State; subsequently passed in all 50 states.

1954  Applied Physics Corporation introduces first commercial UV-VIS recording spectrometer.

Robert F. Borkenstein develops Breathalyzer, first commercial breath-test device

1955  A. Walsh and co-workers publish “rediscovery” of atomic absorption spectroscopy.


1957  J.C. Holmes and F.A. Morell combine gas chromatograph with mass spectrometer fathering modern GC-MS.

L. Skeggs develops continuous flow analysis, the first autoanalyzer subsequently commercialized by Technicon Corporation.

Motulsky publishes “*Drug Reactions, Enzymes and Biochemical Genetics.*”

1958  Cadman and Johns develop procedure for determination of ethanol and other volatiles by gas chromatography.

Professor Robert Borkenstein holds courses at Indiana University on Alcohol and Highway Safety.

D.H. Desty and M.J.E. Golay publish capillary GC column theory.

Symposium on Alcohol and Road Safety at Indiana University: 0.05 g/dL blood alcohol impairs some drivers; Grand Rapids Study in 1964 reports same.

1960  R.S. Yalow publishes on RIA; principles were independently carried further by P. Perlmann and E. Engvall in Sweden and A. Schuurs and B. Van Weemen in the Netherlands, which led to EIA/ELISA.
1961  T. B. Reed produces stable, inductively coupled atmospheric pressure plasma in a flowing system.

1962  W. Kalow “Pharmacogentics, Heredity and the Response to Drugs” captures work of Motulsky leading to pharmacogenomics.

Certification program for toxicological chemists for Diplomate status by American Board of Clinical Chemistry (ABCC).

1963  The International Association of Forensic Toxicologists (TIAFT) forms.

1964  Greenfield, et al. and Wendt and Fasse (1968) apply Reed’s discovery (1961) to develop ICP-AES.

1965  First Widmark Award to Rolla N. Harger during the International Conference on Alcohol, Drugs and Traffic Safety (ICADTS).

C. Horavath develop HPLC at Yale University based on work of Martin and Synge in 1941 and Giddings in 1963.

1968  Fenn and colleagues at Yale discover electrospray technology.

1969  Clarke’s “Isolation and Identification of Drugs” published.

1970  First Interim Meeting on Toxicology.

1971  NHTSA uses AMA Committee on Alcohol and Other Drugs’ report: any individual is driving impaired at blood alcohol greater than 0.08 g/dL.

1972  EMIT introduced as analytical tool.

Forensic Science International publishes.

1974  First SOFT meeting in North Carolina.

Adams, Good and Telepchak - steroids “stick” to HPLC column packing material; initiation of solid phase extraction (SPE).

1975  Professional certification Board for toxicologists established by ABFT.

A. Gray publishes paper on coupling of capillary direct current (DC) arc plasma to quadruple MS mid-1970’s chemically-bonded phases developed for solid phase extraction SPE.
1976  Hewlett-Packard introduces benchtop GC-MS.
1977  Finnigan introduces LC-MS instruments.

MSD Sciex introduces first LC-MS/MS tandem mass spectrometer TAGA 3000.

*Journal of Analytical Toxicology* published.

1978  disposable SPE cartridges introduced.
R. Baselt’s “*Disposition of Toxic Drugs and Chemicals in Man*” published.

1979  Fused silica columns introduced, mainstay of GC columns.
First AAFS Toxicology Section Award to Rolla Harger, PhD.

Los Angeles Police Department develops drug recognition experts (DRE).

1980  R.S. Houk, et al. work led to commercial ICP/MS instruments.

1981  MDS Sciex develops triple quadruple mass spectrometer, TAGA 6000.

Baselt translates and publishes “*Principles and Applications of Medicolegal Alcohol Determination*” originally published in 1932 in German by E.M.P. Widmark.

1983  First AAFS Toxicology Section Gettler Award recognizing Analytical Achievement in Forensic Toxicology to L. Goldbaum, PhD.

MDS Sciex introduces the ELAN 250 ICP/MS.
First AAFS Toxicology Section Harger Award recognizing Outstanding Contributions in Forensic Toxicology to Kurt Dubowski, PhD.

1988  National Institute on Drug Abuse (NIDA) issues guidelines on workplace drug testing, which becomes SAMHSA NLCP.
First accredited laboratory by College of American Pathologists (CAP) FUDT Program.
First AAFS Toxicology Section Sunshine Award for Outstanding Research by Young Investigator to Bruce Goldberger, PhD.


1993  Forensic Toxicology Certification Board established.

1994  Hewlett Packard introduced bench top ICP/MS.

First AAFS Toxicology Section Abernethy Award to Outstanding Forensic Toxicology Practitioner to James Valentour, PhD.

1996  Lab Accreditation Program established.

1997  First laboratory accredited by ABFT.

Late 1990s  Wong, et al. pharmacogenomics as “molecular autopsy.”

2000  Per Se Alcohol Laws: lower BAC to 0.08 or lose part of federal highway construction funds.

2004  Ultra Performance Liquid Chromatography (UPLC) introduced.

2005  All states have DUI laws that deem “per se intoxicated” any driver with a BAC of 0.08 g/dL or greater.

LC/MS/MS and TOF mass spectrometry are well-established analytical techniques.

2011  SWGTOX (Scientific Working Group for Toxicology) is established.

2014  First “Best Poster Award” is awarded by the Toxicology section.

The American Board of Forensic Toxicology (ABFT) and the Forensic Toxicologists Certification Board (FTCB) are merged into one Board under ABFT.
**Accreditation**

1970s Forensic science disciplines recognize need for standards for individual practitioners; develop certification programs.

1978 Forensic Sciences Foundation Inc. and Collaborative Testing Services Inc. (CTS) research project shows feasibility of forensic laboratory proficiency testing program. American Society of Crime Laboratory Directors (ASCLD) requests CTS to develop program on subscription basis, resulting in significant improvement in lab performance.

1970s ASCLD develops criteria that directors can use to evaluate their laboratories.

1981 American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB), now a completely independent entity, develops objective standards for crime lab operations.

2001 The NIJ establishes a technical working group for education and training in forensic sciences.

2002 The AAFS establishes the *ad hoc* committee: Forensic Education Programs Accreditation Committee.

2004 The Forensic Science Education Programs Accreditation Commission (FEPAC) became an official standing committee of the AAFS and awarded its first accreditation in February 2004.

2007 300 forensic science laboratories worldwide are accredited.

2008 FEPAC is recognized by the Association of Specialized and Professional Accreditors (ASPA).

2012 FEPAC is recognized by the Council for Higher Education Accreditation (CHEA).

2015 These quests for quality have been driven from within the profession rather than imposed from without. Although investigators may frequently ask: “Can you do this?” rarely do they ask: “How well can you do it?”