

CURRICULUM VITAE

Vanora M. Kean

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PREVIOUS POSITION

Forensic Consultant: BioForensic Solutions, Summerland, BC, Canada

Areas of expertise include: collection and handling of biological evidence, examination of items for the detection and identification of body fluids, conventional serological techniques, DNA analysis and interpretation (RFLP and PCR), bloodstain pattern interpretation.

EDUCATION

1981 Ph.D. Genetics University of Aberdeen, Scotland, UK

1976 B.Sc. Hons. Botany University of Manchester, England, UK.

PROFESSIONAL EXPERIENCE

Dr. Kean has testified on criminal cases involving the States of California, Montana, New York, Ohio, Oregon, Vermont, and Washington, and the Provinces of British Columbia and Ontario in Canada.

2000 – 2001 DNA Laboratory Director, Kern County Regional Crime Laboratory, Bakersfield, CA, USA.

Responsibilities:

Implemented, managed and directed the paternity DNA testing program for Kern County. Worked towards completion of in-house STR validation studies, preparation for DNA laboratory accreditation, and the initiation of forensic DNA casework. Supervisory and management duties, including the direction of DNA staff, and the preparation and/or review of laboratory manuals, records and other documentation.

Offered consultation and review services to non-county agencies, upon request, in the areas of bloodstain pattern interpretation and forensic DNA analysis (RFLP and all PCR systems: DQA1/PM and STRs).

Methodologies:

Paternity DNA testing by PCR (Polymerase Chain Reaction) analysis using Profiler Plus® and COfiler® STR (Short Tandem Repeat) typing systems.

1999 – 2000 Senior Forensic Scientist, Forensic Science Division, Forensic Analytical, Hayward, CA, USA.

Responsibilities:

Review case materials in forensic biology for clients involved in criminal and civil procedures. Detect, identify, and DNA type, blood and other body fluids (eg. semen, saliva). Manage and direct casework analysis and interpretation, prepare written reports based on the conclusions reached, and testify on the findings in courts of law. Review and/or carry out bloodstain pattern interpretation in cases of complex and/or serious crimes. Advise, consult with, and/or teach case investigators, attorneys, and other clients, on forensic biological analyses.

Methodologies:

Forensic DNA testing by PCR (Polymerase Chain Reaction) analysis using DQA1/PM and Profiler Plus® STR (Short Tandem Repeat) typing systems.

1998 Forensic Biologist, BioForensic Solutions, Abbotsford, British Columbia, Canada. Provided analysis, consulting and educational services in Forensic Biology to attorneys in Canada and USA, including prosecution and defense counsel.

1995-1998 Associate Director & Forensic Supervisor, GeneLex Corporation, Seattle, WA. USA.

Responsibilities:

Directed operations of the Forensic laboratory, including personnel supervision and laboratory procedures. Performed scientific analyses of criminal and civil cases, prepared reports based on the interpretation of observations and analytical test results, assisted in depositions and court preparations. Consulted with attorneys, clients, and law enforcement professionals; prepared and presented lectures, and served as an expert witness in courts of law. Supervised, trained, and/or participated in all aspects of forensic laboratory testing, proficiency testing, quality assurance and quality control (quality auditor), and the introduction of new methodologies. Maintained documents for forensic testing casework, quality control, proficiency testing, chain of custody, and other records. Evaluated forensic laboratory operations regularly and implemented changes as necessary. Prepared and/or reviewed laboratory procedure manuals and records, and prepared documentation for laboratory accreditation.

Administrated personnel and laboratory policies and performed internal reports and budgets. Participated in the development of company strategies and problem resolution.

Methodologies:

DNA typing results obtained following analyses by RFLP (Restriction Fragment Length Polymorphism) and PCR (Polymerase Chain Reaction) technologies. PCR systems utilized include HLA DQA1, Polymarker, D1S80, CTT and Powerplex® STRs.

1990-1995: Forensic Biologist, Biology Section, Centre of Forensic Sciences, Toronto, Canada.

Responsibilities:

Reviewed items submitted by various investigative agencies for potential evidentiary value. Responsible for the examination and analysis of items to detect, identify, characterize and compare blood and other body secretions (eg. semen, saliva). Supervised technicians in casework assistance and routine blood-grouping methods. Managed and directed assigned casework analysis and interpretation, prepared written reports based on the conclusions reached, and testified on the findings in courts of law. Carried out bloodstain pattern interpretation in cases of complex and/or serious crimes. Conferred with and advised case investigators and attorneys. Performed duties in the Centre's Receiving Office to identify and accept evidence, and designate it for appropriate subsequent investigation and analysis.

Methodologies:

Techniques to detect, differentiate, and identify body fluids and secretions. Conventional protein and antibody detection methods and analyses to characterize body fluids. Training in DNA extraction and quantitation procedures for forensic applications.

CERTIFICATION

Dr. Kean is an FBI qualified DNA Auditor.

PROFESSIONAL MEMBERSHIPS

Since 2008 American College of Forensic Examiners
Since 1999 California Association of Criminalists
Since 1997 Northwestern Association of Forensic Scientists
Since 1996 American Academy of Forensic Sciences
Since 1992 International Association of Bloodstain Pattern Analysts
Since 1991 Canadian Society of Forensic Science
Since 1986 Genetics Society (UK)
1984 - 2007 American Society of Human Genetics

PUBLICATIONS AND PRESENTATIONS

“Basics of Forensic Science” (2008) Invited speaker: Penticton Women in Business luncheon meeting, Penticton, British Columbia, Canada. June 10, 2008.

“DNA & Evidence Collection” (2007) Invited speaker: Penticton & District Search & Rescue Society, Penticton, British Columbia, Canada. August 13, 2007.

“Preservation, Collection and Handling of DNA evidence” (2001) Invited speaker: California Association for Property and Evidence (CAPE) local meeting, Taft, California. May 2, 2001.

"Buccal Swab Collection Procedures for DNA purposes" (2001) Training session co-presenter, Bakersfield Police Department, Detective Division, Bakersfield, California. March 15, 2001.

“Basic Bloodstain Pattern Interpretation” (2000) Invited Presenter of Workshop for the 2000 Capital Case Defense Seminar “Life over Death”, sponsored by the California Attorneys for Criminal Justice & California Public Defenders Association, Monterey, California. February 20, 2000.

“Bloodstain Pattern Interpretation” (1999) Workshop co-presenter, California Association of Licensed Investigators Annual Conference, Reno, Nevada. June 17, 1999.

“Forensic DNA Analysis” (1999) Invited speaker: the Canadian Bar Association, Vancouver Criminal Justice Subsection, Vancouver, B.C., Canada. March 23, 1999.

"Forensic Biology " (1998) Invited speaker: seminar for 2nd and 3rd year students in Biotechnology, Seattle Central Community College, Seattle, WA. February 10, 1998.

"Forensic Applications of Molecular Biology" (1997) Invited speaker: Autumn Quarter lecture series "Molecular Biology and Public Health" (PBIO-531), Department of Pathobiology, University of Washington, Seattle, WA. October 28, 1997.

Riley G.R., A.G. Pace, V.M. Kean, H.C. Coleman, and T.H. Aulinkas. (1997) “Validation of the PowerPlex STR Multiplex, Amelogenin Sex Typing and FMBIO II Fluorescent Scanner in Forensic and Paternity Casework, and High-Throughput Convicted Offender Databanking.” Oral presentation by G. Riley at the Eighth International Symposium on Human Identification, Scottsdale, Arizona; September 17-21, 1997.

"Forensic DNA analysis" (1997) Invited speaker: Workshop "Biotechnology for Professionals in the 21st Century", Institute for Science Training and Research, Inc., Seattle, WA. August 23, 1997.

Coleman HC, Riley GR, Kean V, and Aulinskas TH. (1997) "The Impact of Substandard Laboratory Work on the Outcome of Criminal Cases." Oral presentation by H. Coleman at the National Institute of Justice Conference on the Future of DNA. Sacramento, CA, May 1997.

"DNA analysis techniques and their application to Forensics" (1997) Invited speaker to lecture to Genetics class, Division of Math and Science, Seattle Central Community College, Seattle, WA. March 14, 1997.

"Forensic Biology and DNA" (1996) Invited speaker: student forum on Biotechnology. Everett High School, Everett, WA. November 14, 1996.

Riley G, Johnston T, Kean V, Aulinskas T & Coleman H. (1996) "DNA Analysis by PCR in Forensic Casework." Oral presentation by V. Kean at the Spring Conference of the Northwest Association of Forensic Scientists, Spokane, WA. Plenary Session April 25-26, 1996.

Kean, VM. (1996) "Amylase Levels in Body Fluid Secretions." Oral presentation at the Spring Conference of the Northwest Association of Forensic Scientists, Spokane, WA. Plenary Session April 25-26, 1996.

Buceta K, and Kean, VM. (1995) "Determination of the Human Origin of Heat Treated Blood Samples." Poster presentation at the 42nd annual conference of the Canadian Society of Forensic Science, Toronto, Canada. September 26-30, 1995.

"Collection and Preservation of Biological Samples from the Sexual Assault Evidence Kit." (1994) Oral presentation by invitation at the Sexual Assault Investigation Training Course for Police Officers, Grey Bruce Regional Health Centre, Owen Sound, Ontario, Canada. June 29-30, 1994.

Newman J, Kern S & Kean V. (1993) "The Wheelchair Murder: Reconstruction of Events at a Homicide Scene using Bloodstain Pattern Analysis." Oral Presentation by V. Kean at the International Association of Bloodstain Pattern Analysts Annual Training Conference, Los Angeles, California. October 15-18, 1993.

Worton RG, Sutherland J, Bodrug S, Dube I, Duff C, Kean V, Schmickel RD, Sylvester J, Willard H, and Ray PN. (1988) "Human rRNA Genes: Orientation on the Chromosome and Cloning of the Distal Flanking Sequences." *Science* 239: 64-68

Kean VM, Macleod HL, Thompson MW, Ray PN, Verellen-Dumoulin C, and Worton RG. (1986) "Paternal Inheritance of Translocation Chromosomes in a t(X;21) Patient with X-Linked Muscular Dystrophy." *Journal of Medical Genetics* 23: 491-493

Worton RG, Duff C, Logan C, Ray PN, Kean V, Thompson MW, Sylvester JE and Schmickel RD. (1986) "Approaching the Duchenne Muscular Dystrophy Gene Through a Translocation Involving Ribosomal RNA Genes." *Molecular Biology of Muscle Development*; pp. 897-901,

Alan R. Liss, Inc. Ray PN, Belfall B, Duff C, Logan C, Kean V, Thompson MW, Sylvester JE, Gorski JL, Schmickel RD and Worton RG. (1985) "Cloning of the Breakpoint of an X;21 Translocation Associated with Duchenne Muscular Dystrophy." *Nature* 318: 672-675

Kean VM, Fox DP, and Faulkner R. (1982) "The Accumulation Mechanism of the Supernumerary (B-) Chromosome in *Picea sitchensis* (Bong.) Carr. and the Effects of This Chromosome on Male and Female Flowering." *Silvae Genetica* 31: 126-131