

GEDNAP 2017 / February 17

Workshop Title: Forensic DNA Rescue Class



Rescue your DNA

09:00 – 09:30

The class will concentrate on better DNA evidence collection techniques and new DNA purification options to minimize loss of DNA from low copy number touch samples, fingerprints, adhesive evidence and LCM dissected sperm. --Hands-on with adhesive evidence samples: tape lifts, hinge cards, electrical tape, duct tape, etc.

Rescue your Profile

09:30 – 09:45

Attendees will learn post PCR clean up and concentration techniques to rescue their amplicons when they have partial profiles from inhibited, degraded, or very low template samples. Improved DNA profiles from low level, minor contributors by varying the volume of PCR reaction used with AmpliconRx.

Galantos - Experiments/Studies

09:45 – 10:15

[Ongoing experiments with PSA vs RSID-Semen, SH v KPIC, Experience with OneTouch and Amplicon – please fill in]

IFI – Updates/Experiments

10:15-10:30

[Ongoing R&D to address sensitivity of RSID tests, etc.]

BREAK

10 minutes

Rescue your Sexual Assault Processing

10:45 – 12:00

Faster sperm scanning: SPERM HY-LITER™ vs KPIC. New Liquid Phase Staining in Solution technique (even faster staining!). --Hands-on staining of slide preparations and viewing on live microscope after LCM presentation

Laser Capture Microdissection for the isolation of sperm

Automated slide scanning for sperm detection – live demonstration

Automated dissection of sperm from LCM membrane slides – live demonstration

Participants will leave with dissected cells suitable for STR profiling using either traditional extraction purification techniques or new subtractive purification technology. Semi-automated screening and dissection of cells will be demonstrated using Zeiss Palm Instrument.

Comprehensive Sexual Assault Evidence Solution

Immuno Fluorescence Staining – Automated Detection – Automated Dissection/Isolation – Subtractive Purification and Post PCR Clean-Up for Full STR Profiles.

Attendees will receive special certification at the end of the class – Certified DNA Rescue



About the presenters:

Karl Reich received his undergraduate degree in Chemistry from Cornell University and worked as a chemist before obtaining his doctorate in Molecular Biology from UCLA [through a quirk, his graduate research was performed at Harvard Medical School]. Dr. Reich's postdoctoral training included research work at the Institut Pasteur, Paris France and at Stanford Medical School in California. He then spent five years in the Pharmaceutical Division of Abbott Laboratories working on a variety of DNA-based genomic projects. He is presently the Chief Scientific Officer at IFI where he oversees the laboratory and directs the research and development efforts of an ISO-17025 accredited forensic DNA laboratory. Dr. Reich has more than 30 years of scientific experience in chemistry, molecular biology and biochemistry. He has published more than 20 research papers in first line scientific journals and has been court qualified in DNA, Biology and Statistics in numerous jurisdictions.

Jennifer Old received her undergraduate degree from Creighton University in Omaha, Nebraska and completed her graduate work in Pathology/Microbiology at the Eppley Cancer Institute at the University of Nebraska Medical Center. Jennifer completed a 3 year post-doctoral fellowship at St. Jude Children's Research Hospital in the lab of John Cleveland working on mouse tumor models. Presently, Dr. Old is a senior research and development scientist at Independent Forensics and was the primary researcher in the RSID™ (**R**apid **S**tain **I**dentification) Series of Body Fluid Identification tests for the detection of body fluids at crime scenes and Sperm Hy-liter, the immunofluorescent based method for sperm identification. Jennifer Old has published 15 articles in peer-reviewed journals and has over 15 years in laboratory experience in molecular biology, fluorescent microscopy, and biochemistry.

Dr. Michael Goegler – Carl Zeiss Microscopy GmbH

Michael Goegler studied physics at the University of Wuerzburg before he completed his masters at the University of Texas at Austin. He went back to Germany to the University of Leipzig where he obtained his PhD in Biophysics. Dr. Goegler joined ZEISS in 2008 as product manager for laser microdissection and optical tweezers systems. Presently, he is responsible for the business sector routine microscopy.