8:00 AM
Light breakfast provided

8:15-8:30
Welcome, Goals and Objectives, Resources

8:30-9:45
The Role of the Toxicology Laboratory in Death Investigation
- Chain of custody, importance of labelling
- Alternative matrices
- Drug screening and confirmation
- Introduce developments in technology
- Most frequently encountered drugs in postmortem casework
- Typical test algorithm with escalation for more esoteric testing
- Quality aspects and forensic defensibility

Michael E. Lamb, MSFS, D-ABFT-FT; Forensic Toxicologist at NMS Labs

9:45-11:00
Pharmacokinetics, Pharmacogenetics and Drug-Drug Interactions in Postmortem Toxicology
- ADME
- Routes of administration effects on PK
- Sustained release formulations
- Interindividual differences on drug metabolism
- Availability of testing for metabolizer status and pros and cons of testing
- Drug-Drug interactions on metabolism, synergy and additive effects

William H. Anderson, PhD, F-ABFT; Forensic Toxicologist at NMS Labs

11:00-11:15
Break

11:15-12:30
Alcohol, Acetone, and Glycols
- Alcohol production through fermentation
- Alcohol ADME
- Alcohol distribution and sample types (blood, serum, vitreous, tissue)
- Sample collection and preservation
- Alcohol effects on cognition and performance
- Alcohol interactions with other drugs
- Alcohol related postmortem case studies (Forensic Pathologist/Medical Examiner)

Stephanie Marco, PhD; Postdoctoral Toxicologist at NMS Labs
Charles A. Catanese, M.D., Forensic Pathologist and Ulster Co. NY

12:30 -1:45
Lunch

1:45 - 3:00
Opiates and Opioids
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)

Sherri L. Kacinko, PhD, F-ABFT; Forensic Toxicologist at NMS Labs
Charles A. Catanese, M.D., Forensic Pathologist for Ulster Co. NY

3:00 – 3:15
Break

3:15-4:30
Benzodiazepines
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)

Aya-Chan Hosokawa, MS, D-ABFT-FT; Forensic Toxicologist at NMS Labs
Charles A. Catanese, M.D., Forensic Pathologist at Ulster Co. Medical Examiner

4:30 -5:00
Class Discussion and Questions and Discussion

5:00-7:00
Reception at SHI Museum Overlook - Wine and Hors D’oeuvres
Tuesday, March 31, 2020

8:00 AM Light breakfast provided

8:15-9:15 **Acetaminophen and Salicylates**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Barry K. Logan, PhD, F-ABFT; Sr. VP of Forensic Science Initiatives; Chief Scientist at NMS Labs**

9:15-10:30 **Therapeutic Medications (Sleep-Aids, Antihistamines, Muscle Relaxants)**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Karen Scott, PhD, Director and Associate Professor of Forensic Science at Arcadia University**

**Charles A. Catanese, M.D., Forensic Pathologist for Ulster Co. NY**

10:30-10:45 Break

10:45-11:45 **Inhalants – Solvents and Anesthetic Gases**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Matthew M. McMullin, MS, F-ABFT; Forensic Toxicologist at NMS Labs**

11:45-12:45 **Toxic Gases – Carbon Monoxide, Cyanide, Hydrogen Sulfide**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics (esp. Volume of Distribution)
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Lee M. Blum, PhD, F-ABFT; Assistant Laboratory Director at NMS Labs**

**Charles A. Catanese, M.D., Forensic Pathologist for Ulster Co. NY**

12:45-2:00 Lunch

2:00-3:00 **CNS Stimulants – Cocaine, Methamphetamine**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics (esp. Volume of Distribution)
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Barry K. Logan, PhD, F-ABFT; Sr. VP of Forensic Science Initiatives; Chief Scientist at NMS Labs**

**Charles A. Catanese, M.D., Forensic Pathologist for Ulster Co. NY**

3:00-4:15 **Botanicals - Cannabis, Synthetic Cannabinoids, Kratom**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  
**Donna M. Papsun, MS, D-ABFT-FT; Forensic Toxicologist at NMS Labs**

4:15-4:30 **Questions and Discussion**
8:00 AM
Light breakfast provided

8:15-9:30
**Antidepressants**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  Jolene J. Bierly, MSFS, D-ABFT-FT; Forensic Toxicologist at NMS Labs

9:30-10:30
**Antipsychotics**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  Laura M. Labay, PhD, F-ABFT, D-ABCC(TC); Director of Toxicological Services at NMS Labs

10:30-10:45
Break

10:45-11:45
**Anticonvulsants**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  Justin Brower, PhD; Associate Chief Toxicologist at North Carolina Office Chief Medical Examiner

11:45-1:00
Lunch

1:00-2:00
**Insulin – Endogenous and Synthetic**
- Background Information
- Mechanism(s) of Action
- Pharmacokinetics
- Pharmacodynamics
- Reference Range Data
- Case Presentation (presented by Forensic Pathologist/Medical Examiner)
  Laura M. Labay, PhD, F-ABFT, D-ABCC(TC); Director of Toxicological Services at NMS Labs

2:00-2:15
Break

2:15-3:45
**Postmortem Redistribution**
- Volume of Distribution and Lipophilicity
- Drug stability
- Drug reservoirs (Stomach, Liver, Lung, Heart Muscle tissue)
- Best practices for sampling
- Examples
  - Cardiac Glycosides
  - Tricyclic antidepressants
  - Opioids
  - Stimulants
  William H. Anderson, PhD, F-ABFT; Forensic Toxicologist at NMS Labs

3:45-4:00
**Questions and Discussion**

5:45
NMS Labs Tour (Optional)
Thursday, April 2, 2020

8:00 AM  Light breakfast provided

8:15-9:30  Geriatric and Pediatric Toxicology
           • Drugs via maternal exposure (e.g., breast milk)
           • Hospice and palliative care cases
           • Case examples
           Robert A. Middleberg, PhD, F-ABFT, D-ABCC(TC); Laboratory Director and Sr. VP of Quality Assurance and Laboratory Operations at NMS Labs

9:30-10:45  Strategies for Postmortem Interpretation
            • Evaluate the scene and circumstances
            • Autopsy findings
              o Gastric contents
              o Injection marks
              o Pulmonary and Cerebral Edema
              o Skin Discoloration
              o Etc.
            • Prescription and illicit drug use history
            • Consideration of the quality/origin of the sample
            • Reference ranges
            • Allowing for PMR
            • Assessing interactions
            Barry K. Logan, PhD, F-ABFT; Sr. VP of Forensic Science Initiatives; Chief Scientist at NMS Labs
            Laura M. Labay, PhD, F-ABFT, D-ABCC(TC); Director of Toxicological Services at NMS Labs

10:45-11:00  Break

11:00-12:00  Panel Discussion with Available Faculty
            • Includes highlights of cases inspired by questions on the NAME Listserv

12:00  End of Program

1:00-4:00  ABFT Exam (Pre-approval required)