ADVANCED EDR ANALYSIS COURSE – March 20 to 24, 2017

CATAIR Prairie Region and the Society of Automotive Engineers – Alberta Section are pleased to co-host an Advanced Event Data Recorder Analysis course on March 20 to 24, 2017, at the Sawridge Inn Edmonton South (4235 Gateway Blvd., Edmonton, Alberta).

The five-day course will be presented by Mr. Richard Ruth, Professional Engineer and former long-time employee of the Ford Motor Corporation. Mr. Ruth’s resume and the outline for the custom-designed course are attached. Please be aware that we received an overwhelming response for this course but there are only a limited number of seats so not everyone who responded to our initial notice will be guaranteed a spot. Registrations will be accepted on a first-come first-served basis only once payment is received.

We need to emphasize that this course is designed for EXPERIENCED FORENSIC INVESTIGATORS who have a STRONG understanding of physics, trigonometry and math related to accident reconstruction in addition to a working knowledge of crash-related event data. Attendees will be expected to move through case studies at a fast pace. This is NOT equivalent to an IPTM Level I or Level II course.

Registration includes buffet lunch and two refreshment breaks on each day of the course. Members of CATAIR and SAE Alberta receive a discount on their registration cost. Rooms at the hotel have been guaranteed at $105/night inclusive of breakfast (taxes extra).

Best regards,

Chair – CATAIR Prairie Region Chair – SAE Alberta Section
(780) 461-7613 (780) 801-0715
msawa@aace.ab.ca ms001@email.sae.org
ADVANCED EDR ANALYSIS COURSE - March 20 to 24, 2017
Sawridge Inn - Edmonton South (4235 Gateway Blvd.)

REGISTRATION

Name: _____________________________________________________________________
Depart./Business: _____________________________________________________________________
Address: _____________________________________________________________________
City: _____________________________________________________________________
Province: _________________________________ Postal Code:_________________________
Phone _____________________________________________________________________
Fax: _____________________________________________________________________
E-mail _____________________________________________________________________

Choose ONE of the following:

Non-Member   $500.00  _____
CATAIR Member  $450.00  _____
Alberta SAE Member  $450.00  _____
CATAIR Member & Alberta SAE Member  $400.00  _____

Please send registration and Cheques to:   For credit card payment contact:
(payable to “CATAIR – Prairie Region”)

Martin Davidson
#34, 11410 - 27 Street S.E.
Calgary, Alberta
T2Z 3R6

James McLeod
James.McLeod@edmontonpolice.ca
780-721-7829

Note: Seating is limited and there have been many interested registrants so apply early
Comprehensive Event Data Recorder Analysis (40 hrs)

This class has been custom designed to meet the needs of our Alberta CATAIR and SAE members, covering all aspects of applying event data recorder analysis to vehicle crash reconstruction. Prerequisites include:

- Prior crash reconstruction training thru momentum.
- Engineering degree OR equivalent crash-related physics/trig/math.
- You do not need CDR tech or prior analyst experience.

Basic Analysis Topics

How to prove the recording is from your crash
Using Delta V and post-crash travel to determine speed at impact
Using Delta V and weights to get the delta V of the other vehicle, and using sum of the Delta V's to get closing speed to get to impact speed.
Appropriate ranges on Delta V in normal circumstances
Determining the appropriate values of Delta V to use in an analysis (where is the crash really over?).
Identifying the 11 conditions where reported Delta V can be misinterpreted
Appropriate ranges on EDR speed data during steady state conditions
Identifying 6 vehicle operational conditions and 3 vehicle equipment modifications where EDR speed data may be misinterpreted (does not represent true ground speed of the vehicle)
Ranges of speed impact from last EDR data point considering data latency and tire slip during braking
Using time-distance to place EDR data on a google earth scale scene photo
Manufacturer specific considerations in EDR data analysis

Advanced Analysis Topics

Using Delta V magnitude and PDOF in triangular velocity vectors to solve speed at impact and other parameters for both vehicles in a 2 vehicle collision
Making the necessary effective mass ratio adjustment to closing speed calculations in offset collisions
Making appropriate adjustments to Delta V for ground forces, especially necessary in collisions between automobiles and pedestrians or motorcycles (high mass ratio differences).
Using stability control system longitudinal acceleration data to more accurately determine speed at impact (Ford/Toyota).
Using stability control system lateral acceleration (Ford) and yaw rate data (Ford/FCA/Toyota) to calculate change in heading, lateral movement, and change in approach angle prior to impact
Determining the appropriate values of Delta V to use in an analysis (where is the crash really over?).
Calculating total Delta V in Toyotas where the lateral Delta V ends at 70 ms
Calculating total Delta V in Toyota 13 EDR and some 06-09 Chryslers that only give acceleration data

The class is paced for practicing engineers and senior reconstructionists that want a comprehensive class with everything they need to do EDR analysis. Case studies will be presented with immediate solutions (versus some classes that make the students work through the problem themselves before seeing the answer). It goes into greater detail and offers more advanced topic detail and case studies than the 3 day SAE international class, and it compresses what you might get in IPTM’s 5 day Level 1 and 5 day Level 2 40-hour EDR classes (formerly basic and advanced) into one 40 hour class.

The class will be instructed by Richard R. Ruth, P.E., formerly Ford’s internal EDR expert and now a regular instructor for IPTM and SAE, author of EDR research papers, and conference presenter.
Richard R. Ruth, P.E. (Rick) received his BS in Electrical Engineering from Michigan Technological University and an MBA from the University of Michigan. He is a registered professional engineer, and has completed Northwestern University Traffic Accident Reconstruction for Engineers, Human Factors, Heavy Vehicle EDR’s, Berla iVe (factory GPS readout), and attended countless reconstruction conferences helping instrument and interpret staged collisions.

Rick worked 33 years for Ford Motor Company, and during his last 10 years managed the engineers who did field investigations of safety system performance in real world crashes. He handled law enforcement requests for EDR readout assistance, was a member of Ford’s EDR policy committee, was Ford’s representative to the SAE EDR standards committee, and helped shape Ford and Auto Alliance responses to NHTSA on Part 563 EDR legislation.

For the last 9 years, Rick has been a consultant to law enforcement and attorneys, specializing in the use of Event Data Recorders (EDR’s) in Traffic Accident Reconstruction. He is an adjunct instructor in EDR for IPTM, is IPTM’s EDR working group co-ordinator, also teaches EDR for the Society of Automotive Engineers (SAE) and presents EDR updates at national and regional accident reconstruction conferences. He conducts testing on EDR accuracy and assists prosecutors in Frye and Daubert hearings to get EDR data admitted in court. He beta tests new Bosch CDR releases. Mr. Ruth has contributed to the SAE EDR Committee, and has contributed to ISO’s EDR related Working Group 7, and has been a consultant to Virginia Tech during their assessment of the current state of EDR’s in the industry for NHTSA. He has authored or co-authored 16 publications on EDR’s.