

Jonathan A. Balasa, BSGE
Engineer
COLLISION ENGINEERING ASSOCIATES, INC.

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EDUCATION

University of Illinois, 1993 to 1997, General Engineering, BSGE

Northwestern University, Accident Reconstruction I, 1998

Northwestern University, Accident Investigation II, 1998

J. J. Keller & Associates, Inc., Forklift Train the Trainer, 1998

The HVE Conference, 2000 in San Diego, CA

DEKRA, Passenger Vehicle Crash Testing (Rollover, Pedestrian Impacts, and Tree Impacts), 2000

CVSA, Inspection Familiarization, 2000

The HVE Conference, 2001 in Santa Fe, NM

SAE, Passenger Vehicle Rollover TOPTEC: Causes, Prevention and Injury Prevalence, 2002

Safety Solutions, Heavy Vehicle Collision Reconstruction, 2002

SATAI Spring Conference, 2003

SATAI Annual Conference, 2003

Institute of Police Technology and Management, Human Factors in Traffic Crash Reconstruction, 2003

Institute of Police Technology and Management, CDR Tool - User Certification Course, 2004

The HVE Forum, 2006 in Phoenix, AZ

Advanced Case Studies using HVE, The HVE Forum, 2006 in Phoenix, AZ

SATAI Summer Conference, 2006

CDR User's Conference, 2008

Caterpillar Electronic Technician (ET) Course, 2008

CDR Technician Course, 2008

EDUCATION - continued

CDR Data Analyst Course, 2008

SATAI Summer Conference, 2009

Advanced skills for the CDR Data Technician, 2009

The HVE Forum, 2011 in Scottsdale, AZ

Advanced Case Studies using HVE, The HVE Forum, 2011 in Scottsdale, AZ

CDR Technician Course, 2012

CDR Data Analyst Course, 2012

SATAI Summer Conference, 2012

FARO Focus 3D Training Class, 2013

SATAI Summer Conference, 2013

SATAI Summer Conference, 2014

Institute of Police Technology and Management, Online Bosch CDR Technician, 2014

Institute of Police Technology and Management, Pedestrian/Bicycle Crash Investigation, 2014

SATAI Summer Convergence, 2015

Northwestern University, Advanced Crash Reconstruction Utilizing Human Factors, 2015

FARO Scene 6 Update Training, 2017

sUAS Drone Pilot Ground School/Flight Proficiency, 2017

SATAI Summer Conference, 2017

The Virtual CRASH Interface, vCRASH Academy, 2018

Simulation Basics, vCRASH Academy, 2018

Accident Reconstruction with Heavy Vehicle Event Data Recorders, MSC Recon, Mesa, AZ 2018

Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE, 2018

SATAI Winter Conference, 2019

EDUCATION - continued

SATAI Winter Conference, 2020

Vehicle Crash Reconstruction: Principles and Technology, SAE, 2020

Applying Automotive EDR Data to Traffic Crash Reconstruction, SAE, 2020

Accident Reconstruction, The Autonomous Vehicle and ADAS, SAE, 2021

Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE, 2021

OTHER ACTIVITIES / PRESENTATIONS / AWARDS

Instructor - “Laser Scanning in Accident Reconstruction”, SATAI Conference in Glendale, AZ, September 2015

ARC-CSI - Motorcycle Drag Factor Testing, Las Vegas, NV, 2016

Member of the Board of Directors for SATAI, 2017 to 2019

Vice President of SATAI, 2020 to Present

PROFESSIONAL AFFILIATIONS

Societies:

National Association of Professional Accident Reconstructionists, NAPARS
Society of Automotive Engineers

Registrations/Certificates:

ACTAR Accredited Traffic Accident Reconstructionist, Reg # 1135
FAA Drone Airman Certificate

PROFESSIONAL EXPERIENCE

Crash Reconstruction/Analysis:

Collision reconstruction of vehicle crashes, including passenger vehicles, heavy trucks, motorcycles, bicycles, etc. Air brake performance and operation. Skid testing of passenger cars and heavy trucks. Analysis of collisions, rollovers, tire disablements, vehicle crush, vehicle dynamics, restraint systems, and other issues.

PROFESSIONAL EXPERIENCE - continued

Documentation of Crash Evidence:

Documentation of vehicle damage, vehicle components, collision scene evidence, sight lines, slopes, elevations, etc. Air brake component documentation. Forensic mapping of crash scenes and vehicle damage using total stations, photogrammetry, and the FARO Focus 3D laser scanner. Photographic documentation of crash scene evidence, vehicle damage, visibility and sight lines. Photogrammetry using iWitness, Photomodeler, as well as reverse-projection techniques. Documentation of the restraint system usage.

Electronic Vehicle Systems:

CDR tool for airbag control module imaging (downloading), including vehicles manufactured by GM, Ford, Chrysler and others supported by the CDR tool kit. Heavy truck ECM imaging, including Detroit Diesel, Caterpillar, and Cummins Engine Control Modules. The Link/Radlinski ABS Expert tool kit for heavy trucks and trailers.

Computer Analysis:

Computer analysis of motor vehicle crashes, handling, and avoidance using HVE, (EDCRASH, EDSMAC4, EDSMAC, EDVTS, EDSVS, EDGEN, SIMON, EDVDS, EDVSM, GATB, READDATAFILE, GBF, iWitness, Photomodeler, and others.

EMPLOYMENT HISTORY

July 2001 - Present

Collision Engineering Associates, Inc., Mesa, Arizona.

May 1997 - July 2001

Ruhl and Associates - Forensic, Inc., Phoenix, Arizona.

PUBLICATIONS, JOURNALS, PROCEEDINGS AND TRANSACTIONS

Editorial duties on “Truck and Trucking Handbook: A Primer”, Ruhl and Associates, May 2000.

“Validation of CARAT: A Kinetics Based Accident Reconstruction Program,” co-authors D. Fittanto, R. Ruhl, H. Burg, and J. Burg, presented at SAE World Congress 2001, Detroit, MI, March 2001.

“Analyzing the Trip-Phase of Soft-Soil Rollovers,” SAE Paper No. 2006-01-1558, Society of Automotive Engineers, Detroit, Michigan, April 2006.

“Extracting Tire Model Parameters from Test Data,” SAE Paper No. 2006-01-1399, Society of Automotive Engineers, Detroit, Michigan, April 2006.

“Accident Reconstruction Analysis,” *The Claim Adjuster’s Automobile Liability Handbook*. West-A Thompson Reuters Business. 2009. Chapter 9.

“Kick Scooter Speed Test Results,” *Accident Reconstruction Journal*, Volume 27, No. 2, March/April, 2017.

PUBLICATIONS, JOURNALS, PROCEEDINGS AND TRANSACTIONS - continued

“Acceleration Testing of 2011 MCI J4500 45 foot Motor Coach,” SAE Paper No. 2019-01-0409, Society of Automotive Engineers, Detroit, Michigan, March 2019.

“Acceleration Testing of 2000 Van Hool 45 Foot Motor Coach,” SAE Paper No. 2019-01-0431, Society of Automotive Engineers, Detroit, Michigan, March 2019.