CALIFORNIA ASSOCIATION OF ACCIDENT RECONSTRUCTION SPECIALISTS

SKIDMARKS

Issue 12 Winter 2000

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ARC Network

ACTAR Certified CA2RS Members

Michael Allision
Paul Arnold, Jr.
Donald Basham
David Beals
Stephen Benanti
Kerry Berg
Roger Burgmeier
Rochelle Carlton
Kevin Cassidy
Clark Corbin
Rudy Degger #447
Jerry Eubanks
Toby Gloekler #986
Steven Guderian
Jeffrey Guyer
Stephen Haverkamp
Kenneth Heichman
Seth Holt # 1067
David Johnson
Benn Karne
Chris Kauderer
Richard Kuehmichel
Daniel Mahoney
Michael Mahoney
Robert Mahoney
Patrick Moore
John Muse
George Ogilvie
Jon Orantes
Karl Pringle
Charles Ritchie
Timothy Reust
Daniel Trudell
Eugene Vanderpol
Daniel W. Vomhoff, PhD #483
Mark Winter

If you are certified by ACTAR and do not see your name on the list, contact CA2RS Headquarters so that you may be recognized for this important achievement. If you would like your ACTAR number listed by your name please let us know. If you are not certified by ACTAR and would like information on how to obtain certification, contact ACTAR at www.actar.org, CA2RS Headquarters, or any of the listed persons.

The current ACTAR Examination Schedule is:

DATE: Thursday, December 14, 2000
SPONSOR: Pennsylvania State Police LOCATION: Hershey, Pennsylvania
CUTOFF DATE: November 23, 2000

DATE: Friday, January 12, 2001
SPONSOR: ACTAR
LOCATION: Danvers, Massachusetts
CUTOFF DATE: December 15, 2000

DATE: Thursday, February 15, 2001
SPONSOR: CA2RS
LOCATION: Anaheim, California
CUTOFF DATE: February 1, 2001
COMMENTS: Held before Lawyers & Judges Accident Reconstruction

DATE: Saturday, April 21, 2001
SPONSOR: ACTAR
LOCATION: Jacksonville, Florida
CUTOFF DATE: April 6, 2001
COMMENTS: Held after IPTM's Special Problems in TAR Workshop

DATE: Sunday, July 15, 2001
SPONSOR: IAARS
LOCATION: Grand Rapids, Michigan
CUTOFF DATE: June 29, 2001
COMMENTS: Held before IAARS Annual Conference

DATE: Sunday, August 12,

For More Information:

PO Box 5436
Hudson, FL 34674-5436
Phone: 1-800-809-3818

E-mail:
atbaxter@akos.net

WWW.ACTAR.ORG

Litigation Seminar

DATE: Friday, March 9, 2001
SPONSOR: ACTAR
LOCATION: Detroit, Michigan
CUTOFF DATE: February 23, 2001
COMMENTS: Held after S.A.E. International Congress

DATE: Sunday, March 11, 2001
SPONSOR: ACTAR
LOCATION: Myrtle Beach, South Carolina
CUTOFF DATE: February 23, 2001

COMMENTS: Held before SCARS Collision Reconstruction

2001
SPONSOR: ACTAR
LOCATION: Vancouver, British Columbia, Canada
CUTOFF DATE: August 3, 2001
COMMENTS: Held before AIRL 01 Conference

DATE: Tuesday, October 2, 2001
SPONSOR: NYSTARS
LOCATION: Albany, New York
CUTOFF DATE: September 21, 2001
COMMENTS: Held before NYSTARS hosted Joint Conference

Institute of Police Technology and Management presents
PHOTOGRAPHY IN TRAFFIC CRASH INVESTIGATION
Jan 22-26, 2001
San Jose, California

TOPICS INCLUDE:

- Use of cameras and films
- Analyzing the crash scene
- Close up documentation
- Lighting conditions
- Night, inclement weather and flash photography
- Photographing vehicle damage
- Photographing human body injury

DATE: Jan. 22-26, 2001. The course is being held at the San Jose Police Department, 201 W. Mission Street, San Jose, CA 95110

COURSE FEE: $675 includes tuition, reference

TRANSPORTATION: The area is served by several major airlines. Ground transportation will be included upon confirmation of enrollment.

REGISTRATION: To enroll, visit www.iptm.org, call Karl Pringle at (408) 277-4654 or call the registrar at (904) 620-IPTM (4786).

CONTINUING EDUCATION CREDITS: CEUs are available for a $7.00 fee through the Division of Continuing Education. One unit is awarded for each ten contact hours. Forms will be provided in class for interested participants.

American Disabilities Act Program Accessibility: Individuals who require reasonable accommodations in order to participate must notify the registrar at (904) 620-IPTM at least five working days prior to the class.

Schedule of Events & Classes

1/8/01-1/12/01—Computer Assisted Diagramming by Los Medanos College. Info: 925-439-2185 ext 3242

1/17/01-1/18/01—Traffic Accident Photography by UC Riverside Extension. $235 Info: (909) 787-5804 Register: (800) 442-4990

1/22/01-1/26/01—Photography for the Traffic Collision Investigator. Presenter: IPTM; Location: San Jose PD; Cost: $675; Registration and Info.: IPTM registrar at www.iptm.org, University of North Florida / IPTM at 904-620-4786 or Karl Pringle at (408) 277-4654.

1/29/01-2/2/01—Intermediate Accident Investigation by Los Medanos College. Info: 925-439-2185 ext 3242

2/7/00—CA2RS Training: Lamp Analysis in Santa Clara

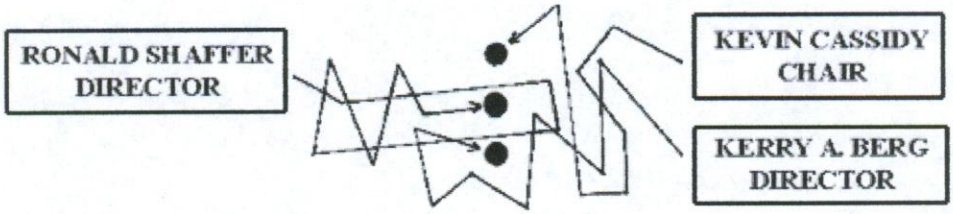
2/15/01—Vehicle Lamp Analysis in Traffic Accidents by UC Riverside Extension. $125 Info: (909) 787-5804 Register: (800) 442-4990

2/19/01-3/2/01—Advanced Accident Investigation by Los Medanos College. Info: 925-439-2185 ext 3242

3/12/01-3/23/01—Traffic Accident Reconstruction by Los Medanos College. Info: 925-439-2185 ext. 3242

manual and study materials. **LODGING**: Responsibility of the student. Some hotels in the listed area offer a special rate for IPTM program participants.	**NOTE**: Please do not make airline or hotel reservations until you receive written enrollment confirmation from IPTM.	**3/28/01-3/30/01**—Forensic Digital Photography by UC Riverside. $325 Info: (909) 787-5804 Register: (800) 442-4990

The Results Are In!



Congratulations to Kevin Cassidy, who will remain our Chair for another 2-year term, Kerry Berg who remains a southern California Director for another 2 years, and to Ronald Shaffer, who will be taking on our 2nd southern California Director position for his first 2 year term!

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Dale Stephens - California Highway Patrol
Phillip Pico, Jr. - Riverside Sheriff's Dept.
Anna Christensen - Hayward Police Department
Lawrence Montour - Hayward Police Department
Toshi Yoshihata - Hayward Police Department
David Stopper - TEEX—Texas A&M University
Arthur Koenig
Andrew Talton - Vacaville Police Department
Melissa Monroe - Vacaville Police Department
Paul Arguelles - Los Altos Police Department
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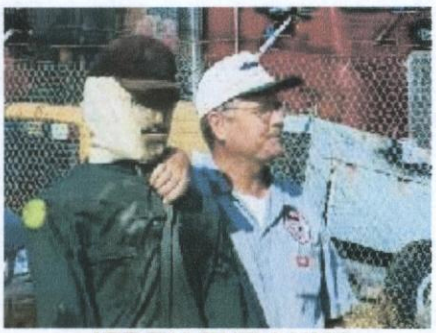
Brian Hance - Fresno Police Department
Thomas Fugger, Jr. - Accident Research and Biomechanics
Joseph Bender - Accident Reconstruction Concepts, Inc.
James Beebe - Fresno Police Department
Ryder Brose - Danville Police Department
Dan Duncan - Six Flags Magic Mountain
Daniel Vomhof - Expert Witness Services, Inc.
Arnold Harris, Jr. - Woodland Police Department
Robert Murray - Fresno LaserGraphics, Inc.
Jennifer Colunga - Rudy Degger & Associates, Inc.

Low-Friction Auto-Pedestrian Training
By Gordon Gray

Low Friction Pedestrian Testing (Auto-Pedestrian Training) was the topic of our October 18, 2000 meeting held in Concord, California. A big CA2RS thank you goes out to our presenters Jerry Eubanks, Automobile Collision Cause Analysis, San Diego, CA, along with Tom Fugger and Bryan Randles, Accident Research and Biomechanics, Inc., Valencia, CA, for coming up and putting on an outstanding training day. They taught us more about auto-pedestrian collisions, which seem to be happening more often these days.

What most members that attended did not know is there was two days of additional testing the occurred prior to the 18th. On the 14th and 15th (Saturday and Sunday) additional data was collected and recorded for analysis in the Low Friction Pedestrian Testing. These tests were conducted at the Concord Airport, using Los Medanos College's, low friction Skid Pan. Without the help and assistance of these CAARS members the data received from the testing would not have been possible; Kevin Cassidy, Gordon Gray, Jim Willette, John Nunes, Ed Torres, Benn Karne, and Bud Crosthwait. Our hats are off to all of you for donating your weekend time way from your families to assist in the gathering of this ever so needed data.



JERRY EUBANKS

TOM FUGGER

This low friction testing will be used to validate the use of several of the pedestrian equations when collisions occur on low friction surfaces. The authors of several of these equations mandate a specific pedestrian sliding friction, obviously, there would seem to be problems.

These equations are:

- Aronberg & Snider (0.5 f suggested)
- Barzerley (0.8 f mandated)
- Collins (0.8 f mandated)
- Limpert (0.7 f mandated)
- Pultar (1.0 f mandated)
- Searle (0.66 f mandated)
- Wood Old (0.66 f mandated)

There is much more research behind the scenes that needs to be done. Jerry, Tom, and Bryan already have put

A Special Thanks

Jerry Eubanks, Automobile Collision Cause Analysis

Tom Fugger, Accident Research and Biomechanics, Inc.

Bryan Randles, Accident

Research and Biomechanics, Inc.

More Photographs

hundreds of hours into the analysis of this data. Several hundred more hours are required before any results will be learned. Jerry has projected that they will be done and have a report for us within the next several months. From what I saw during the testing days, it will be worth the wait. In addition to what Jerry, Tom, and Bryan did with us they are headed to Denver, CO in February to do a series of ice crash testing.

What we are expecting to have for all of our members in the near future on this topic is the Impact Speed versus the Throw Distances. Once the final data and high-speed video in complete and fully edited we will put all of the data on a CD.

Any member who was not able to attend the training that would like a copy for the handout material provided can contact Gordon Gray, by phone at (209) 937-7292 (M-F, 8-5) or via e-mail gordon.gray@ci.stockton.ca.us or ca2rs@ca2rs.com.

The video tapes of our Auto-Pedestrian training have been submitted for review to accompany the data collected during our training. Jerry Eubanks, Tom Fugger and Bryan Randles have been spending countless hours compiling our data and organizing it for our reference. They expect even more hours are necessary before completion, but we hope to present the data and an article regarding the training in our next newsletter. The videos will be put together and may be available to CA2RS members. Keep reading the newsletter for updates!

Additional Photographs from our Auto-Pedestrian Training on October 18, 2000

Photographs provided by
Maurice, AC Transit &
Jennifer Colunga, Rudy Degger & Associates, Inc.

Jerry gets out of way for first impact

Jerry talks to the group

The paint on the dummy us observe areas of impa damage

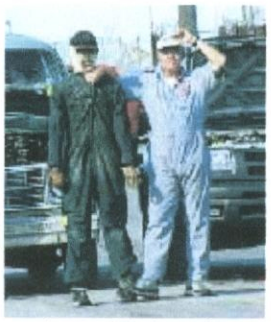
Pedestrian in motion

Jerry and Tom prepare the dummy for the first impact

The dummy lands face-(after this impact

High speed motion sensors

Inspecting the van



Jerry Eubanks

Measuring where the dummy's

Pedestrian's clothing scuffs under van

hat
landed after impact

The van, after we were
with it

WREX2000

If you didn't make it WREX2000, at least you can read about it!
Read our article to find out more.

ARTICLE by KEVIN CASSIDY

In late September, myself and over 20 other CA2RS members trekked to Texas to attend the World Reconstruction Exposition 2000. It was hosted by the Texas Association of Accident Reconstruction Specialists (TAARS) and co-hosted by 21 other collision reconstruction organizations from throughout the world. Being one of the co-hosting organizations, CA2RS was required to send two representatives to assist with the operation of the conference. Myself and Gordon Gray arrived the Friday before and were also joined by Kent Autrand, who decided to donate some of his time to help too. After some planning meetings on Saturday and Sunday, we had some free time to enjoy all of the various sights and tourist destinations that surrounded the Bryan-College Station, TX area. Approximately 10 minutes later, we were in our respective hotel rooms watching the San Francisco 49ers beat the Dallas Cowboys.

On Sunday night, the attendees began arriving and registering for the conference. There were 11 countries represented (or 12 if you believe the Texas attendees who still believe that their state is an independent republic) and one wall of the auditorium was adorned with each of the country's flags. Met a lot of good people that night and discovered that accident reconstruction isn't really that different no matter what country you hail from.

Monday morning began early with the various bus routes picking up the attendees at their hotels. This first day's events were held in a large auditorium on the Texas A&M University campus. They included various lectures on topics such as Crash Data Retrieval Systems, Critical Speed, Crash Protocols, and also a presentation by the NTSB. The lead-off speaker was an attorney named Dale Felton who gave a speech about integrity and honesty in our profession. I know many of you are scratching your heads that an attorney would be giving this type of speech to persons outside of their own profession, but it was actually very poignant and rather well done.

Copyright Larry Fasnacht, Photo used with permission from Larry Fasnacht.
To view and order additional photos,
visit Larry Fasnacht's Web site:
http://monarch.papillion.ne.us/~lfasnach/incr/WREX2000/photos
Larry Fasnacht is offering over 250 photos from the conference on a 2-CD set for only $80.

On Tuesday the buses brought the attendees out to an abandoned Air Force base that has been converted to use by, among others, Texas A&M University. This area was large enough that several types of testing could be going on at the same time. A shuttle bus was available to

take the attendees to the various sites throughout the day and view the tests as they were occurring and at their own leisure. I'll try to describe some of the testing for you.

One test was a tire test. The purpose of this testing was to examine, under carefully controlled conditions, if tire type affected the drag factor of a vehicle. Dozens of sets of tires donated by the manufacturers were tested on the same vehicle.

The next test was crash testing of motorcycles into fixed barriers and parked vehicles. The New Orleans PD donated 25 KZ1000 motorcycles for this purpose and, after some initial faults, the testing was quite impressive. (Actually, some of the faults were even more entertaining.)

Another test dealt with drag factors of tractor-trailer rigs being dragged on their sides and also passenger vehicles being dragged on their sides and roofs. Several types of trailers were used including tank trailers and box trailers. There was even a school bus that was rolled over to test its drag factor as it slid along too. In order to slide the objects, they were connected to either a large wrecker or pulled by another truck. A transducer located in-line with the pulling cable was used to measure the force. CA2RS member Bill Focha, who has an interest in heavy vehicle reconstruction, got so interested in these tests that he soon was Shanghaied into helping with them.

From the "sounds boring but was actually interesting" category, there was a group of tests being held in the field of "uncertainty". All of the conference attendees were given the opportunity to take various field measurements that they would conceivably use during an investigation. These measurements included using a roll-a-tape to measure from point-to-point, measuring a critical speed arc and mid-ordinate, measuring a coefficient of friction using a drag sled, taking a visual estimate of a vehicle's speed, etc. The purpose of all of these measurements was to establish a range of error for measurements taken by "experts". The researchers would then know how "uncertain" a measurement taken and documented during an investigation would likely be.

During the course of the day, a pair of off-set head-on collision tests were conducted. The first involved two vehicles moving at approximately 25 mph toward each other (so a closing speed of approximately 50 mph). The second involved one vehicle stationary and one moving approximately 50 mph (again, a closing speed of approximately 50 mph). The same types of vehicles were used for each test and it showed that the damage profiles would be roughly the same as long as the closing speeds were similar.

Wednesday was another lecture day. However, this time there were several different lectures to choose from. Topics included vehicle restitution, alcohol involvement, event data recorders, vehicle considerations for the initial investigator, forensic mapping systems, traffic signal timing basics, trailer underride, basics of crush, role of the weather expert, factors that affect a driver's detection and response process, and highway liability. With all of these choices and being able to attend only four throughout the day, it was hard to decide which ones to attend. As I met with other attendees throughout the rest of the week, I found that most were worth the time spent.

Copyright Larry Fasnacht, Photo used with permission from Larry Fasnacht.
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Wednesday concluded with a vendor's night at a local convention center. There were dozens of vendors present offering every tool and toy for reconstruction that one could imagine. Several of the co-hosting organizations also had booths and CA2RS managed to sell a few shirts and sign up some new members as well.

Thursday was another testing day in the field with many of the Tuesday tests being continued. There was an additional crash test of two moving vehicles at an oblique angle that provided some entertainment. An added benefit were several classes held in a nearby tent that dealt with vehicle inspections with respect to suspensions, steering components, drivetrain components, and vehicle handling characteristics.

On Friday, the attendees met back on campus as a group to listen to the presentation of the data collected from the prior two days of testing. Unfortunately, it was revealed that, since there was so much data collected, it would take some time before it could be fully analyzed and presented in a paper.

One of the immediate test results available was proof that, as far as passenger vehicle tires are concerned, "a tire is a tire is a tire". There was absolutely no difference in the drag tests of all the different brands of tires tested. As for the other tests, I'll be keeping my eye out for some forthcoming SAE papers and also pressing those involved to get the data published.

Overall, the conference was definitely well worth the time and expense. While I realize that not everyone can get away for a conference such as this, I felt that it was important for CA2RS to be involved. The Board and the other members who were able to attend came back with many ideas to make our own future conferences more valuable and productive. For those who weren't able to attend, copies of the conference materials are available for purchase at the WREX2000 website (www.wrex2000.org) as are CD's with the various test data.

CAARS Board of Directors

CHAIR

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VICE-CHAIR

Gordon Gray—Stockton Police Department
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Kerry Berg—Kerry A. Berg & Associates, Inc.
Phone: (909) 784-4505
7177 Brockton Ave., Suite 224, Riverside, CA 92506-2633
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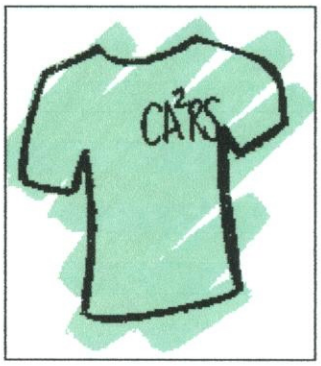
e-mail: AlSutts@aol.com

Jim Willette—Mountain View Police Department
Phone: (650) 903-6344 1000 Villa St., Mountain View, CA 94041
e-mail: T2MVPD@netscape.net

CAARS POLO STYLE SHIRTS

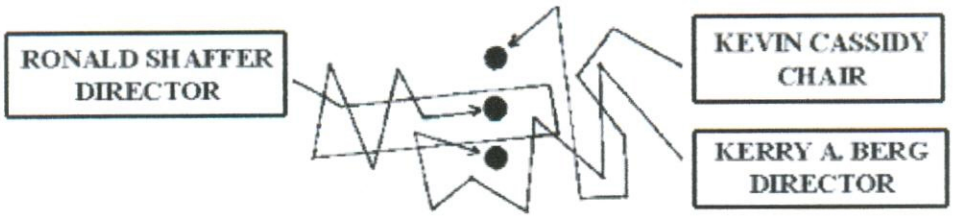


Remember our new style Polo shirts are now available for sale at a very reasonable cost of $30.00. We sold several at our last quarterly meeting, not to our surprise. These Polo shirts are primarily green in color with an **embroidered logo** instead of the standard silk screen. We even had a couple novelty briefcases with the embroidered logo that we raffled off. A few of the members on the Board are flaunting stylish leather briefcases with a unique gold embroidered logo. Take a look at our next meeting and you will see why our new items are so popular! Contact CA2RS Headquarters if you are interested in purchasing a new Polo shirt. If you need one sent to you, we will require a small shipping fee.

Embroidered Polo Style Shirts - $30.00
Sizes: M, L, XL, XXL
(3XL available special order. Contact CA2RS Headquarters for details.)

CA2RS Headquarters
3650 Mt. Diablo Blvd., Suite 235
Lafayette, CA 94549 Phone: (925) 284-7739
Fax: (925) 283-8916
E-Mail: ca2rs@ca2rs.com
Website:
www.accidentreconstruction.com/caars

The Results Are In!



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