

Another Book Review from the desk of Joseph E. Badger, Bloomington, Indiana

Since the 1980s, the Institute for Police Technology and Management (IPTM) has been publishing top quality texts, such as Mike Lofgren's *Handbook for the Accident Reconstructionist*. Other authors include Al Baxter, George Bonnett, David Brill, Bob DuBois, Butch Kennedy, Frank Navin, and Bob Rivers, as they say, just to name a few. Let me digress a moment.

Brothers Chang and Eng, born in 1811 in Melange, Siam, came to the U.S. in 1839 and took the last name Bunker. You probably don't remember them unless you're really old. Perhaps the names Alaina and Xela Bryce ring a bell. They were born October 18, 2000 in Portland, Ore. Or how about Carl and Clarence Aguirre, born April 21, 2002 in Silay City, The Philippines?

Those sets of siblings had one thing in common. They were physically conjoined. And because of their situation they became fairly famous.

Another pair of people, who are becoming fairly famous, are seemingly inseparable because this dynamic duo are scientifically conjoined and yet not even related. I've always said they were attached at the algorithm. They would be Messrs. John Daily and Nathan Shigemura, co-authors of *Fundamentals of Applied Physics for Accident Investigators: Volume 1* of The Traffic Accident Reconstruction Series (Institute of Police Technology & Management, Jacksonville, 1997).

Back in 1988, John Daily, who had been a deputy with the Teton Co. Sheriff's Office in Wyoming since 1977, wrote *Fundamentals of Traffic Accident Reconstruction*, one of the few IPTM publications with full color photographs. After a quarter-century as an enforcer at law, John retired and, among other things, has been an adjunct instructor with IPTM. Besides his police background, John has a Mechanical Engineering degree and travels extensively to teach various classes at seminars and conferences.

Nathan Shigemura retired in 2002 as a sergeant from the Illinois State Police. Nate's degree in Electrical and Electronic Engineering helped him write *Mathematics for the Traffic Accident Investigator and Reconstructionist* (1996), also published by IPTM where he has been an adjunct faculty member since 1989. Nate, a long-standing member and past president of the Illinois Association of Traffic Accident Investigators (IATAI), teamed up with John Daily years ago and he, too, lectures at colloquia and symposia.

After nearly a decade since their *Volume 1* of the Traffic Accident Reconstruction Series, together John Daily and Nate Shigemura finished *Volume 2*. But this time, the twosome became triplets. Assisting with the writing was Jeremy Daily, who recently obtained his

Ph.D. and P.E. license. Jeremy believes that he brought an academic approach to the text.

He learned typesetting skills that provided a mechanism for the trio to write a highly technical and structured document without having to keep track of all the numbering. Furthermore, he says, all of the illustrations are mathematically correct because they were programmed into the document.

Jeremy adds that his first major effort was translating John & Nate's *Fundamentals of Physics* from WordPerfect to the new format.

Next, they focused on the crush and energy chapters and during 2005 John & Nate would spend weeks at a time at Jeremy's house writing the last chapters.

Jeremy said he thinks the most effort went into the Critical Speed Yaw chapter. He asked some hard questions and they “spent quite a while thinking and writing to address some of the questions we had. We did some physical testing and were able to generate examples from real life testing or crashes for the examples and exercises.”

All three authors are members of the International Network of Collision Reconstructionists (INCR).

The elder Daily explains that one of their goals in writing the book was “To create both a textbook to use for classes as well as being a reference for those practicing in the field. To that end, we kept loose track of the various questions posted on INCR for the past few years. Many of these questions were basic in nature, and we wanted to create a reference in which these kinds of questions were answered. In addition, we designed the book for a variety of classes, from Vehicle Dynamics up through and including several advanced topics in crash reconstruction as well as the crash reconstruction course itself.”

If you already have John's aforementioned 1988 book, you may wonder if you need this new one.

In a word, yes. I can almost guarantee that when you first see it (and heft it), you will relegate his old text to a hard-to-reach shelf and put the new one out front. Maybe even make a coffee table book out of it.

This latest work is a wonderful departure from IPTM's usual fare of spiral-bound books. This one has a hard cover. And massive! By actual weight, 4.5 lbs (2.04 kg), it is to my knowledge the heaviest, thickest book to come out of IPTM and it contains over 750 pages.

Fundamentals of Traffic Crash Reconstruction, Vol. 2 starts out with geometry, trigonometry and the dreaded calculus. If you're mathematically challenged, fear not. Aside from the traditional arithmetic operations and the more advanced manipulation of percentages, exponentiation and logarithmic functions, the book covers everything from

coefficient of friction, off-tracking, and eccentric collision analysis using rotational mechanics.

They even cover “Rollover Taxonomy.” (Don’t feel bad; I had to look it up too.)

The authors revisit NHTSA’s CRASH 3, for those too young to remember it, and they delve into drag sleds, and principal direction of force. Their equations are in both US and SI units plus they provide exercises (with answers!). And the book has an always invaluable index.

The cost is \$75.00 plus shipping. Since this book will be sold worldwide, shipping costs vary. You can find the shipping costs at <http://www.iptm.org/shipchart.htm>.

You can order the book from www.iptm.org or by calling 904-620-IPTM (4786).

And would you believe, John, Nate & Jeremy have already put together another outline for their next book. Stay tuned.

(About the reviewer: Joseph E. Badger is an internationally known accident reconstructionist who has had over 100 articles published in such periodicals as *Law and Order* magazine, *Accident Reconstruction Journal*, *Accident Investigation Quarterly*, and others. Having retired after 20 years with the Indiana State Police, Mr. Badger resides in Bloomington, Indiana.)