



## **Mack Cowan Receives 2008 National Safety Council Robert F. Borkenstein Award.**

**By Shirley Ezelle**

**The National Safety Council selected IACT's own Mack Cowan to receive the 2008. The award was presented February 18, 2008 by Kurt M. Dubowski, Ph.D., LL.D., DABCC, DABFT. The occasion was a banquet during the annual meeting of the National Safety Council's Committee on Alcohol and Other Drugs at the Marriott Hotel in Washington, DC. We congratulate Mack and take pride that he has honored IACT by his membership.**

**The text of the presentation by Dr. Kurt Dubowski follows.**

### **Introduction**

We have gathered on this festive occasion to celebrate the conferral by the National Safety Council, through its Highway Traffic Safety Division and upon nomination by the Committee on Alcohol and Other Drugs, of the 2008 Robert F. Borkenstein Award upon our colleague Johnny Mack Cowan, Jr. The Council could not have selected a more worthy recipient as the 17<sup>th</sup> Laureate of its premier recognition in the field of alcohol/drugs and traffic safety. It is now my great pleasure and privilege to introduce my friend and colleague for this Award, as I begin my 59<sup>th</sup> year of membership on the Committee on Alcohol and Other Drugs.

The Award recognizes persons whose outstanding contributions through a lifetime career of service in the field of alcohol, drugs and traffic safety have been nationally recognized as consistent with the ideals and achievements of the late Professor Robert F. Borkenstein of Indiana University (1912-2002). That characterization fits Mack Cowan perfectly. In fact, his extensive contributions have been in four of the five Award areas: (1) alcohol education; (3) human factors, (4) technology and toxicological procedures and (5) action programs. And in conferring the Award, we are honoring both the man and his accomplishments and contributions.

Mack is the archetype of the tall, quiet, soft-spoken Texan - - exactly the sort of person every man in the country aspires to be. But he is the real article: A lifelong Texan, raised and educated in Texas, serving his state and the nation, who has reached the top of his profession and firmly continues in the giant footsteps of such legendary predecessors in the position of Scientific Director of the Texas Department of Public Safety as J. D. Chastain and George E. Browne. Much of his success is due to his own talents, initiative and accomplishments. But he is also a complete team player, and has maintained highly successful professional partnerships with many colleagues. Those include his immediate predecessor Richard W. Baxter, and his long-time partner at Texas DPS headquarters, Assistant Manager Randall E. Beaty of the Texas Breath Alcohol Testing Program – another Texas Superstar who will receive the Kurt M.

Dubowski Award of the International Association for Chemical Testing in Tempe, AZ in May 2008.

We will look at Mack Cowan the man in a little while, but first let us scan his splendid professional career, now encompassing some 32 years.

### **Mack Cowan's Career**

He received his higher education at Texas Wesleyan University in Ft. Worth, being graduated with a B.S. in chemistry, Magna Cum Laude, in 1976. That "high honors" education in the master science of chemistry has served him well in his subsequent career in forensic science. He has completed during the past 32 years a dozen in-service training and continuing education programs directly relevant to his present position, since 2004, of Scientific Director of the State of Texas Breath-Alcohol Testing Program, and to his prior career. These educational involvements and his professional experience over the past 32 years have made Mack one of the country's best qualified and most experienced scientists and managers in the alcohol-and-traffic safety field.

After graduation from Texas Wesleyan University, Mack began his career in forensic science and alcohol toxicology applied to traffic law enforcement as a Technical Supervisor for breath-alcohol testing in the Corpus Christi, TX area, employed by Corpus Christi State University 1977-79. He joined the Texas Department of Public Safety in 1979; and his entire subsequent professional career has been with that agency, in progressively more responsible forensic science positions - culminating in his present appointment as the Scientific Director and Manager of the State of Texas Breath-Alcohol Testing Program, since 2004. The Scientific Director's Office administers and regulates the State of Texas breath-alcohol testing program, inclusive of an extensive motor vehicle alcohol interlock operation. As Scientific Director, he is in charge of the entire State of Texas program, which is generally considered as the largest and most complete program of breath-alcohol testing in connection with traffic law enforcement world-wide, and is considered among the premier such programs anywhere.

The position of Scientific Director as the head of governmental programs for alcohol/drug testing in connection with traffic law enforcement was initially proposed (by me) in the "*Model Program for the Control of Alcohol for Traffic Safety*" developed in 1967 by the NSC Committee on Alcohol and Other Drugs for the the newly established National Highway Safety Bureau of the U. S. Department of Transportation, and in the 1968 "Recommendations of the Ad Hoc Committee on Testing and Training" of the NSC CAOD. The first group of U. S. Scientific Directors appointed in conformity with these NSC CAOD pronouncements, which were at once adopted by the Federal Government, included such luminaries in American forensic science as Yale H. Caplan (Maryland), Kurt M. Dubowski (Oklahoma), Robert B. Forney, Sr. (Indiana), Ted A. Loomis (Washington), Morton F. Mason (Dallas, TX), Clarence W. Muehlberger (Michigan), Lloyd M. Shupe (Columbus, Ohio); and J. D. Chastain – the legendary first Scientific Director in Texas, who was also the 2005 Borckenstein Award Laureate, and the first in the series within the Texas Department of Public Safety which now includes Mack Cowan. All of them, including Mack, are/were exceptional scientists of the highest

professional competence and integrity and worldwide leaders in forensic alcohol toxicology. In Mack Cowan, we have the perfect fit between the person and the position.

In the Texas DPS, Mack served successively as Technical Supervisor at Tyler, TX 1979-91, Assistant Manager of the DPS Texas Breath Alcohol Testing Program in Austin 1991-2004, and as Scientific Director and Manager of the Texas Breath Alcohol Testing Program in Austin since 2004. The Breath Alcohol Testing Program is one of 7 major units within the Texas Highway Patrol (THP), a division of the Texas Department of Public Safety. The THP is one of the country's largest and most efficient state law enforcement agencies, with about 3,500 personnel. As the head of one of the THP major operational units, Mack is also a member of the THP Chief's Management Staff. Within the Texas Breath Alcohol Testing Program, he has been in charge of its Quality Assurance Program since 1999, arguably the most critical element of the entire breath-alcohol testing program and one in which the Texas Program is an international leader.

### **The Texas Breath-Alcohol Testing Program**

It is sometimes said that Texas is the land where everything is bigger and better than anywhere else. That really is true for the Texas Breath Alcohol Testing Program, established in 1969 and headed since 2004 by Mack Cowan. The program is very large, very extensive and comprehensive, and is staffed by the largest collection of breath-alcohol testing operators and scientist supervisors anywhere. It is widely regarded as *the* model state program for the entire field. The Scientific Director's Office directly manages the Department of Public Safety's own Technical Supervisors – all degreed scientists – and administratively controls Technical Supervisors employed by other agencies for a total of 53 certified Technical Supervisors. Breath-alcohol testing in support of traffic law enforcement is carried out at 340 breath testing instrument locations, by more than 5,000 certified breath test operators from 900 law enforcement agencies, trained at one of five certified breath test operator schools located throughout the state. The Scientific Director's Office and the Technical Supervisors also provide expert testimony, as needed, in contested prosecutions, and in criminal, civil, and administrative cases involving alcohol test evidence. The Scientific Director's Office also regulates the automobile ignition interlock device industry within the state. Texas case law requires forensic scientists, i.e., the Technical Supervisors, to supervise all aspects of the forensic breath-alcohol test, including the law enforcement officers operating evidential breath-alcohol analyzers. Most importantly, as a condition for admissibility of breath-alcohol test results into evidence, a Technical Supervisor must interpret the analysis results in courts of law.

The entire system is managed and administered from a new purpose-built single-discipline forensic laboratory building on the Texas DPS headquarters grounds in Austin and under the direction and control of the Scientific Director – Mack Cowan. The Scientific Director's Office staff is comprised of the Scientific Director, three Breath Alcohol Testing Program Assistant Managers, an electronics engineer, and a computer analyst, often with additional Technical Supervisors also in residence. The 57 forensic

scientists in the Texas Breath Alcohol Testing Program are arguably the largest collection of breath-alcohol test experts in any one program in the world. Their Austin DPS laboratory building is a marvel of modern fit-for-purpose spaces, equipment, and facilities for carrying out the administration, management, training, equipment support and repair, research and development, and data and records management for the system. Information and records management is completely digitized and computerized for current and ongoing data flow, analysis, and evaluation – including regularly downloaded information from all instruments in the field – and is in the process of digitizing all prior paper records and data.

Mack Cowan's impact through formal and informal leadership and as a leader and role model has not been limited to the Texas Department of Public Safety. He is a long-time member of the International Association for Chemical Testing (IACT) and a regular presenter at its annual meetings. He was a charter member of the Southwestern Association of Forensic Scientists in 1978; and is a founder and past president of the (Texas) Alcohol Testing Alliance. He is a role model in all of his affiliations, including the Intoxilyzer Users Group, a very down-to-earth hands-on group of forensic breath-alcohol testing managers, scientists, and industry leaders.

### **Mack Cowan's Contributions to NSC CAOD**

Of particular note and value have been his work on and his contributions as a volunteer to the National Safety Council Committee on Alcohol and Other Drugs. He was elected as a Voting Member in 1991 and has also served since 1997 on the CAOD Executive Board. He was Chair of the CAOD Subcommittee on Alcohol Technology, Pharmacology, and Toxicology 2000-2007, with Dr. Kurt M. Dubowski as co-chair, and guided that key subcommittee with great diplomacy, skill, and success for all of those years. Within CAOD, he has regularly and frequently proposed actions to improve and enhance the scientific, legal, and operational aspects of alcohol testing in connection with traffic law enforcement. Recent examples include suggested positions and policies on Time-of-Test DUI laws; recommended practices for breath-alcohol testing inclusive of on-site testing; and on quality assurance issues such as preparation and validation of breath-alcohol control test simulator solutions, etc., etc. His consistent and valuable contributions resulted in his unanimous election in February 2007 as Vice Chair of the NSC Committee on Alcohol & Other Drugs and of its Executive Board. He thus indeed followed in the giant footsteps of Professor Borkenstein and his Texas predecessors J. D. Chastain and George E. Browne.

### **Outreach**

As a trusted colleague known for his outstanding scientific knowledge, extensive management experience and innovative leadership in our field, Mack has been consulted by breath-alcohol testing program directors in Alabama, Arizona, Colorado, Florida, Indiana, Louisiana, Mississippi, Missouri, Montana, New Hampshire, North Carolina, Oklahoma and Oregon about their breath-alcohol testing programs. At the Texas DPS he has shared his insight, wisdom, encyclopedic knowledge of forensic

alcohol testing and an unshakable integrity with several generations of breath-alcohol test operators, supervisors, prosecutors, and Highway Patrol troopers. He was one of a handful of national leaders invited to participate in a recent national "Symposium on Management and Administration of Forensic Alcohol Testing Programs" sponsored by Indiana University's Center for Studies of Law in Action.

### **Research & Scholarly Activities**

Research has been a continuing and important part of Mack's professional work throughout his career. It is notable that his research activities have encompassed both fundamental science in alcohol pharmacology, pharmacokinetics, and toxicology and applied science and technology research and development of major significance in the practical day-to-day aspects of evidential breath-alcohol testing. His research has resulted in more than a dozen peer-reviewed publications in the scientific literature, involving both human subject studies and bench and field studies of analytical procedures and apparatus. He was lead author for "The Response of the Intoxilyzer 4011-AS-A to a Number of Possible Interfering Substances," published in the *Journal of Forensic Sciences*, in July 1990; "Determination of Volume of Distribution for Ethanol for Male and Female Subjects," published in the *Journal of Analytical Toxicology*, Sept. 1996; "A Comparison of Equal Doses of Beer and 100 Proof Whiskey on Eleven Human Test Subjects." published in the *Canadian Society of Forensic Science Journal*, in Sept. 2004; lead coauthor of "Is There a 'Gender Factor'? Comparison of Blood:Breath Differences and Ratios between Men and Women," published in the *Journal of the Alcohol Testing Alliance*, April 2006; and several other articles published in *Alcohol, Drugs and Driving*; *Journal of the Alcohol Testing Alliance*; *Journal of the Forensic Science Society*, and the *Proceedings* of the ICADTS International Conferences on Alcohol, Drugs and Traffic Safety for the ICADTS T-2002 and T-2004 Conferences.

A major accomplishment was his co-authorship of the "Texas Breath Alcohol Testing Program Operator Manual," revised July 1989 and his service as co-editor of subsequent editions of that Manual, 1999 to the present. The 9/2003 edition consists of 115 text pages and more than 35 full-color illustrations – making it probably the most extensive and most current reference of its kind anywhere. Moreover, the entire manual is posted on the Texas DPS Internet website and can be downloaded from that website by any interested person. One of its most recent users is the Royal Bahamas Police Force.

His frequent reports to the NSC CAOD on behalf of the Subcommittee on Alcohol Technology, Pharmacology, and Toxicology were fully referenced, authoritative scientific treatises, each included in the Committee's meetings minutes which are now available to CAOD members via the NSC/CAOD Internet website. A recent example is the Subcommittee's report in February 2005 on Time-of-Test DUI Laws. Mack authored the 13-page report, introduced by the succinct statement "This subcommittee has completed its assessment of the scientific literature and other relevant publications concerning the scientific soundness of time-of-test laws and has produced a report of our findings." That report, like many others prepared by Mack Cowan, was a first of its

kind on the subject, and has been of great assistance to many states considering statutory and regulatory changes to its DUI program. Briefly put, Mack's published research has advanced and enhanced significantly the field of forensic alcohol toxicology, and has improved the nationwide practice of alcohol testing in traffic law enforcement for more than two decades.

### **Teaching and Education**

Mack's professional involvement in alcohol education and training activities has been equally long, extensive, and useful within and outside of Texas. He has taught at least 30 breath-alcohol operator schools in his 25 years at Texas DPS, taught annual renewal courses 14 times, and was the lead instructor at the first Texas DPS Training Academy at which all 111 Texas Highway Patrol Trooper trainees were certified in standardized field sobriety testing (SFST) and as breath-alcohol tests operators in one seven-day course. He has regularly taught all Texas Technical Supervisors, and Texas DWI prosecutors. He was the invited instructor for training Breath Alcohol Test Inspectors and Instructors for the Florida Department of Law Enforcement in 1997, 1998, and 1999. By conservative estimates, at least five thousand persons have been registered in programs on alcohol toxicology and breath-alcohol testing, technology and support taught by Mack Cowan. Truly, he is a Master Teacher, and continues to share his knowledge, insight, and experience with those most deeply involved with alcohol-impaired driving and its control.

### **Expert Testimony**

During his 32 year career in forensic alcohol toxicology, Mack has also been a frequent expert witness. He estimates that he has given expert witness testimony on forensic alcohol toxicology, breath-alcohol testing, alcohol-related driving impairment and related subjects more than 500 times. Further, he has studied and widely lectured on the effect of the 1993 U. S. Supreme Court decision on expert evidence in *Daubert vs. Merrell Dow Pharmaceuticals*, and written and lectured on the preparation and delivery of expert testimony on alcohol-related subjects in DUI trials.

### **Awards and Honors**

Mack has received several major professional awards and honors which bespeak the recognition of his superior professional performance and contributions over time by those who work most closely with and know him best. Noteworthy is the Certificate of Appreciation by the Texas Department of Public Safety in recognition of distinguished service to the Texas Department of Public Safety and to the Texas Breath Alcohol Testing Program conferred in August 1987. Then came a Twenty Year Service Award for the Texas Department of Public Safety in February 1999; membership in the Texas DPS Quarter Century Club in March 2004; and a Twenty-five Year Safe Driver Award in February 2005. These are the career milestones of a consistently superior performer – and his professional contributions are continuing and accumulating.

## **Mack Cowan, the Person**

You have now heard some information about Mack Cowan, the forensic scientist and manager and his outstanding career to date. The “rest-of-the-story” about Mack Cowan, the man and his family and friends is at least equally as interesting, if not more so. The Cowans truly are an All-American family in the best sense. Mack is a second-generation Texas Department of Public Safety official; his father was a 33-year veteran of that department, who retired as a Senior Inspector and died several years ago. His mother worked for many years with the retarded at both Abilene and Austin State Schools for the Mentally Retarded. She and her current husband Gene Shamburger now live in Austin. In fact, the entire Cowan family and many of their close friends are very much involved in education. Mack’s younger brother Mark and his wife live in Raz Tenura, Saudi Arabia, where he works for Aramco Oil Company in their HR department. A younger sister, Melessa is an outstanding kindergarten teacher in Austin.

Mack and his charming wife Debbie Hinckley Cowan were graduated together from Texas Wesleyan University in 1976 and have been married for 33 years. With his wonderful sense of humor, Mack allows that “he married an older woman” – about three weeks older. He adds that both are life-long Texans and neither of them has gotten used to the Texas summers. She is a second-grade teacher at Spicewood Elementary School in Austin. They have two sons, Taylor, age 24, a graduate of Texas State University in San Marcos, former football and rugby player turned pre-kindergarten teacher (4 year olds) at Caldwell Elementary School in Pflugerville, TX; and Van, age 21, an excellent student and computer whiz who just completed his first semester studies at the University of Texas School of Pharmacy in Austin. Further to education, Mack is a member of what he terms one of the best Sunday School classes in the world, at Hillcrest Baptist Church in Austin. The class members take their religion seriously, but not themselves, he says; they always have a good time together. Debbie and Mack also like to travel.

Most of Debbie and Mack’s friends are work-related, and my wife Natalie and I are proud of being among them. They have remained close to two other couples. There’s Jeff and Angie Billings of Tyler; Jeff owns a tire business (transportation, that is!) and Angie is a top high school English teacher. The other couple is Steve and Debbie Owen of Midland. Steve and Mack worked together in breath-alcohol testing in Tyler over 25 years ago. Steve left that field to earn a master’s degree in Petroleum Engineering at Texas A&M University, and now works for Henry Petroleum Corporation in Midland, and Debbie is a teacher. Says Mack: “It’s nice to know someone who is enjoying \$3 gasoline.”

Mack has always been a natural born leader. He likes to play golf, fish, hike and snow ski; but his real passion is Texas high school football. It really does not matter who is playing – he just loves going to the games. The bands, the drill teams, the parents and fans; he loves it all. He even attended Abilene High School football games as a baby, when his parents had season tickets in Abilene long ago. And that’s Texas Style high school football – where Oklahoma and the rest of the country recruit their top college

football players. While he always loved high school football and lettered two years at Eastern Hills High School in Ft. Worth, he was a much better baseball player. He played baseball from age 8 to 22, lettering two years at Eastern Hills High School and three times at Texas Wesleyan University – as a pitcher, of course.

A 12-year old Chihuahua dog named Mimi completes the family. So, that's the Cowan family profile and they don't come any better.

The foregoing recitations are but a sampling of Mack Cowan's career-long contribution to traffic safety which have inscribed him in the all-time Roster of Greats in that field. His work and achievements have added further luster to the world-class status of his career venue, the Texas Department of Public Safety. They serve as a bright beacon of the accomplishments of a dedicated and productive forensic scientist. Thus, by every measure, our colleague Mack Cowan has fully earned his recognition today as the National Safety Council's 2008 Robert F. Borckenstein Laureate.

Congratulations, Mack, and every good wish for the future!

Kurt M. Dubowski, Ph.D., LL.D., DABCC, DABFT  
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