



INDIANA UNIVERSITY

BORKENSTEIN
COURSE

Center for Studies
of Law in Action

Biochemical and Physiological Research on the
Disposition and Fate of Alcohol in the Body

by
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This series of lectures focuses on recent publications dealing with forensic alcohol analysis and implications of the results for expert testimony in DUI trials. Alcohol research is a multidisciplinary topic with a large literature base spread throughout many of the biomedical journals as well as specialist periodicals in the forensic sciences. A number of useful databases are available on the world-wide-web (e.g. ETOH from National Institute of Alcohol Abuse and Alcoholism) which specializes in biomedical alcohol research journals and PUBMED from the National Library of Medicine which covers all medical publications. Searching these databases and other ways of keeping up-to-date with the growing number of publications on forensic aspects of alcohol will be discussed.

An international perspective of the developments in alcohol, drugs, and traffic safety will be covered including information about the illegal *per se* limits of alcohol concentration in blood and breath in different countries, the kinds of evidential breath-test instruments used, and the pros and cons of various defense challenges arising. Aspects of congener analysis, the highest recorded BAC, alcohol burn-off rates in various populations and factors influencing alcohol disappearance from blood, variability in the blood-breath ratio of alcohol in drinking drivers will be touched upon. Results from many of my own recent research efforts will be presented including such things as gastroesophageal reflux disease, urine/blood ratios of ethanol, plasma vs. whole blood as specimens for alcohol analysis, water-induced diuresis as well as many other topics relevant to analysis and interpretation of alcohol concentrations in blood, breath, urine and saliva.