1. Introduction

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1.1 Why this Bench Book?

The National Judicial College and the Justice Speakers Institute, LLC developed this bench book with support from the State Justice Institute to help judges determine the admissibility of evidence based on sound forensic science. The fact is, few judges were scientists in a previous career. The scientific method is not second nature to most, and few subscribe to scientific journals. In a worst-case scenario, a judge could admit so-called "scientific testimony" even after the scientific community had discredited it.

This first-of-its kind book for state court judges is a practical guide to the key types of scientific evidence judges are likely to encounter on the bench. It is the work of expert judges and practitioners. All judges, new or experienced, will find it helpful when considering complex scientific evidence.

With the current attack on science and mistrust in certain scientific theories, it is critical that judges have a solid foundation in science and the tools to evaluate emerging scientific theories and technologies.

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As the evidential gatekeepers, judges decide which science-related evidence is admissible. The trier of fact, whether the judge or a jury, must also decide what weight to give to the evidence.

To do this well requires knowledge of the reliability of certain types of purported scientific evidence. For example, bite-mark evidence is the process by which forensic odontologists attempt to match teeth marks found at crime scenes with the dental impressions of a suspect. Although bite-mark evidence is routinely admitted by courts in the United States, science has not validated the theory that a person's dentition is unique like DNA.

Judges have also routinely admitted voiceprint identification, even though a National Academy of Sciences committee found no empirical evidence that voiceprint examiners can dependably identify the source of a recorded voice.

The evidence rules and case law make admissibility of evidence contingent upon validation. Yet some judges do not understand that different evidentiary standards exist for the admissibility of scientific evidence. They also may not know the standard that applies in their state.

This inaugural edition is designed to provide judges not only a grounding in science, but also guidance in what distinguishes scientific evidence from technical evidence. The sections are organized for easy reference during pre-trial, trial and post-trial proceedings (including post-sentencing supervision), and the information is applicable to both civil and criminal proceedings.

We hope you find this bench book useful, and we invite your comments and suggestions on how to make the next edition better still.