Title: The journey to hearing protection fit-testing: from a doctoral project, to meeting a mentor, to a world recognized best practice

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Abstract: Introduced in the mid-1970’s, the concept of hearing protection device (HPD) fit-testing had been used by several researchers to assess on an individual wearer the exact amount of attenuation provided by a given HPD. In 2000, however, as part of his doctoral work, the author developed an objective method, referred to as Field-MIRE, involving simultaneous measurement with two microphones and dedicated to a new type of instantly-molded custom earplugs. The so-called SonoPass measurement system was commercialized by Sonomax and first introduced during the NHCA conference held in Arizona in 2001. This was also for the author the opportunity to first meet Elliott H. Berger, one of his most cited author and soon to become mentor. Their formal collaboration started in 2006 when the F-MIRE system was adapted to test non-custom HPD, became exclusive to AEARO company, and was globally introduced as E-A-Rfit Validation System. Then years of further collaborative work led to ANSI S12.71 standard adopted in 2018 for field attenuation estimation systems (FAES). Along the way, their joint writing for the Noise Manual handbook was remembered by one as “one of the most daunting training job” and by the other as “a truly fun and amazingly rigorous exercise”.

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