

# **Tutorial on Measurement of Speech and Audio Quality in Networks**

specially designed for mobile, 3G and NGN network operators  
and technology vendors

*Comprehensive Curriculum, In-depth Introduction to Measurement Techniques*

**June 8, 2005, 4.00 p.m.**

**Meeting room of Prague TV Tower  
Mahlerovy sady 1, Prague 3, Czech Republic**

***Lenght: 3 hours***

***Price: 120 € incl. V.A.T.***

***Tutorial Language: English***

***Included: tutorial admission, full admission to TV Tower outlook, handouts, refreshments, dinner***

***Where to register: [mesaqin@wireless.feld.cvut.cz](mailto:mesaqin@wireless.feld.cvut.cz) or call us at +420 2 2435 2131 or fax +420 2 2435 2199***

## **Overview:**

Intro & Listening Tests  
Models & Non-intrusive Measurements  
Intrusive Measurements  
Tips & Tricks, Trends

## **Topics:**

Voice Quality Measurement Needs in Modern Networks  
Voice Transmission QoS Evolution: ETSI vs ITU-T approaches  
Mean Opinion Score (M.O.S.) subjective testing: P.800, P.830. ITU-R BS.1116  
Listening quality, talking quality, conversational quality, interaction quality  
General models of voice transmission quality measurements: intrusive vs non-intrusive approach, packet and mobile network environments.  
Transmission technology-, speaker-, coders- and language dependencies, conversational quality  
Non-intrusive measurements: History: INMD (P.561, P.562), E-model  
State-of-the-art: 3SQM (ITU-T P.563), SEAM, NiQA, NiNA sub-algorithms  
Intrusive measurements: History: PSQM (ITU-T P.861), PSQM+, PAMS  
State-of-the-art: PESQ (ITU-T P.862), PESQ MOS, PESQ LQ (P.862.1)  
Future trends: P.863, P.AAM, and new technologies. UMTS, AMR, QoS on demand  
Wide-band speech quality, ITU-R BS.1387  
Sound quality for video clips and streaming