

"In search of " an Expert Researcher

NMDG develops and commercializes products and services that accurately "characterize and analyse beyond S-parameters" the behaviour of active high-frequency (HF) electrical components under realistic test conditions. The main focus is on the nonlinear behaviour of these components.

Accurate measurements are key to Large-Signal Network Analysis (LSNA) and require a phase calibration on top of well-known relative and power calibrations. The phase calibration requires a new calibration element, which is today referred to as harmonic phase reference (HPR). In order to accurately calibrate the HPR itself, techniques such as the nose-to-nose and electro-optical-sampling-based (EOS) calibration techniques were conceived and implemented. The engineers at NMDG are involved in all these aspects of Large-Signal Network Analysis since 1990.

At μ wave and mm-wave frequencies, pulse-shaped signals are used as a phase calibration element. Yet, when calibrating instrumentation used for the measurement of narrowband signals, the repetition rate of the pulse-shaped signal has to be decreased dramatically (from GHz to kHz). As a consequence the amplitude of the individual frequencies is very small while the linearity of the measurement receivers must be guaranteed while handling the peak amplitude of the pulse. Hence, the required signal-to-noise (S/N) ratio is well beyond that of state-of-the-art instrumentation.

To address these problems, NMDG applied for a Research Excellence Grant (REG) within a European Joint Research Project (JRP-09i) "Ultrafast Electronics" which was recently approved.

In order to qualify, a REG researcher must have at least 4 years of relevant experience (a PhD in a relevant subject qualifies as experience). In return the REG offers:

- An opportunity to work on a world-leading metrology project with high social and economic impact
- An opportunity to build links to key metrology organisations and individuals
- An opportunity to build metrology experience
- An opportunity to get in touch with world-leading instrument manufacturers and key customers who have a direct or indirect need for accurate phase information
- Potential to publish joint papers with world leading metrological scientists
- A generous salary allowance depending on experience

NMDG offers a flexible and dynamic working environment where initiative is appreciated. At the end of the REG (12 months), growth opportunities may exist for you to play an important role in the future direction and expansion of the company.

If you think you qualify and want to make impact in the high-frequency community, NMDG wants to hear from you.

Contact: Marc Vanden Bossche
Tel: +32 (0) 3 890 46 12
Email: recruiting@nmdg.be

