



**TUOMAS TIAINEN**

From Finland to France



Project: **Research Cooperation Visit to LNE Paris**

Research topic: **Engineering**

Finnish Institution: **Aalto University School Engineering**

French Institution: **Laboratoire national de métrologie et d'essais**

Dates of mobility: **19/02/2023 to 21/03/2023**

Program: **Maupertuis Programme**



## PRESENTATION

[Tuomas Tiainen](#) is a postdoctoral researcher with research focus on rotor metrology and manufacturing methods. During thesis he developed an automatic assessment system for mechanical engineering CAD exercises. He completed his doctoral dissertation on multi-probe roundness measurement of large rotors in late 2020 and since then he has been continuing research work as a postdoctoral researcher at [Aalto University School of Engineering](#). He is the acting project manager for an EU funded wind energy drivetrain metrology related research project [Met4Wind](#).

## ACTIVITIES IN FRANCE

A research cooperation visit was conducted to [LNE \(Laboratoire national de métrologie et d'essais\)](#) located in Paris. The objective of the visit was to get acquainted with LNE personnel and to get introduced to the facilities and laboratories, equipment and methods in use at LNE. Assistant professor [Raine Viitala](#) from Aalto University was also participating in the visit. Two days of discussions were held with LNE researchers, including lectures and presentations on the research topics of both organizations. Potential future research collaboration possibilities were discussed alongside with possibilities of scientific and metrological advances. A specific focus of the discussions were multi-probe error separation methods are relevant for many industrial applications, and they can be applied to determine and correct the roundness deviation in the manufacturing of, e.g., rolls, shafts and bearings. LNE has active ongoing research on a very similar topic and a new error separation method has recently been developed in the institution and is used for cylindricity measurements. The held discussions provided useful insight into applied measurement methods, experiment design as well as the data processing and filtering. Persons met: [Hichem Nouria](#), [Saint-Clair Toguem Tagne](#) and [Diane Gumuchian](#).