



NATIONAL HELLENIC RESEARCH FOUNDATION
THEORETICAL AND PHYSICAL CHEMISTRY INSTITUTE



Athens, 30-July-2018

Call for Expression of Interest: Industrially Sponsored Ph.D. Studentship *Photonic Sensors for Solid Rocket Motors' Condition Monitoring*

Bayern-Chemie GmbH (<https://bayern-chemie.com>), a subsidiary of MBDA Missile Systems (<https://www.mbda-systems.com/>), is a world leading company specializing in guided missile and space propulsion technology with over 60 years of experience in the development and production of rocket propulsion systems. Bayern-Chemie is collaborating with the Theoretical and Physical Chemistry Institute (TPCI) of the National Hellenic Research Foundation (NHRF) <http://www.eie.gr/nhrf/institutes/tpci/index-en.html> towards the development of technology of photonics sensors for the monitoring and predictive maintenance of Solid Rocket Motors (SRM) and guided missile systems.

In this collaborative framework there is an opportunity for a fully funded industrially sponsored Ph.D. studentship, for an exceptional candidate. The main research will be focused on the design and implementation of fiber optic based architectures and devices for SRM's Structural Health Monitoring (SHM) and also missiles' environmental monitoring (temperature, humidity, etc). The Ph.D. student will have the opportunity to perform industrially focused research in the area of photonic sensors within an interdisciplinary environment of mechanical, aerospace and materials engineering experts, jointly between NHRF and Bayern-Chemie, while the research findings are anticipated to be applied in future rocket systems.

Part of the research is expected to be undertaken in the premises of Bayern-Chemie (in Aschau am Inn, Munich area, Germany) when this is required at the testing stage. The student will be based in NHRF/TPCI and will be a member of the research activity "[Applied Photonics- Materials & Devices](#)". The successful candidate will be enrolled as Ph.D. candidate in an appropriate University postgraduate/doctoral program.

The ideal candidate should have the following qualifications:

- Degree in Physics, Electrical Engineering, Electronics or related area
- Postgraduate degree or recognized experience in photonics, instrumentation, electronics, sensors or related area
- Good experimental skills in photonics, fiber optics, or materials
- Good theoretical understanding of optics and numerical modeling skills
- Excellent written and oral communication skills in English.
- Strong motivation and ability to develop new skills in interdisciplinary research areas
- Ability to collaborate in an industrial environment and handle confidential information

Interested candidates should express their interest the soonest possible, by submitting a full CV directly to Dr. Christos Riziotis (Principal Investigator for NHRF).

Interested candidates should contact:

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<http://www.eie.gr/nhrf/institutes/tpci/researchteams/pn/pn-AppliedPhotonics-en.html>

