IHP GmbH -
Innovations for High Performance Microelectronics/
Leibniz-Institut für innovative Mikroelektronik

Call for applications

IHP has the pleasure to invite applications for the

International IHP „Wolfgang Mehr“ Fellowship Award 2022
“Signal processing algorithms for MIMO communications”

The **International IHP „Wolfgang Mehr“ Fellowship Award** is devoted to develop in close collaboration with IHP a new topic of research in the area of “Signal processing algorithms for MIMO wireless communications”. Following the spirit of IHP´s former Scientific Director Wolfgang Mehr, the annual fellowship award is assigned to an innovative, interdisciplinary research topic with high potential for technology breakthroughs, giving a high degree of freedom to the award winner to work in an interdisciplinary environment with a strong drive to overcome frontiers among various research disciplines.

The winner of the **International IHP „Wolfgang Mehr“ Fellowship Award 2022** must hold an excellent, international reputation and will receive the prize money of 12,500 euro, honoring the award winner´s research achievements. The aim of the fellowship award is to realize at least one of the following strategic research targets in close collaboration with IHP:

- identify the potential of a future research direction
- initiate a new, innovative research project
- intensify a successful research collaboration

Special focus should be devoted to Reconfigurable Intelligent Surfaces (RIS)-assisted multiuser MIMO communications research approaches that optimize the rate and energy efficiency of future wireless networks, as well as reduce system hardware costs and signal processing complexity. Novel signal processing schemes and wireless technologies targeting ultra-reliable and scalable connectivity with limited overhead, probably through non-coherent MIMO schemes, are also topics of interest for this research line.

In 2022, fellowship projects corroborating the future research directions related to “Wireless Broadband Communication” are accepted. RIS-aided communication is an appealing technology for future integration with other emerging wireless applications and communication systems. RISs also confront new challenges that hinder integrating efficiently into B5G and 6G wireless networks. In

particular, this topic will be researched in support of IHP's broadband wireless solutions portfolio. The award winner must be endowed with a strong background in signal processing algorithms and information-theoretic aspects of multiuser multi-antenna wireless communication systems, multivariate statistical techniques, and machine learning theories. A strong drive towards connecting with interdisciplinary and international R&D networks which are currently laying the foundations of future systems is expected.

IHP seeks to incorporate more women into the science field – therefore, women are strongly encouraged to apply.

We assume the selected fellow is able to stay at IHP for three months on a flexible time schedule in a timeframe of 12 months starting from the day of nomination. Accommodation and travel costs are to be covered from the prize money.

Have we sparked your interest? We look forward to to receiving your application **until May 31, 2022** via our **online application form**. Please submit the following documents:

- Letter of motivation,
- project description (two pages) including a time schedule for a three-month fellowship stay at IHP,
- curriculum vitae,
- publication list,
- record of main scientific achievements in the field.

For further information regarding the fellowship please contact Prof. Dr. Milos Krstic, Department Head System Architectures (career@ihp-microelectronics.com).