

# PhD in Electrical, Electronics and Communications Engineering

## Research Title: Nanotechnologies for ICT innovative solutions in biological sensing

Funded by	IBM and DISAT
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Supervisor	Fabrizio Pirri ( <a href="mailto:fabrizio.pirri@polito.it">fabrizio.pirri@polito.it</a> ) Matteo Cocuzza ( <a href="mailto:matteo.cocuzza@infm.polito.it">matteo.cocuzza@infm.polito.it</a> ) Giancarlo Cicero ( <a href="mailto:giancarlo.cicero@polito.it">giancarlo.cicero@polito.it</a> )
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Contact	<a href="http://www.polito.it/micronanotech">www.polito.it/micronanotech</a> <a href="http://research.ibm.com/labs/almaden/">http://research.ibm.com/labs/almaden/</a>
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Context of the research activity	<p>The emerging internet of things (IoT) technology with devices integrated in all components of our daily life will connect many untethered devices, e.g. sensors, RFIDs and wearable devices, to improve health lifestyle, automotive, smart buildings, etc.</p> <p>IBM is one of the main players in the word for emerging ICT technologies.</p> <p>On 2019 a Research Agreement between IBM and Politecnico was signed in order to arrange shared PhD positions.</p>
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Objectives	<p><b>Innovative materials and processing for smart sensing systems</b> – investigate nanomaterials and devices for detection via AI-powered multi-sensorial solutions for applications in environmental, food and healthcare monitoring</p> <p><b>Biology of sensing devices</b> – investigate biological application of electronic nose for food and healthcare application with focus of Urinary tract infection and development of biological platforms for bacteria detection.</p>
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Skills and competencies for the development of the activity	<p>Candidates should have a solid background in physics, materials science and engineering. A strong motivation to learn through advanced research is also required.</p> <p>Expertise in nanoscience, nanomaterials, advanced processes and technologies is preferred.</p> <p>Problem solving ability and practical experience for laboratory activity is also required.</p>
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