



**DEPARTMENT OF ENGINEERING**

**Academic Recruitment Field:** 03/B2 – Chemical foundations of technologies

**Academic Disciplines:** CHIM/07 – Chemical foundations of technologies

<b>VACANCY</b>	<b>N. 1</b>
<b>CUN (Italian National University Council) AREA</b>	<b>03 - CHEMICAL SCIENCES</b>
<b>Location of the research and teaching activity:</b>	Department of Engineering
<b>Functions to perform – type of teaching and scientific commitment:</b>	<p>Research activities are consistent with the implementation of NRP 2021-2027.</p> <p>The European Project Horizon Europe – EURATOM called <b>RADOV “Radiation Harvesting of Bioactive Peptides from egg proteins and their integration in advanced functional products”</b> su cui la posizione grava deals with issues consistent with specific measures envisaged by the National Research Programme (NRP) 2021-2027, such as the ones envisaged by the MAJOR AREA OF RESEARCH AND INNOVATION – 6 FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE, ENVIRONMENT - 6.1 GREEN TECHNOLOGIES – Articolazione 4. “Reduction of waste and demand for critical raw materials through disassembling and materials recovery, remanufacturing and refurbishing approaches” e 5. “Industrial symbiosis, colocated assets”. The project intends to develop an innovative and sustainable process for the production of bioactive peptides starting from egg albumen and egg membrane proteins (waste from the food industry), based on fragmentation induced by ionizing radiation (green and not energy consuming). Once peptides with antimicrobial properties have been produced and identified, prototypes of hydrogel dressings with antibacterial properties for the management of surgical wounds and biodegradable films for food packaging incorporating or grafting these peptides on the surface will be developed.</p> <p>The integration of egg-derived biomolecules in functional products with high added value helps to promote a system of industrial symbiosis between food and non-food agriculture, with potentially important economic repercussions in the national territory. The project also foresees clear interconnections with the objectives of LARGE FIELD OF RESEARCH AND INNOVATION – HEALTH, in Section 5.</p> <p>“Evaluation of the impact of the environment on the outcomes of acute and chronic-degenerative pathologies” intending in fact to develop products with antibacterial properties that do not require the use of conventional antibiotics, thus helping to contain the threat of infections by antibiotic-resistant organisms (Impact 3.4 of Horizon Europe).</p>
<b>Max number of papers:</b>	12
<b>Language skills:</b>	English