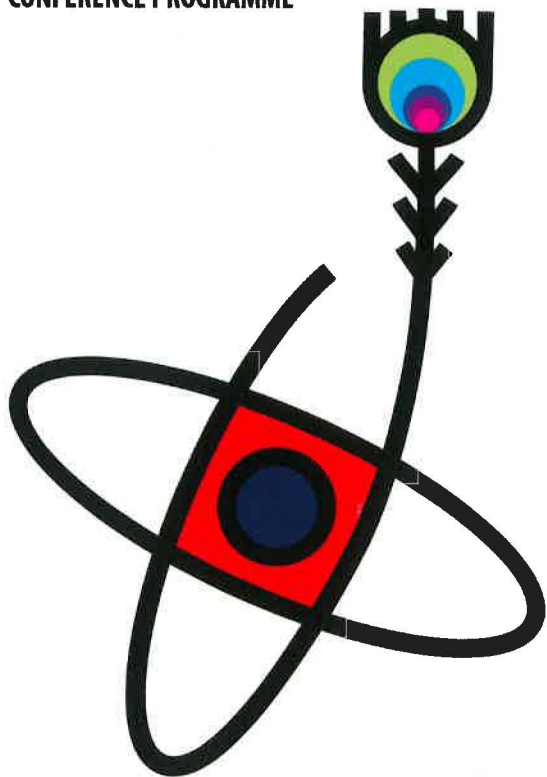


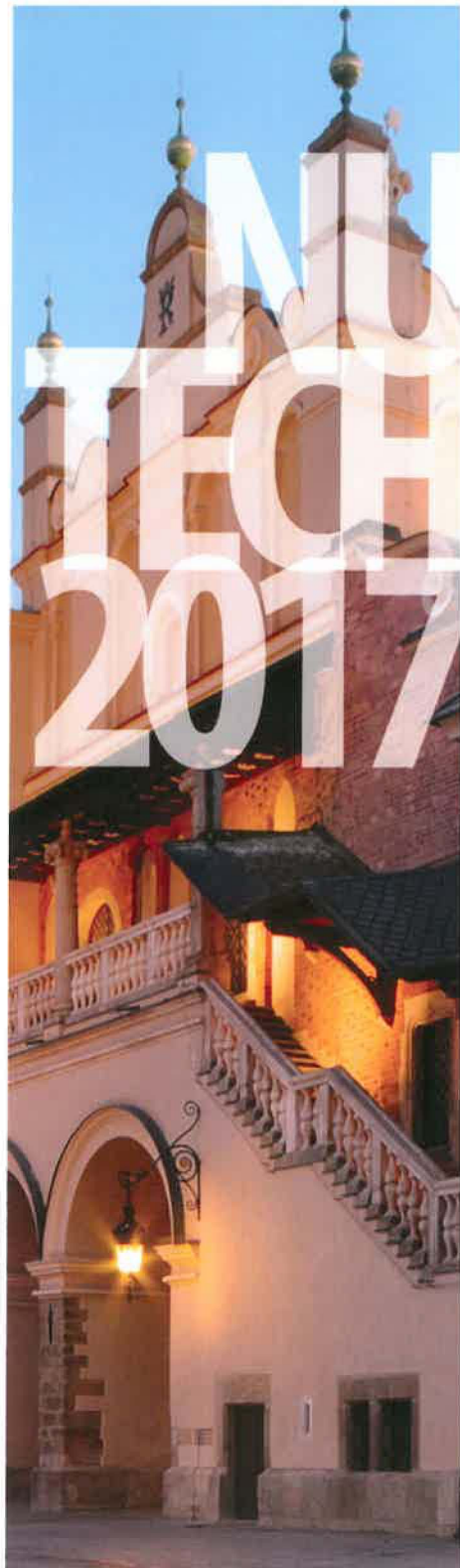
# NUTECH-2017

International Conference on Developments  
and Applications of Nuclear Technologies  
Kraków, 10-13 September 2017

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# Extraction of mushrooms relevant compounds through gamma and electron beam irradiation

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**Keywords:** irradiation, gamma, electron beam, mushrooms

## ABSTRACT

Irradiation technologies are being used by the food industry as an alternative to other preservation processes. Its impact in minor compounds or different food matrices is still an open field. The use of irradiation to improve bioactive properties has been reported as a result of an increase in the levels of phenolic compounds in the extracts obtained from cooked and derived plant products. Previous results [1] indicated higher values of phenolic compounds concentration on irradiated food products compared with those found in non-irradiated samples. In this work, the effect of gamma and electron beam radiation processing on fresh and dried mushroom compounds extractability was studied. The mushroom samples were bought directly from the producer and divided in two groups, fresh to be immediately irradiated and to dry, before irradiation with gamma and electron beam (doses 0, 1, 2 and 5 kGy), that was carried out in the irradiation facilities of C2TN (Lisbon, Portugal). The irradiated fresh samples were immediately lyophilized for subsequent analysis by High Performance Liquid Chromatography (HPLC) and the dried samples were grounded into powder also to be analyzed after irradiation. The results were compared with a control (non-irradiated sample), obtaining the yield for each irradiation process (gamma and e-beam) or sample type (fresh or dried). Food irradiation besides being a preservation technology, suggested to promote food bioactive compounds.

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[1] Fernandes, Â.; Barreira, J.C.M.; Antonio, A. L.; Oliveira, M.P.P.; Martins, A.; Ferreira, I.C.F.R. Food and Bioprocess Technology, 2014, 7, 1606-1617.

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