

**Nume prenume conducător doctorat: Prof. Dr. Pinzaru Simona**

**Nr. locuri la doctorat: 2/2**

**Tip loc la doctorat : buget, fara bursa, romani de pretutindeni**

**Membrii comisiei de admitere:**

1. Prof. Dr. Simona Pinzaru
2. Prof. Dr. Vasile Chis
3. CS I Dr. Alina Magdas

**Tematica pentru examenul scris:**

1. Investigarea interfetei dintre micro-nano plastic si microorganisme
2. Tehnici spectroscopice pentru investigarea microorganismelor expuse la micro/nano plastic

**Tematică pentru interviu :**

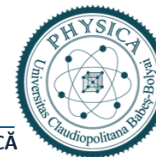
1. Detectia SERS a nanoplasticelor; avantaje si limitari;
2. Resonanta Raman a carotenoizilor in organisme fotosintetice expuse la nanoplastic

### **Bibliografie**

- 1.H. Hadiyanto, Adian Khoironi, Inggar Dianratri, Suherman Suherman, Fuad Muhammad, Seetharaman Vaidyanathan, Interactions between polyethylene and polypropylene microplastics and Spirulina sp. microalgae in aquatic systems, Heliyon, 7, 8, 2021,e07676,  
<https://doi.org/10.1016/j.heliyon.2021.e07676>.
- 2.Navin Kumar Mogha, Dongha Shin, Nanoplastic detection with surface enhanced Raman spectroscopy: Present and future, TrAC Trends in Analytical Chemistry, 158, 2023, 116885,  
<https://doi.org/10.1016/j.trac.2022.116885>.
- 3.Cintă Pinzaru, S., Müller, Cs., Tomšić, S., Venter, M. M., Cozar, B. I., and Glamuzina, B. (2015); New SERS feature of  $\beta$ -carotene: consequences for quantitative SERS analysis. *J. Raman Spectrosc.*, 46: 597– 604.  
doi: [10.1002/jrs.4713](https://doi.org/10.1002/jrs.4713).
4. S. C. Pinzaru, C. Müller, S. Tomšić, M. M. Venter, I. Brezestean, S. Ljubimir and B. Glamuzina, *RSC Adv.*, 2016, 6, 42899 DOI: 10.1039/C6RA04255D RSC Adv., 2016,6, 42899-42910
5. BLUE BIOECONOMY – TOWARDS A STRONG AND SUSTAINABLE EU ALGAE SECTOR; EC, Brussels, 15.11.2022 SWD(2022) 361 final. [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12780-Blue-bioeconomy-towards-a-strong-and-sustainable-EU-algae-sector\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12780-Blue-bioeconomy-towards-a-strong-and-sustainable-EU-algae-sector_en)



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6. L. Mikac, I. Rigó, L. Himics, A. Tolić, M. Ivanda, M. Veres,  
Surface-enhanced Raman spectroscopy for the detection of microplastics,  
Applied Surface Science, 608, 023, 155239, ISSN 0169-4332, <https://doi.org/10.1016/j.apsusc.2022.155239>.

**Dala si locul examenului: 18 iulie 2023, 2.30 pm; 11. Sept. 11.00 am**  
sala: „Hermann Oberth”, UBB, Kogalniceanu 1, RO-400084 Cluj-Napoca.