

University of Oradea
Faculty of Environmental Protection
Department of Food Engineering

Topics and references for competition

For no. 14 Associated professor position from the Positions List of the Department of Food Product Engineering for the year 2024 – 2025

Disciplines: Special biotechnologies; Modern methods to ensure hygiene in agri-food industry; Food biotechnology

Special biotechnologies

1. Biotechnologies: Past-Present-Future.
2. Bioproduct separation processes.
3. Biotechnology of enzyme preparations.
4. Biosynthesis of amylases.
5. Biosensors.
6. The impact of biotechnologies in building and maintaining a sustainable food system.

Bibliography:

1. Ajay Kumar, Kiran Patruni, Vijai Singh, 2022, Recent Advances in Food Biotechnology, Springer Singapore, <https://doi.org/10.1007/978-981-16-8125-7>
2. Alina Maria Holban, Alexandru Mihai Grumezescu, 2018, Advances in Biotechnology for Food Industry, Handbook of Food Bioengineering, Volume 14, Academic Press, ISBN: 978-0-12-811443-8
3. Vodnar Dan Cristian, 2013, Noțiuni de Biotehnologii alimentare, Editura Academic Pres, Cluj-Napoca;
4. Vodnar Dan Cristian, 2016, Biotehnologii alimentare - Manual didactic, Editura Academic Pres, Cluj-Napoca;
5. Banu C. și colab., 2000, Biotehnologii în industria alimentară, Editura Tehnică, București;
6. Jurcoane Ș., 2004, Tratat de biotehnologie, I, Ed. Tehnică, București;
7. Jurcoane Ș., 2000, Biotehnologii. Fundamente. Bioreactoare. Enzime, Editura Tehnică, București;

Modern methods to ensure hygiene in agri-food industry

1. Cleaning and disinfection in dry food processing units.
2. The design of packaging based on hygienic considerations.
3. Enzymatic cleaning methods in food processing.
4. Ozone in food decontamination.
5. Electrolyzed oxidizing water in the decontamination of food and equipment.
6. Traceability of cleaning agents and disinfectants in the food industry.

Bibliography:

1. Moerman, F., & Mager, K. (2016). *Cleaning and Disinfection in Dry Food Processing Facilities. Handbook of Hygiene Control in the Food Industry*, 521–554. doi:10.1016/b978-0-08-100155-4.00035-2

2. Gueguen, D. (2016). *Hygienic Design of Packaging Equipment. Handbook of Hygiene Control in the Food Industry*, 325–335. doi:10.1016/b978-0-08-100155-4.00022-4
3. Timmerman, H., Mogensen, P. K., & Graßhoff, A. (2016). *Enzymatic Cleaning in Food Processing. Handbook of Hygiene Control in the Food Industry*, 555–568. doi:10.1016/b978-0-08-100155-4.00036-4
4. Oner, M. E., & Demirci, A. (2016). *Ozone for Food Decontamination. Handbook of Hygiene Control in the Food Industry*, 491–501. doi:10.1016/b978-0-08-100155-4.00033-9
5. Wang, X., Demirci, A., & Puri, V. M. (2016). *Electrolyzed Oxidizing Water for Food and Equipment Decontamination. Handbook of Hygiene Control in the Food Industry*, 503–520. doi:10.1016/b978-0-08-100155-4.00034-0
6. Taylour, J., & Rosner, D. (2016). *Traceability of Cleaning Agents and Disinfectants. Handbook of Hygiene Control in the Food Industry*, 617–626. doi:10.1016/b978-0-08-100155-4.00040-6
7. Holah, J., Lelieveld, H.L.M., 2011. *Hygienic Design of Food Factories*. Woodhead Publishing, Cambridge.
8. Lelieveld, H.L.M., Holah, J., Napper, D., 2014. *Hygiene in Food Processing: Principles and Practice*, second ed. Woodhead Publishing Limited, Cambridge.

Food biotechnology

1. Applications of biotechnologies in the food industry.
2. Bioprocesses in the food industry.
3. Biotechnologies in the beer industry.
4. Biotechnologies in bakery.
4. Dairy and non-dairy probiotic foods.
5. Bio, micro and nanoencapsulation - applications in the food industry.

Bibliography:

1. Ajay Kumar, Kiran Patruni, Vijai Singh, 2022, *Recent Advances in Food Biotechnology*, Springer Singapore, <https://doi.org/10.1007/978-981-16-8125-7>
2. Alina Maria Holban, Alexandru Mihai Grumezescu, 2018, *Advances in Biotechnology for Food Industry, Handbook of Food Bioengineering, Volume 14*, Academic Press, ISBN: 978-0-12-811443-8
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7. Jurcoane Ș., 2000, *Biotehnologii. Fundamente. Bioreactoare. Enzime*, Editura Tehnică, București;

Head of department,
Assoc. Prof. Phd. Eng. Timar Adrian Vasile