

PERSONAL INFORMATION



Lidija Jakobek Barron

(birth name Lidija Jakobek)

📍 Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology Osijek, Franje Kuhača
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🌐 <http://www.ptfos.unhttp://www.ptfos.unios.hr/index.php/nastavno-osoblje/prof-dr-sc-lidija-jakobek-barron>

Sex F | Date of birth. April 4th 1977. | Nationality Croatian

RESEARCH DATABASES

WOS

<https://www.webofscience.com/wos/author/record/29845806>

ORCID

<https://orcid.org/0000-0002-4846-327X>

SCOPUS

<https://www.scopus.com/authid/detail.uri?authorId=16030834300>

GOOGLE ZNALAC

https://scholar.google.hr/citations?user=d5m6i_sAAAAJ&hl=hr&oi=ao

CROSB/CRODIS

<https://www.croris.hr/osobe/profil/2555>

EDUCATION

19. 12. 2007.

PhD, Biotechnical Sciences, Food Technology

Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology Osijek

11. 6. 2001.

BSc in Food Engineering

Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology Osijek

WORK EXPERIENCE

May 2024. -

Position: Full Professor permanent position

Institution: Faculty of Food Technology Osijek

1.5.2019. – May 2024.

Position: Full Professor

Institution: Faculty of Food Technology Osijek

1.11.2017. – 1.10.2021.

Position: Vice-dean for industrial relations and development

Institution: Faculty of Food Technology Osijek

30.10.2013.-1.5.2019.

Position: Associate Professor

Institution: Faculty of Food Technology Osijek

26.1.2010. – 30.10.2013.

Position: Assistant Professor

Institution: Faculty of Food Technology Osijek

29.5.2008 - 26.1.2010.

Position: Senior Assistant

Institution: Faculty of Food Technology Osijek

24.11.2003. - 29.5.2008.

Position: Assistant

Institution: Faculty of Food Technology Osijek

19.11.2001. - 24.11.2003.

Position: Younger Assistant

Institution: Faculty of Food Technology Osijek

RESEARCH INTERESTS

- bioaccessibility and bioactivities of phenolic compounds, their degradation products and metabolites in the gastrointestinal tract, *in vitro*
- the influence of dietary fibres on the beneficial effects of phenolic compounds,
- kinetics of simulated digestive processes,
- identification and quantification of compounds with the help of HPLC and UV/Vis techniques,
- studies of adsorption processes,
- the application of adsorption isotherms, thermodynamics and kinetics in adsorption,
- studies of new, biodegradable packaging materials

TRAINING

5.2.2024.-23.2.2024.

Yale University, Department of Statistics and Data Science, New Haven, USA

30.1.2023. – 24.2.2023.

Yale University, Department of Statistics and Data Science, New Haven, USA

2.9.2021.-30.9.2021.

Yale University, Department of Statistics and Data Science, New Haven, USA

17.6.2019.- 12.7.2019.

Yale University, Department of Statistics and Data Science, New Haven, USA

The application of new algorithms for improved nonlinear modeling of adsorption isotherms

1.9.2013. – 12.10.2013.

University of Helsinki, Helsinki, Finland

Different techniques of liquid chromatography, and column chromatography

1.5.2011. – 31.10.2011.

CEBAS-CSIC Institute, Research Group on Quality Safety and Bioactivity of Plant Foods, Murcia, Spain

during 2002. The experience of working with two analytical systems: UPLC-MS system (triple quadrupole) and HPLC-MS-MS system (ion trap with ESI ionization)
 Bundesamt für Weinbau, Eisenstadt, Austria
 Familiarization with the liquid chromatography equipment

THE MOST RELEVANT PEER
 REVIEW PUBLICATIONS (up
 to 10 papers)

- **Jakobek, L.**, & Matic, P. (2019). Non-covalent dietary fiber - polyphenol interactions and their influence on polyphenol bioaccessibility. *Trends in Food Science & Technology*, 83, 235-247.
Impact factor 15.3
- **Jakobek, L.** (2015). Interactions of polyphenols with carbohydrates, lipids and proteins. *Food Chemistry*, 175, 556-567.
Impact factor 8.8
- **Jakobek, L.**, Matic, P. (2024). Phenolic compounds from apples: From natural fruits to the beneficial effects in the digestive system. *Molecules*, 29(3), 568, 19.
Impact factor 4.6
- **Jakobek, L.**, Blesso, C. (2023). Beneficial effects of phenolic compounds: Native phenolic compounds vs metabolites and catabolites. *Critical reviews in food science and nutrition*, online first.
Impact factor 10.2
- **Jakobek, L.**, Strelec, I., Kenjeric, D., Šoher, L., Tomac, I., Matic, P. (2022). Simulated gastric and intestinal fluid electrolyte solutions as an environment for the adsorption of apple polyphenols onto β -Glucan. *Molecules*, 27(19), 6683, 14.
Impact factor 4.6
- **Jakobek, L.**, Ištuk, J., Matic, P., & Skendrović Babojelić, M. (2021). Interactions of polyphenols from traditional apple varieties 'bobovac', 'ljepocvjetka' and 'crvenka' with β -glucan during in vitro simulated digestion. *Food Chemistry*, 363, 130283.
Impact factor 8.8
- **Jakobek, L.**, Buljeta, I., Ištuk, J., & Barron, A. (2020). Polyphenols of traditional apple varieties in interaction with barley β -glucan: A study of the adsorption process. *Foods*, 9 (9), 1278.
Impact factor 5.2
- **Jakobek, L.**, Ištuk, J., Buljeta, I., Voća, S., Šic Žlabur J., & Skendrović Babojelić, M. (2020). Traditional, indigenous apple varieties, a fruit with potential for beneficial effects: their quality traits and bioactive polyphenol contents. *Foods*, 9 (1), 52.
Impact factor 5.2
- **Jakobek, L.**, García-Villalba, R., & Tomás- Barberán, F. A. (2013). Polyphenolic characterization of old local apple varieties from south East European region. *Journal of Food Composition and Analysis*, 31 (2), 199-211.
Impact factor 4.3
- Šeruga, M., Novak, I., & **Jakobek, L.** (2011). Determination of polyphenols content and antioxidant activity of some red wines by differential pulse voltammetry, HPLC and spectrophotometric methods. *Food Chemistry*, 124 (3), 1208-1216.
Impact factor 8.8

PROJECTS

Principal Investigator:

- project "Development of environmentally friendly materials: Biodegradable and active polymer film", funded by Adris Foundation (10.2023.–10.2024.)
- project "Potential of elderberry and aronia as raw materials for value added products on family farms in Osijek-Baranya County", funded by Osijek-Baranya County (12.2020.-12.2021.)
- project „Development of young researcher's career – training of new doctors of science“, funded by Croatian Science Foundation, European Social Fund (2018.-2022.).
- project „Dihydrochalcones in old apple varieties“, funded by Osijek-Baranya County (12.2018.-12. 2019.)
- research project IP-2016-06-6777 „The influence of dietary fibers on polyphenol bioaccessibility by studying adsorption and simulated digestion processes, *in vitro*“, funded by Croatian Science Foundation (1.3.2017. –28.2.2021.)
- project „Nutritional properties of old, neglected apple cultivars from Slavonia region, important for their preservation“, funded by Adris Foundation (10.2015.-10.2016.)
- project „Characterization of polyphenols in old apple varieties“, funded by Josip Juraj Strossmayer University of Osijek (2013.-2014.)
- project of postdoc program, Brain gain 02.03. „Bioavailability and metabolism of phenolic compounds from fruits“, funded by Croatian Science Foundation (5.2011.–11.2011.)

Participation on the project:

- project „Development of lifelong learning study programmes in food technology, biotechnology and nutrition fields, by applying HKO-a“, (UP.03.1.1.03.0051), funded by European Social Fund (2019.–2022.)
- project „Development and implementation of the interdisciplinary graduate study programme biotechnology in english“, funded by European Social Fund (2018.–2020.)
- project “Development of the study programmes in the biotechnical field according to the Croatian Qualifications Framework (CROQF); funded by the European Social Fund, (2015.-2016.)
- project 113-1130471-0451 „Heat transfer and thermal properties of food during processing“, funded by Ministry of Science, Education and sports, Republic of Croatia, (2006.-2009.)
- Project 0113-006 „Interactions in metal packaging materials – food systems“, funded by the Ministry of Science, Education and Sports, Republic of Croatia, (2002.-2006.)
- Project 113003 „Quality control and nutritional and toxic aspects of food“, funded by the Ministry of Science, Education and Sports, Republic of Croatia (2002.)
- Rector’s award 1999.

▪ **On the list of 2 % of most cited scientists in the World for 2017., 2019., 2020., 2021., 2022.**

HONOURS AND AWARDS

ADMINISTRATIVE
EXPERIENCE

- 1.10.2023. – today, chair of the Department of applied chemistry and ecology
- 1.10.2021.-30.9.2023. – chair of the Sub-department of applied chemistry, biochemistry and instrumental methods
- 1.11.2017.-30.9.2021. Vice-dean for industrial relations and development at the Faculty of Food Technology Osijek
- 2023.- today president of Working group for the evaluation and ensurance of quality control of higher education at Faculty of Food Technology Osijek
- 2023.-today president of Working group for the preparation of elaborate for interdisciplinary doctoral study Statistics in food technology
- 2020.-2023. president of the Panel for collaboration with industry, technology transfer and innovations
- 2012.–2017. president of the Panel for student practice work at the Faculty of Food Technology Osijek
- 2008.–2012. member of the Panel for student practice work at the Faculty of Food Technology Osijek

ORGANIZATIONAL
EXPERIENCE
(Conferences)

- 2022.–member of the Scientific Committee of international scientific congress „ISC Green“ (2.-3.6.2022.)
- 2021.-member of the Scientific Committee of international scientific congress „With Food to Health“. (16.-17.9.2021.)
- 2019.–member of the Scientific Committee of international scientific congress „With Food to Health“. (24.-25.10.2019.)
- 2019.–member of the Organizing Committee „10th International Congress „Flour bread 19“ and the 12th Croatian Congress of Cereal Technologists „Brašno kruh 19“ (11.-14.6.2019.)
- 2019.-member of the Organizing Committee of “The Carier Week” of J. J. Strossmayer University of Osijek.
- 2018.-member of the Scientific Committee of international scientific congress „With Food to Health“(18.-19.10.2018)

Editorial Board of Scientific
Journals

- Croatian Journal of Food Science and Technology (2019– onward)
- Acta Graphica (2023.– onward)

Talks and Invited Lectures

- **Plenary invited talk** „Phenolic compounds in the digestive system: their potential beneficial effects and interactions with dietary fibers“, 3rd Food Chemistry Conference, Shaping a Healthy and Sustainable Food Chain Through Knowledge, Dresden, Germany, 10.-12.10.2023., organizer Elsevier journal Food Chemistry
- **Invited lecture** „ Interactions between β -glucan from cereals and polyphenols“, 10th International Congress Flour-Bread 19“, Osijek, Croatia, 11.-14.6.2019.
- „Polyphenols in old apple varieties“, presentation at the professional-educational manifestation Preservation of old varieties, Cernik, Croatia, 2.3.2019.
- “Glass”, Museum Đakovština, Đakovo, Croatia, 13.10.2022.
- „Active and intelligent packaging“, International conference Polymeric materials in packaging, Zagreb, Croatia, 26.11.2014.
- “Polyphenolic compound research at the Faculty of Food Technology Osijek, Croatia”, Viikki Food Science seminars, University of Helsinki, Helsinki, Finland, 3.9.2013.
- „Active and intelligent packaging“, Faculty of Food Technology Osijek, 20.5.2010.
- „Bioavailability and metabolism of phenolic compounds from fruits“, Faculty of Food Technology Osijek, 2.12.2011.