

Meet Ana Djordjevic, our 2025 Jens Sandahl Christiansen Awardee (Basic Science)



Dr Ana Djordjevic, from Belgrade, Serbia, is our 2025 Jens Sandahl Christiansen Awardee (Basic Science). She will deliver her Award Lecture in Copenhagen at the Joint Congress of ESPE and ESE. Read on to learn more about her career in endocrinology, her advice for future endocrinologists, and what you can look forward to hearing her talk about at the Congress.

Please tell us about your current role

I am a Principal Research Fellow and Head of the Department of Biochemistry at the Institute for Biological Research 'Siniša Stanković', University of Belgrade, Serbia. I lead a research group of 13, mostly young, scientists working in the field of molecular endocrinology. We are particularly interested in obesity and related metabolic diseases. I am also a lecturer for undergraduate and postgraduate studies at the Faculty of Biology, University of Belgrade.

How were you inspired to work in endocrinology?

At the beginning of my research career, I focused on stress biology and the role of glucocorticoids in the plasticity of the stressed brain. Later, I continued working on glucocorticoids, but this time on their role in metabolic diseases. I am currently interested in the role of the gut microbiota in the development and treatment of obesity. The person who originally sparked my interest in endocrinology was my PhD supervisor, Dr Marija Radojčić, a very passionate and enthusiastic scientist who was involved in the characterisation of the non-liganded glucocorticoid receptor in the rat liver at the Karolinska Institute, Stockholm, Sweden, in 1985.

What will you discuss in your Award Lecture at the 2025 Joint Congress of ESE and ESPE?

My current research aims to link early life environmental factors among children with obesity, who underwent a controlled dietary intervention, with their gut microbiota profiles, to better understand the factors associated with weight loss.

Childhood obesity is becoming a global health problem, with serious health consequences in adulthood. The development of obesity is closely related to environmental factors and the gut microbiota. So far, our results suggest that certain bacterial taxa are positively related to weight loss efficacy, while others show a negative association. The next step is to identify the bacteria that are able to metabolise glucocorticoids, as these metabolites may contribute to weight loss both locally (by influencing intestinal glucocorticoid metabolism, regulating the local immune response and altering epithelial barrier integrity) and systemically.

Overall, modulating certain environmental factors in early childhood and promoting beneficial gut bacteria could be a valuable approach to increase the success of dietary treatment for weight loss and improve long term health outcomes in children with obesity.

What are you most proud of in your career, and in life in general?

I am most proud of the fact that I am still very motivated to do research and discover new things, considering that professional development also involves many administrative tasks and that time has to be spent on things that are not part of basic scientific research. I am proud that scientific achievements and results still motivate me and that I am equally excited about every new achievement.

What is likely to be the next breakthrough in your area of interest?

The discovery of anti-obesity drugs has already been named the scientific breakthrough of the year for 2023 by the journals *Science* and *Nature*. This trend continues, and I think that improved anti-obesity drugs with greater efficiency and fewer side effects will be the next breakthrough in this field.

What are the biggest challenges in your field right now?

The fact that obesity is caused by a variety of factors interacting at different levels throughout life poses a major challenge for its study and treatment. To understand obesity, one must go beyond the balance of food intake and energy expenditure, as there is a plethora of hormonal signals and receptors in various tissues, such as adipose tissue, brain, liver, gut and muscle, which, together with the gut microbiota, are involved in maintaining whole body homeostasis. In view of this, successful selection of therapeutic targets for obesity without significant side effects is currently the biggest challenge.

What is the most enjoyable aspect of your work?

This is and always has been the freedom you have as a researcher: the opportunity to open your mind to new things. Scientific research is not easy and can often be frustrating, but it can also be a lot of fun. I am particularly satisfied when my work ultimately helps people to lead better, healthier and happier lives.

What are you most looking forward to at the 2025 Joint Congress?

I look forward to presenting my work to other endocrinologists and hearing their opinions. I am particularly pleased that this is a joint event with ESPE, as my research is on childhood obesity, and I will be presenting some data on the role of the gut microbiota in weight loss in children with obesity.

Why should people join ESE?

I have been a member of ESE for almost 15 years now. As a member, I have had the opportunity to participate in many events, which was especially important at the beginning of my career. It's really nice to be part of this European community, and, especially as a basic scientist in endocrinology, ESE can help you to apply your research and link it to current clinical trends and findings.

What words of wisdom do you have for aspiring endocrinologists?

Keep an open mind, learning never stops, and don't forget to enjoy the journey.

Is there anything else you would like to add?

I would like to thank the ESE for this prestigious award that has been given to me. This is really great motivation for my future research.