

## PROFESSIONAL CURRICULUM VITAE

**Prof. Dr Rita Ambrus D.Sc.**

---

### --Qualifications:

2003. Certified pharmacist 3/2003; 14. 06. 2003.

2009. Pharmaceutical technologist, specialist pharmacist 69/2009; 17. 11. 2009.

2015. Habilitation 16/2015; 05. 11. 2015.

### Knowledge of foreign languages:

Name of language	Level of examination	Number and date of certificate
German	intermediate, written	051062; 15.11.1997
German	intermediate, verbal	031200; 28.03.1997
English	intermediate, written	534635; 17.12.2004
English	intermediate, verbal	495100; 10.09.2004

### Workplaces:

From 01.09. 2006. central intern, University of Szeged, Institute of Pharmaceutical Technology

From 01.09. 2008 assistant lecturer, University of Szeged, Institute of Pharmaceutical Technology

From 01.01. 2014 assistant professor, University of Szeged, Institute of Pharmaceutical Technology

Current job, position, year started:

From 01.07. 2018 associatae professor University of Szeged, Institute of Pharmaceutical Technology and Regulatory Affairs

From 01.04. 2024. **Vice head** of Institute of Pharmaceutical Technology and Regulatory Affairs University of Szeged

From 01.07,2024. **Vice dean** at Faculty of Pharmacy University of Szeged

From 01.09. 2024 **Full Professor** University of Szeged, Institute of Pharmaceutical Technology and Regulatory Affairs

### Educational activities, leading university courses in Hungarian and English:

Pharmaceutical technology lecture, Pharmaceutical nanotechnology lecture, Prescription Pharmacy, Aseptic practice, Galenic practice, Investigation of dosage forms practice - graduate training/pharmacy students

Industrial pharmacy, Pharmaceutical technology research - postgraduate training/specialist pharmacist

Physico-chemical methods of pharmaceutical technology research - postgraduate training/doctoral school PhD training

### **Research activity:**

Development of technological process protocols and methods for the purpose of reducing the particle size of active substances (micronization, nanonization), increasing solubility, dissolution rate, permeability and biological efficiency, and the applicability of alternative drug administration (nasal, pulmonary).

### **Scientific degrees**

PhD: 2007. Improvement of the solubility and dissolution rate of niflumonic acid to achieve rapid drug release

DSc (Doctor of Sciences): 2024. 01.07. Particle size reduction processes in modern drug development. Nasal and pulmonary administration of active substances

### **Scientometric data, publication activity:**

MTMT identifier: 10028422

<https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10028422>

SCI publication: **148**

Impact factor: **524,972**

h-index: **32**, Independent citations: **2089**

Q1/D1 publications: **69/30**, Distinguished authorship: **70**

### **Honours and awards:**

Scientific application; by Hungarian Academy of Sciences, Szeged Academic Committee, Pharmaceutical Workcommittee; recognized award: 2nd prize 2002

Scientific Student Conference; by University of Szeged recognized award: 3rd prize 2003

Scientific application; by Hungarian Academy of Sciences, Szeged Academic Committee, Pharmaceutical Workcommittee; recognized award: 3rd prize 2004

Clauder Ottó Memorial Competition; by Hungarian Society of Pharmaceutical Sciences; recognized award: special award 2007

Hungarian Research Award; Donor: Sanofi Aventis; recognized performance: special award 2009

Young researcher of the year/University of Szeged 2019

TDK supervisor of the year/SZTE Faculty of Pharmacy 2019

TDK supervisor of the year/SZTE Faculty of Pharmacy 2021

The most innovative PhD topic of the year award/SZTE, supervisor 2022

László Szébellédy Memorial Award for outstanding activity in the field of pharmaceutical sciences, awarded by the Hungarian Society of Pharmaceutical Sciences 2023

### **Other awards**

2013-2014. Zoltán Magyar Scholarship- (Foundation for Hungarian Higher Education and Research) Nanotechnology research in modern drug development

2014-2017. János Bolyai Research Scholarship - Formulation of active substances for pulmonary purposes using nanotechnological procedures

2017-2018. New National Excellence Program, Young Researcher II. category Scholarship - Increasing the bioavailability of non-steroidal anti-inflammatory drugs (NSAIDs) using innovative nanotechnological processes - excellent rating

2022. Winner of the contest to promote the scientific progress of researchers raising children at the Hungarian Academy of Sciences (KGYNK)

### **Scientific research group and program management**

Leading the experimental work of the Nanotechnology Research Group at the Institute of Pharmaceutical Technology and Regulatory Affairs of SZTE, as well as the head of pulmonary research working group

### **Tutor activity:**

Number of scientific student research projects (TDK) 23, supervisor of 4 OTDK lectures, of which winning first prize in 2 cases, second prize in 1 case, supervision of thesis topics: in the case of 23 students and supervision of PhD work: in the case of 19 students

### **Study trips abroad:**

2006. SOCRATES/ERASMUS mobility (3 months) University of Pavia, Faculty of Pharmacy  
2007. ERASMUS mobility (1 week) University of Pavia and Parma, Faculty of Pharmacy  
2007. ERASMUS mobility j (1 week) University of Ljubljana, Faculty of Pharmacy  
2008. Hungarian/Slovenian bilateral cooperation (3 months) University of Ljubljana, Faculty of Pharmacy  
2008. Hungarian/Slovenian bilateral cooperation (2 weeks) University of Ljubljana, Faculty of Pharmacy  
2010. ERASMUS mobility (1 week) University of Graz, Faculty of Pharmacy  
2010. ERASMUS mobility (1 week) University of Parma, Faculty of Pharmacy  
2011. DAAD-MÖB mobility (1 week) University of Halle-Wittenberg  
2018. ERASMUS mobility (1 week) University of Santiago de Compostella, Faculty of Pharmacy  
2018. Hungarian/Serbian bilateral cooperation (1 week) University of Novi Sad, Faculty of Technology  
2019. Hungarian/Serbian bilateral cooperation (2 weeks) University of Novi Sad, Faculty of Technology  
2019. University of Edinburgh (1 week) mobility ERASMUS  
2019. University of Santiago de Compostella mobility (1 week) ERASMUS  
2022-24. Hungarian/Croatian bilateral cooperation mobility (1 week) University of Osijek (2 weeks)  
2023 Hungarian/Slovenian bilateral cooperation mobility (2 weeks)

### **Active international cooperations, foreign partners**

*University of Pavia, Italy* – Prof. Milena Sorrenti; topic: cyclodextrin inclusion complexes  
-Lucio Giuseppe Sanzeri supervision of the student's thesis, 5 months ERASMUS (2021-2022)  
-Kondoros Balázs PhD student mobility (2022. Oct-Nov)  
-Bianca Maria Gaudio postgradual mobility (2023. Jan-Jun)  
-Marta Baiguini student, supervision of her thesis, 5 months mobility ERASMUS (2023-2024)

*University of Parma, Italy* – Prof. Rugero Bettini, Prof. Paolo Colombo; Francesca Buttini  
topic: Dry powder inhaler formulation  
-Pomázi Anita PhD student mobility (2013. Apr-Jun)  
-Dangelo Davide PhD theses opponent 2023

*University of Ljubljana, Slovenia* – Prof. Stane Srcic, Prof. Julijana Kristl, Prof. Petra Kocbek  
topic: development of nanotechnological processes  
- Hungarian-Slovenian Bilateral Cooperation (2022-2023), project leader

*University of Medicine and Pharmacy, Timisoara, Romania* – Prof. Cristina Dehelean, Codruta Soica

-invited lecture 2022

*Delft University of Technology, Netherland* – Prof. J. H. ter Horst, Norbert Radacsi; topic: Nanonozation of niflumic acid by novel technologies

University of Edinburgh- Dr Norbert Radacsi; topic: nanofiber formulation, 3D printing

-Areen Alshweiat PhD student mobility (2019)

-cooperation work, nanofibers (2021-23)

*University of Medicine and Pharmacy Targu-Mures, Romania* – Sipos Emese

topic: production and testing of nasal microspheres using propranolol hydrochloride

-Coordination the research work of student Matild Gergely (1 month 2011)

*University of Novi Sad, Serbia* – Dr. Senka Vidovic;

topic: physicochemical tests of plant extracts

-Managing the research work of student Beáta Hajnal (1 month)

-Hungarian-Serbian Bilateral Cooperation (2017-2019), project manager

- publication in 2023

*University Medicine and Pharmacy, Cluj, Romania* – Tomuta Ioan, Sonia Iurian

topic: preparation of nanosuspensions and formulation of orodispersible lyophilizates

-Managing the research work of student Andrea Gabriela Crisan ERASMUS (3 months 2017)

- Managing the research work of student Ana Floera ERASMUS (3 months 2017)

-Managing the research work of PhD student Cristina Barbala ERASMUS (3 months 2022)

-Guest teaching activity industrial pharmacy course (8 lectures per year)

*University of Santiago de Compostella, Spain* – Noemi Csaba

topic: development of nanocapsules, nasal and pulmonary drug administration

- Péter Gieszinger PhD student mobility (April-June 2019)

-Mahwash Muhktar PhD Student Mobility (Sep 2021)

-Coordinating the research work of PhD student Sandra Robla, co-leader (2021, 5 months ERASMUS mobility/2022-2023, 5 months ERASMUS mobility)

*University of Graz, Austria* – Eva Roblegg

topic: nanoparticle engineering, nasal and pulmonar adminsitration

-Tamás Kiss PhD student CEEPUS mobility (2021)

-Edit Benke PhD student CEEPUS mobility (2022)

-Patricia Varga PhD student CEEPUS mobility (2024)

#### **Projects for Research and development:**

2009-2011. TÁMOP-4.2.2. (08/1-2008-0013) project Teranostic development of vascular, metabolic and inflammatory diseases

2011-2012. TÁMOP-4.2.1/B-09/1/KONV-2010-0005 “Foundation of a Research University Excellence Centre at the University of Szeged: Modern pharmaceutical administration routes and pharmaceutical technology”

2011-2012. DAAD-MÖB Application of melt technology in crystallization

2011-2013. Broadening the knowledge base of the SZTE Research University Center of Excellence and laying the foundation for its long-term professional sustainability by ensuring excellent scientific supply  
TÁMOP-4.2.2/B-10/1-2010-0012 project

2012-2014. Biological and environmental responses induced by novel functional materials: Nanostructures with controlled and targeted drug release TÁMOP-4.2.2.A-11/1/KONV -2012-0047 azonosítószámú projektben

2014-2015. “Practice and student – centred modernization of the life science- clinical higher education, strengthening the competitiveness of countryside institutions”TÁMOP-4.1.1.C-13/1/KONV-2014-0001 project.

2015. The economic and social positioning of the University of Szeged based on the quadruplehelix model, the development of knowledge transfer practice in the Hódmezővásárhely-Szeged priority growth zone. TÁMOP-4.2.1.C-14/1/KONV-2015-0013

2016-2020. Richter/SZTE/SZBK innovative pharmaceutical industry research and development  
**Subproject leader** GIONOP 2.2.1 15-2016 00007

2017-2021. Project operative coordinator GINOP 2.3.2 15 Targeting new drug entities thorough new carrier systems

2017-2021. **Subproject leader** GINOP 2.3.2-15-2016-00036\_ Development and application of multimodal optical nanoscopic methods in life –and material science.

2017-2021. **Subproject leader** EFOP-3.6.2-16-2017-00006 LIVE LONGER - LIVE LONGER - Modern medical diagnostical methods and therapies in translational approach: from laboratory to the patient bed side

2017-2019. **Project leader** TÉT-16-1-2016-0167 Application of spray-drying technology for the production of innovative products from extracts of natural origin for the preparation of medicinal preparations that can be used in Hungarian-Serbian regions

2018-2021 **Project leader** Emberi Erőforrások Minisztériuma támogatta 20391-3/2018/FEKUSTRAT excellence research project

2021-2023. **Project leader** 2019-2.1.11-TÉT-2020-00147 Development of nanoformulations for active substances with poor water solubility

Hungarian-Slovenian bilateral project

2021-2023. **Project leader** 2019-2.1.11-TÉT-2020-00146 Encapsulation of polyphenol-rich extracts obtained from food industry residual raw materials and characterization of the encapsulated particles

Hungarian-Croatian bilateral project

Furthermore, she is a participant in 8 R&D experimental works with industrial partners

2024-2027 **Project leader** OTKA K 146148 research project

### **Membership/Role in scientific societies:**

Association of Hungarian Chemists Crystallization and Drug Formulation Working Group  
founding member 2005-

Vice-president of the Youth Committee of the Hungarian Society of  
Pharmaceutical Sciences 2009-2012

Hungarian Society of Pharmaceutical Sciences,  
Secretary of the working group of Pharmaceutical Technology 2013-2017

Hungarian Society of Pharmaceutical Sciences,  
Working group of Pharmaceutical Technology, board member 2017-

Hungarian Society of Pharmaceutical Sciences,  
Member of the Supervisory Board 2017-

Member of the Public Board of the Hungarian Academy of Sciences	2019-
MTA Szeged Academic Committee, Pharmaceutical Technology	
Working committee secretary	2020-2023
Szent-Györgyi Mentor of the National Academy of Scientists	2021-
Management member of the Crystallization and Drug Formulation Department of the Hungarian Chemists' Association	2022-
Member of the University Doctoral Council of SZTE	2022-
MTA Szeged Academic Committee, President of the Pharmaceutical Technology Working Committee	2023-
Elected member of the Faculty Council of SZTE GYTK	2018-
Member of the Habilitation Committee of SZTE University	2021-
Member of the Doctoral Council at SZTE University	2022-
SZTE Senate substitute member	2023-

### Invited lectures

**R. Ambrus**, P. Kocbek, R. Sibanc, J. Kristl, P. Szabo-Revesz

Nanosuspension formulation to improve the dissolution rate of Meloxicam; 7th Central European Symposium on Pharmaceutical Technology & Biodelivery Systems, Ljubljana, Slovenia, 18-20 September 2008; invited verbal presentation

Abstract: Pharmaceutical Journal of Slovenia 59, 62-63 (2008)

**Ambrus Rita**, Traditional and innovative possibilities of particle size reduction in pharmaceutical technology (basic research and industrial application), 12th Round Table Conference of the Working group of Crystallization and Pharmaceutical Formulation, Balatonszemes, April 29-30, 2019; Abstracts 16-17. page

**Rita Ambrus**, Particle engineering in modern drug formulation NP-OLP7, International Conference on Advanced Production and Processing 10th-11th October 2019, Novi Sad, Serbia, invited lecture

**Rita Ambrus**, Using nanosuspension in traditional and alternative drug formulation, 12th Symposium of Biopharmacy-Pharmacokinetics and Industrial Pharmacy", Nov. 8. 2019 Cluj, Romania, Medicine and Pharmacy Reports 2019 Vol. 92 - Supplement No. 5, C3, S18, keynote lecture

**Rita Ambrus**, Cyclodextrins in traditional and alternative drug formulations, MDPI in The 1st International Electronic Conference on Pharmaceutics session, Cyclodextrins in Pharmaceutics. 2020. Dec. 1-15. 10.3390/IECP2020-08912 (registering DOI)

**Rita Ambrus**, Importance of particle engineering in traditional and alternative drug formulation, 75th Anniversary Conference of Medical University of Plovdiv, invited lecture 2022

**Rita Ambrus**, Development of novel inhalation delivery containing antibiotic agent; from preformulation procedure to in silico aerodynamic evaluation of aerosol, European Aerosol Conference, Malaga 2023.09.03-08.

**Rita Ambrus**, New technopological trends in pharmaceutical drug formulations, 14th International Scientific and Professional Conference with food to health, Osijek 2023 sept 14-15

### **Editorial work**

Acta Pharmaceutica Jugoslavia, International Journal of Pharmaceutical Investigation  
Powder Technology, Chemistry monthly, Medicina Könyvkiadó  
Acta Chimica Slovenica,  
Interanional Journal of Pharmaceutics  
Molecules, JDDST  
MDPI Pharmaceutics  
European Journal of Pharmaceutical Sciences

### **Organization of scientific conferences**

12th Central European Symposium on Pharmaceutical Technology and Regulatory Affairs, Szeged, 2018. septmber 20-22 of *organizing comittee*  
I. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, Szeged, 2019. jan. 06, *member of scientific comittee*  
ICAPP 2019 - 1st International Conference on Advanced Production and Processing, Novi Sad 2019. okt 10-11, *member of scientific comittee*  
II. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, Szeged, 2020. jan 23-24, *member of scientific comittee*  
The 1st International Electronic Conference on Pharmaceutics session Cyclodextrins in Pharmaceutics. 2020. Dec. 1-15, *member of scientific comittee*  
III. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, Szeged, 2021. jan 20-22, *member of scientific comittee*  
IV. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, Szeged, 2022. jan 19-21, *member of scientific comittee*  
ICAPP 2022 – 2nd International Conference on Advanced Production and Processing, Novi Sad 2022. okt 10-11, *member of scientific comittee*  
V. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, Szeged, 2023. jan 18-20, *member of scientific comittee*  
14th International Scientific and Professional Conference with food to health 2023 sept 14-15, *organizing comittee*  
16th Hungarian Aerosol Conference , Szarvas Hungary 23-25. April 2024, Chair of the conference