


## PERSONAL INFORMATION

## Balazs Istvan Toth

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Date of birth 30. December 1978.



## WORK EXPERIENCE

## 2015 - Present Assistant professor

Department of Physiology, Faculty of Medicine, University of Debrecen (UD)

## 2015 – Present Group leader

Department of Physiology, Faculty of Medicine, University of Debrecen (UD)

## 2015 Research associate

Laboratory of Ion Channel Research, Department of Cellular and Molecular Medicine, KU Leuven, Leuven, Belgium

## 2011 – 2015 Postdoctoral fellow

Laboratory of Ion Channel Research, Department of Cellular and Molecular Medicine, KU Leuven, Leuven, Belgium

## 2011 Assistant lecturer

Department of Physiology, Faculty of Medicine, Center of Medical and Health Sciences, University of Debrecen (UD)

## 2008 – 2011 Junior research associate

Department of Physiology, Faculty of Medicine, Center of Medical and Health Sciences, University of Debrecen (UD)

## 2005 – 2008 Junior research associate

HAS – Research Group for Cellphysiology, Department of Physiology, University of Debrecen (UD)

## EDUCATION AND TRAINING

## 2010 Ph.D. in Biomedical Sciences, Physiology – neurobiology program

Faculty of Medicine, University of Debrecen (UD)

*The role of transient receptor potential vanilloid 1 (TRPV1) in the regulation of biological processes of human sebocytes and dendritic cells – summa cum laude*

## 2003 M.Sc. in Psychology

Faculty of Arts, University of Debrecen (UD)

*Neuropsychology of the obsessive-compulsive disorder. Investigation of working memory using signal detection approach and the role of memory inhibition – with honour*

1998-2003 **Studies in psychology and molecular biology**

Faculties of Arts and Science, Lajos Kossuth University/University of Debrecen, Debrecen, Hungary

1998 **Graduate**

Sándor Petőfi German-Hungarian Bilingual High School, Mezőberény, Hungary

**PERSONAL SKILLS**

**Mother tongue(s)** Hungarian

**Other language(s)**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
German	C1	C1	C1	C1	C1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user  
[Common European Framework of Reference for Languages](#)

**Communication skills** I have excellent communication skills both verbally and in writing. I regularly give talks in conferences and meetings and hold university lectures. My communication is open and assertive. I have extended experiences in preparation of reports and presentations for diverse audience.

**Organizational / management skills** I am trained in supervision, tutoring, mentoring, and coordination of research groups. I have experiences in organizing professional events and editing scientific publications.

**Job-related skills** As a research group leader, I have significant experiencing in coordinating various research activities, I am leading my research group since 2015. is operating I am characterized by excellent problem-solving skills and results orientation. I have many years of experience, which I gained in a responsible and challenging environment.

**Computer skills** Microsoft Office (Word, Excel, Power Point, Outlook), Origin, SPSS, GraphPad

**EDUCATIONAL ACTIVITIES**

**Teaching experience** Medical physiology for students of general medicine and dentistry: practices since 2003, seminars since 2009, exams since 2015, in Hungarian and English  
 Neurobiology for students of general medicine and dentistry: lectures since 2015, in Hungarian and English  
 Human physiology and Neurobiology for pharmacy students: seminars since 2004, lectures and exams since 2015.  
 Cell physiology and Physiology for M.Sc. and B.Sc. students: lectures since 2008, in Hungarian

**Supervision and tutoring** Problem based learning since 2008.  
 Supervisor of Diploma theses since 2015.  
 Supervisor in Students' Scientific Association since 2005. My students were successful on national (OTDK 1<sup>st</sup>, 2<sup>nd</sup>, and special awards) and international (Young European Scientist Meeting, 1<sup>st</sup> award) conferences

**Doctoral education** Supervisor and Lecturer in the Molecular Medicine Doctoral School at UD from 2015.  
 One student graduated, and two additional completed course requirements.  
[https://doktori.hu/index.php?menuid=192&sz\\_ID=11824&lang=EN](https://doktori.hu/index.php?menuid=192&sz_ID=11824&lang=EN)

## ACHIEVEMENTS

### Fellowships

János Bolyai Research Fellowship 2019–2022  
 János Bolyai Research Fellowship 2015–2017  
 New National Excellence Program (ÚNKP) Bolyai+ Postdoctoral Fellowship 2019, 2020, 2021  
 New National Excellence Program (ÚNKP) Postdoctoral Fellowship 2016, 2017  
 Marie Curie IEF Postdoctoral Fellowship, KU Leuven, Leuven, Belgium, 2013-2015  
 Lajos Szodoray Fellowship, 2011, 2017

### Awards

Teacher of the Year, UD Faculty of Medicine 2021.  
 Youth Award of the Hungarian Physiological Society 2010.  
 Pro Scientia Gold Medal and 1<sup>st</sup> place award on the National Conference of Students' Scientific Association (OTDK) 2003  
 Second place award in Biology at the National Secondary School Academic Competition (OKTV)

## SCIENTIFIC ACTIVITIES

### Research interests

Physiology, pharmacology and regulation of TRP ion channels. Sensory physiology, biology of itch, pain, and temperature sensation. Role of TRP channels and the endocannabinoid system in the regulation of various cellular functions. Immunological and endocrine properties and regulation of skin and skin-derived cells. Signal transduction.

### Research group

TRP Research Group, Laboratory for Cellular and Molecular Physiology, Department of Physiology, Faculty of Medicine, UD. Group leader since 2015.

### Scientometric data

No. of published papers (2022):  
 - Peer reviewed articles: 64  
 - Book chapters: 4  
 Impact factors (2022): 327.698  
 Citations (on 23<sup>rd</sup> Jan. 2023):  
 - Google Scholar: 4049  
 - MTMT: 2906 (independent: 2172)  
 Hirsch index (on 23<sup>rd</sup> Jan. 2023):  
 - Google Scholar: 33  
 - MTMT: 30  
 Conference presentations with the authorship of Balázs István Tóth (oral and poster): 159

### Memberships

Member of the Hungarian Physiological Society since 2007  
 Member of the American Biophysical Society since 2014  
 International Cannabinoid Research Society, 2016  
 István Hatvani College for Advanced Studies, 2000-2003

### Ad hoc reviewing

Biochemical Pharmacology; Biological Chemistry; British Journal of Pharmacology; Cell Calcium; Cells; Critical reviews in food science and nutrition; European Journal of Pharmacology; Experimental Dermatology; IJMS - International Journal of Molecular Sciences; Journal of Cellular Physiology; Journal of Investigative Dermatology; Medical Sciences; Molecular Pain; Pain; Pflügers Archive – European Journal of Physiology; Pharmacological Reports; PLOS ONE; Scientific Reports; Elsevier; National Research, Development and Innovation Office (NRDIO) – OTKA; BBSRC - Biotechnology and Biological Sciences Research Council, UK; BioTechMed Graz, Austria.

### Editorial activity

IJMS - International Journal of Molecular Sciences – guest editor  
[https://www.mdpi.com/journal/ijms/special\\_issues/TRPM\\_channels](https://www.mdpi.com/journal/ijms/special_issues/TRPM_channels)  
 Frontiers in Cellular and Developmental Biology – guest editor  
<https://www.frontiersin.org/research-topics/35654/contribution-of-ion-channels-to-neuropathologies>

## Research publications

iDEa Academic Profiles: <https://tudoster.idea.unideb.hu/en/szerzok/1294>

MTMT: <https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=authors10047929>

Google Scholar: <https://scholar.google.com/citations?user=teD-qp4AAAAJ&hl=en>

ORCID: <https://orcid.org/0000-0002-4103-4333>

## Grants

NRDIO FK\_20 134725 Physiological and pathophysiological role of transient receptor potential ion channels in the dental pulp 2020-(2024) – Principal investigator

NRDIO K\_16 120187 Pruriceptive role of neural and non-neural TRP ion channels in the skin. 2016-2019 – Principal investigator

Junior principal investigator, groupleader in the PEPSYS (GINOP-2.3.2-15-2016-00050) research consortium (PEPSYS – Role and complexity of peptidergic signalling in systemic diseases) 2017-2021

DEOEC BMC KOREA-2/2011: Impact of the endocannabinoid system in the pathogenesis and therapy of acne vulgaris: Role in the regulation of differentiation and immunological functions of human sebocytes and epidermal keratinocytes. – Principal Investigator

Marie Curie Actions, FP-7 PIEF-GA-2012-330489: Cellular regulation of transient receptor potential melastatin 3 (TRPM3) and its role in skin sensation. 2013-2015 – Research fellow