

## Special Issue

# The Two-Fold Role of Uremic Retention Molecules as Toxins and Signaling Molecules

### Message from the Guest Editors

While nephrologists have been conditioned to think in terms of uremic “toxins”, this traditional view is challenged by a number of observations. First, most uremic toxins and uremic solutes are present in the body in the absence of kidney dysfunction. In addition to OATs, there are transporters of these small molecules in many non-renal tissues. One possibility, consistent with a growing amount of biochemical and molecular data, is that so-called uremic toxins, while harmful when in excess in the setting of kidney failure, might have other important “non-toxic” roles in normal biology, including metabolism, signaling, regulating redox state, and gut microbiome population dynamics.

### Guest Editors

Prof. Dr. Jerome Lowenstein

Renal Division, Department of Medicine, New York University Medical Center, 550 First Avenue, New York, NY 10016, USA

Prof. Dr. Björn Meijers

1. Laboratory of Nephrology, Department of Immunology and Microbiology, KU Leuven—University of Leuven, B-3000 Leuven, Belgium;

2. Department of Nephrology and Renal Transplantation, University Hospitals Leuven, B-3000 Leuven, Belgium

### Deadline for manuscript submissions

closed (31 March 2022)



## Toxins

an Open Access Journal  
by MDPI

Impact Factor 4.0  
CiteScore 8.2  
Indexed in PubMed



[mdpi.com/si/57159](https://mdpi.com/si/57159)

*Toxins*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[toxins@mdpi.com](mailto:toxins@mdpi.com)

[mdpi.com/journal/  
toxins](https://mdpi.com/journal/toxins)





# Toxins

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.0  
CiteScore 8.2  
Indexed in PubMed



[mdpi.com/journal/  
toxins](https://mdpi.com/journal/toxins)



## About the Journal

### Message from the Editor-in-Chief

Toxinology is an incredibly diverse area of study, ranging from field surveys of environmental toxins to the study of toxin action at the molecular level. The editorial board and staff of *Toxins* are dedicated to providing a timely, peer-reviewed outlet for exciting, innovative primary research articles and concise, informative reviews from investigators in the myriad of disciplines contributing to our knowledge on toxins. We are committed to meeting the needs of the toxin research community by offering useful and timely reviews of all manuscripts submitted. Please consider *Toxins* when submitting your work for publication.

---

### Editor-in-Chief

Prof. Dr. Jay Fox

Department of Microbiology, University of Virginia, Charlottesville, VA,  
USA

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, CAPlus / SciFinder, AGRIS, and other databases.

#### Journal Rank:

JCR - Q1 (Toxicology) / CiteScore - Q1 (Toxicology)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the first half of 2025).