

FLUORIDE

Quarterly Journal of the International Society for Fluoride Research Inc.

<https://www.fluorideresearch.online> and <https://www.fluorideresearch.org>

Owned and published by the International Society for Fluoride Research Incorporated

727 Brighton Road, Ocean View, Dunedin 9035, New Zealand. © 2025. All rights reserved.

EDITORIAL

e308 ... Is the tide is beginning to turn for community water fluoridation?

Spittle. <https://www.fluorideresearch.online/epub/files/308.pdf>

RESEARCH PAPERS

e291 ... Teaching the Science of Water Fluoridation: A Critical Analysis of Biological Education and Health Policy.

Wan. <https://www.fluorideresearch.online/epub/files/291.pdf>

e296 ... Management Strategies for Fluoride Mitigation in South Asian Fruit Orchards: An Economic Approach to Enhance Soil Health via Vermiculite.

Ahmad et al. <https://www.fluorideresearch.online/epub/files/296.pdf>

e295 ... Mitigation of Fluoride Toxicity in Broiler Chicks using Fruit Pod Extracts of *Moringa oleifera* and *Prosopis cineraria*.

Kishan et al. <https://www.fluorideresearch.online/epub/files/295.pdf>

e303 ... A Comparison of the Efficacy of Different Remineralization Agents: An *In Vitro* Study.

Özkurt Düzgün et al. <https://www.fluorideresearch.online/epub/files/303.pdf>

FLUORIDE

Quarterly Journal of the International Society for Fluoride Research Inc.

<https://www.fluorideresearch.online> and <https://www.fluorideresearch.org>

Owned and published by the International Society for Fluoride Research Incorporated
727 Brighton Road, Ocean View, Dunedin 9035, New Zealand. © 2025. All rights reserved.

Fluoride is available as a free online diamond (platinum) open access journal at <https://www.fluorideresearch.online> and <https://www.fluorideresearch.org> and the articles can be accessed by clicking on the links for the unique digital address (Digital object identifier [DOI] equivalent) below the title in the table of contents of each issue.

Fluoride will continue to be available in hard copy for a subscription fee of US\$183 for 2025.
Information on Epublications ahead of print.

Papers published as Epublications ahead of print will be published in due course in *Fluoride*. Papers in *Fluoride* will be given a year of publication, volume, and issue number but not new page numbers. They may be cited as e.g. *Fluoride* 2024;57(1): e254. Epub 2023 November 18. Papers should now be submitted using the template below, using only the portrait orientation and not the landscape orientation. [Download template \(90kb .docx file\)](#)

With the rolling publication template system now in use papers are published as Epublications within a few days of acceptance and then placed in an issue at a later date, when sufficient papers are available to make up an issue of 56 or 60 pages, with the year of publication, volume number, issue number, Epub number and date of Epublication. The issues will be sent to the printer approximately one month after they are published online and allocated to the quarter (January-March; April-June; July-September; and October-December) in which they were published online.

MEMBERS OF THE ISFR INC. ADVISORY BOARD 2025

President: Dr Javed Ahsan Quadri, All India Institute of Medical Sciences, New Delhi, India.

Co-Secretaries: Professor Dariusz Chlubek, Pomeranian Medical University, Szczecin, Poland.

Professor Masashi Tsunoda, National Defense Medical College, Tokorozawa, Japan.

Rotating Editors-in-Chief, Regional Editors, Associate Editors, Editorial Assistant, IT Managing Editor, Treasurer, and Print Managing Editor: As listed below.

Members at Large:

Asia: Dr. Arjun L Khandare, Scientist G and HOD Food Safety Division (retired), Indian Council of Medical Research (ICMR)-National Institute of Nutrition, Hyderabad, India.

Professor Zhi-Zhong Guan, Department of Pathology and Key Laboratory of Endemic and Ethnic Diseases (Guizhou Medical University), Ministry of Education, Guiyang, Guizhou, People's Republic of China.

Professor Koichi Kono. Osaka Medical College, Osaka, Japan.

Assistant Professor Amir Hossein Mahvi. Tehran University of Medical Science, Tehran, Iran.

Sunsanee Rajchagool, Intercountry Centre for Oral Health (ICOH), Chiang Mai, Thailand.

Professor Guifan Sun. China Medical University, Shenyang, China.

Europe: Professor Miklós Bély. Hungarian Academy of Science, Budapest, Hungary.

Professor Andrzej Bohatyrewicz. Pomeranian Medical University, Szczecin, Poland.

Professor Jürgen Franke. Rehaklinik an der Salza, Bad Langensalza, Germany. Professor Boguslaw Machaliński. Pomeranian Academy of Medicine, Szczecin, Poland.

Professor Jörg Spitz. Society for Medical Information and Prevention, Wiesbaden, Germany.

America: Professor Emeritus Hardy Limeback. University of Toronto, Toronto, ON, Canada.

Dr Alfredo Rigalli. Rosario, Argentina.

Oceania: Dr Bruce Spittle. Dunedin, New Zealand.

IT Managing Editor, Print Managing Editor, Treasurer: Joseph Hii. Dunedin and Christchurch, New Zealand. E-mail: joseph.hii@otago.ac.nz

MEMBERS OF THE ISFR INC. EDITORIAL BOARD 2025

Rotating Editors-in-Chief (The position of Rotating Editor in Chief will be held for three months at a time by the persons on the Rotating Editor-in-Chief roster):

1 January 2025 to 31 March 2025 : Dr Bruce J Spittle. Dunedin, New Zealand. E-mail: spittle727@gmail.com

1 April 2025 to 30 June 2025: Professor Zhi-Zhong Guan. Department of Pathology and Key Lab of Endemic and Ethnic Diseases (Guizhou Medical University), Ministry of Education, Guiyang, People's Republic of China. E-mail: 1457658298@qq.com

1 July to 30 September 2025: Dr Muhammad Nauman Ahmad. Department of Agricultural Chemistry, The University of Agriculture, Peshawar, Pakistan. E-mail: dnumanahmad@aup.edu.pk

Regional Editor for Africa: Professor Eli Dahi. Denmark (previously Ngongongare, Tanzania). E-mail: elidahi@hotmail.com

Regional Editor for Eastern Europe: Professor Dariusz Chlubek. Department of Biochemistry and Chemistry, Pomeranian Medical University, Szczecin, Poland. E-mail: dclubek@pum.edu.pl

Regional Editors for India, Bangladesh, Bhutan, Indonesia, Maldives, Myanmar, Nepal, and Sri Lanka: Dr Shanti Lal Choubisa. Emeritus Professor of Biotechnology, Department of Advanced Science & Technology, NIMS University Rajasthan, Jaipur-303121, India. E-mail: choubisasl@yahoo.com

Dr Krishan K Verma, Foreign Expert/Senior Researcher, Sugarcane Research Institute, Guangxi Academy of Agricultural Sciences, 174 Daxue East Road, Nanning – 530 007, Guangxi, People's Republic of China, E-mail: drvermakishan@gmail.com Phone: +86 17677637672

Regional Editors for Latin America, including Mexico, Central America, and Cuba: Associate Professor Juliano Pessan, Sao Paulo State University, Araçatuba Dental School, Araçatuba, SP-Brazil; E-mail: juliano.pessan@unesp.br
On leave at present. Please send papers to Dr Rigalli.

Dr Maela Lupo, University Center for Environmental Studies, School of Medicine, Rosario National University, CONICET, Rosario, Santa Fé (S2000EKF), Argentina. E-mail: maela.lupo@gmail.com

Regional Editor for the Middle East: Professor Sina Dobaradaran. PhD, Systems Environmental Health and Energy Research Center, The Persian Gulf Biomedical Sciences Research Institute, Bushehr University of Medical Sciences, Bushehr, Iran; Department of Environmental Health Engineering, Faculty of Health and Nutrition, Bushehr University of Medical Sciences, Bushehr, Iran; Instrumental Analytical Chemistry and Centre for Water and Environmental Research (ZWU), Faculty of Chemistry, University of Duisburg-Essen, Universitätsstr. 5, Essen, Germany. E-mail: sinadobaradaran@gmail.com

Regional Editors for Pakistan and Afghanistan: Dr Muhammad Nauman Ahmad. Department of Agricultural Chemistry, The University of Agriculture, Peshawar, Pakistan. E-mail: dnumanahmad@aup.edu.pk

Dr Syeda Nadia Ahmad. Department of Zoology, University of Chakwal, Chakwal, Pakistan. E-mail: nadia.ahmad@uoc.edu.pk and dr.nadiaahmad111@gmail.com

Dr Aima Iram Batool. Department of Zoology, University of Sargodha, Email: aima.iram@uos.edu.pk

Dr Mehmood Asghar. Assistant Professor of Dental Biomaterials, Army Medical College, NUMS, Rawalpindi, Pakistan. E-mail: mehmudbhatti@yahoo.com

Regional Editors for People's Republic of China: Professor Yanhui Gao. Director of the Institute for Endemic Fluoride Control, Center for Endemic Disease Control, People's Republic of China CDC. E-mail: goayh411@163.com

Professor Zhi-Zhong Guan. Department of Pathology and Key Lab of Endemic and Ethnic Diseases (Guizhou Medical University), Ministry of Education, Guiyang, People's Republic of China. E-mail: 1457658298@qq.com

Regional Editor for Asia in developmental biology, reproduction, embryology, and endocrinology: Dr Syeda Nadia Ahmad. Department of Zoology, University of Chakwal, Chakwal, Pakistan. E-mail: nadia.ahmad@uoc.edu.pk and dr.nadiaahmad111@gmail.com

Associate Editors:

Professor Zhi-Zhong Guan, Department of Pathology and Key Laboratory of Endemic and Ethnic Diseases (Guizhou Medical University), Ministry of Education, Guiyang, Guizhou, People's Republic of China.

Professor Emeritus Hardy Limeback. University of Toronto, Toronto, ON, Canada. Christopher Neurath. American Environmental Health Studies Project, Lexington, MA, USA.

Associate Professor Jashwanti D Sharma. Department of Zoology, University of Rajasthan, Jaipur, India.

Professor Dianjun Sun. Chinese Research Center for Endemic Disease Control, Harbin Medical University, Harbin, People's Republic of China.

Prof. Masashi Tsunoda. Dept. of Preventive Medicine and Public Health, National Defense Medical College, Japan.

Editorial Board Members:

Dr Miklós Bély. Hungarian Academy of Science, Budapest, Hungary.

Dr Russell L Blaylock. Ridgeland, Mississippi, USA.

Professor Andrzej Bohatyrewicz. Dept. of Orthopedics & Traumatology, Pomeranian Medical University, Szczecin, Poland.

Professor Masahiko Chikuma. Osaka University of Pharmaceutical Sciences, Osaka, Japan.

Professor Edward Czerwinski. Jagiellonian University, Kraków, Poland.

Dr Mark Diesendorf. Sustainability Centre, Box 521, Epping, NSW 1710, Australia.

Professor J Franke. Rehaklinik an der Salza, Bad Langensalza, Germany.

Assistant Professor Toshitaka Horiuchi. Nihon University School of Dentistry at Matsudo, Japan.

Professor Koichi Kono. Osaka Medical College, Osaka, Japan.

Professor Jerzy Krechniak. Medical University, Gdańsk, Poland.

Professor Emeritus C James Lovelace. Humbolt State University, Arcata, CA, USA.

Professor Bogusław Machaliński. Pomeranian Academy of Medicine, Szczecin, Poland.

Professor Frank Murray. Murdoch University, Murdoch, WA, Australia.

Professor Masayuki Okazaki. Hiroshima University, Hiroshima, Japan.

Dr James C Pushnik. California State University, Chico, CA, USA.

Professor Masashi Shimahara. Osaka Medical College, Takatsuki City, Osaka, Japan.

Professor Jörg Spitz. Society for Medical Information and Prevention, Wiesbaden, Germany.

Professor Anna Strunecká. Charles University, Prague, Czech Republic.

Professor Guifan Sun. China Medical University, Shenyang, China.

Professor Satoshi Takizawa. Dept. of Urban Engineering, Graduate School of Engineering, University of Tokyo.

Professor Emeritus SPS Teotia. Institute of Higher Medical Sciences, Whitefield, India.

Professor Jundong Wang. College of Animal Science & Veterinary Medicine, Shanxi Agricultural University, Taigu, Shanxi, PR China.

Professor Emeritus Y Yoshida. Osaka Medical College, Osaka, Japan.

Professor Emeritus NBK Yoshitake. Shiga University of Medical Science, Otsu, Japan.

Professor Boasham Zheng. Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, Guizhou, PR China.

Editorial Assistant: Peter Meiers. Saarbrücken, Germany.