

# FLUORIDE

## QUARTERLY JOURNAL OF THE INTERNATIONAL SOCIETY FOR FLUORIDE RESEARCH

<http://www.fluoride-journal.com> Email: [isfr@fluoride-journal.com](mailto:isfr@fluoride-journal.com)

Managing Editor: Editor:  
Dr Bruce Spittle Prof A W Burgstahler  
Dunedin, New Zealand Lawrence, Kansas, USA

Associate Editors:  
Prof G W Miller Logan, Utah, USA  
Dr J R Lee Sebastopol, California, USA  
Prof Ming-Ho Yu Bellingham, Washington, USA

### CONTENTS

#### EDITORIALS

- Guest Editorial: Fluoride in hair ..... 149-150  
In Memoriam: John A Yiamouyiannis, PhD, 1942 - 2000 ..... 151-153

#### RESEARCH REPORTS

- Sister chromatid exchange frequency and chromosome aberrations in residents of fluoride endemic regions of South Gujarat  
Sajayan Joseph, PK Gadhia. Gujarat, India. .... 154-158
- Pulmonary effects of sodium fluoride aerosol on rats  
Xue-Qing Chen, Kazuhiko Machida, Kaori Isizaki, Naomi Nisio, Mitsuru Ando. Tsukuba and Tokorozawa, Japan ..... 159-167
- The influence of sodium fluoride on the clonogenicity of human hematopoietic progenitor cells: preliminary report  
Boguslaw Machaliński, Maria Zejmo, Iwona Stecewicz, Anna Machalinska, Zygmunt Machoy, Mariusz Z Ratajczak. Szczecin, Poland ..... 168-173
- Fluoride in hair as an indicator of exposure to fluorine compounds  
K Stolarska, W Czarnowski, B Urbańska, J Krechniak. Gdańsk, Poland .... 174-181
- Disturbance of protein metabolism in rats after acute poisoning with sodium fluoride  
E Birkner, E Grucka-Mamczar, Z Machoy, R Tarnawski, R Polaniak. Katowice and Szczecin, Poland ..... 182-186
- Endemic genu valgum and other bone deformities in two villages of Mandla District in central India  
T Chakma, P Vinay Rao, SB Singh, RS Tiwary. Jabalpur, India ..... 187-195
- Fluoride levels in hair of exposed and unexposed populations in Poland  
Zenon Kokot, Dariusz Drzewiecki. Poznań and Ciechanów, Poland ..... 196-204
- Fluoride concentrations of water sources in Tibet  
Jin Cao, Yan Zhao, Jianwei Liu, Ruodan Xirao, Sangbu Danzeng. Changsha and Tibet, China ..... 205-209

- Acute renal damage dose response in rats to intravenous infusion of sodium fluoride  
Tomotaro Dote, Koichi Kono, Kan Usuda, Hiroyuki Nishiura, Teruaki Tagawa. Osaka, Japan.....210-217

**ABSTRACTS** .....218-229

**HEALTH/BIOLOGICAL EFFECTS**

- Age as a determinant of severity of dental fluorosis in children residing in areas with 0.5 and 2.5 mg fluoride per liter in drinking water  
Rwenyonyi CM, Birkeland JM, Haugejorden O ..... 218

- Toxicokinetics of intravenous fluoride in rats with renal damage caused by high-dose fluoride exposure  
Dote T, Kono K, Usuda K, Nishiura H, Tagawa T, Miyata K, Shimahara M, Hashiguchi N, Senda J, Tanaka Y .....218-219

- Dental fluorosis in permanent incisor teeth in relation to water fluoridation, social deprivation and toothpaste use in infancy  
Tabari ED, Ellwood R, Rugg-Gunn AJ, Evans DJ, Davies RM .....219-220

- Intra-oral distribution of dental fluorosis in Newburgh and Kingston, New York  
Kumar J, Swango P, Haley V, Green E..... 220

- Fluorosis in primary dentition in a region with endemic water fluoride  
Loyola-Rodriguez JP, Pozos-Guillen AJ, Hernandez-Guerrero JC, Hernandez-Sierra JF.....220-221

- Decline of caries prevalence after the cessation of water fluoridation in the former East Germany  
Künzel W, Fischer T, Lorenz R, Bruhmann S.....221-222

- Risk factors for dental fluorosis: a review of the recent literature  
Mascarenhas AK ..... 222

- Potential of 4 per cent silver fluoride to induce fluorosis in rats: clinical implications  
Gotjamanos T, Ma P..... 223

**DIETARY FLUORIDE**

- Environmental fluoride content in Tibet  
Jin C, Yan Z, Jianwei L, Ruodeng X, Sangbu D..... 223

- Studies on skeletal muscle biopsies in endemic skeletal fluorosis  
Sesikeran B, Krishnamurthy D, Harinarayana Rao S, Ramachandran EP, Raja Reddy D..... 224

**FLUORIDE ANALYSIS**

- Differences in skeletal kinetics between vertebral and humeral bone measured by <sup>18</sup>F-fluoride positron emission tomography in postmenopausal women  
Cook GJ, Lodge MA, Blake GM, Marsden PK, Fogelman I.....224-225

**BIOCHEMICAL EFFECTS**

- Associated disturbances in calcium homeostasis and G protein-mediated cAMP signaling in bipolar I disorder  
Emamghoreishi M, Li PP, Schlichter L, Parikh SV, Cooke R, Warsh JJ ..... 225

Simvastatin modulates cytokine-mediated endothelial cell adhesion molecule induction: involvement of an inhibitory G protein Sadeghi MM, Collinge M, Pardi R, Bender JR .....	225-226
Effects of fluoride and vanadate on K <sup>+</sup> transport across the erythrocyte membrane of <i>Rana temporaria</i> Agalakova NI, Lapin AV, Gusev GP .....	226-227
Functional compartments in rat mast cells for cAMP and calcium on histamine release Alfonso A, Cabado AG, Vieytes MR, Botana LM.....	227
Hormone-stimulated calcium release is inhibited by cytoskeleton-disrupting toxins in AR4-2J cells Bozem M, Kuhlmann S, Blum R, Feick P, Schulz I .....	227-228
A surface-exposed region of G(salpha) in which substitutions decrease receptor-mediated activation and increase receptor affinity Grishina G, Berlot CH .....	228-229
Insulin stimulates the release of a subset of GPI-anchored proteins in a G-protein independent manner Movahedi S, Pang S, Hooper NM .....	229
 <b>ANNOUNCEMENT</b>	
XXIVth ISFR conference .....	230
 <b>INDEXES 2000</b>	
Author Index .....	231-233
Subject Index.....	234-235

## INTERNATIONAL SOCIETY FOR FLUORIDE RESEARCH

### Officers and Board for 2000

**President:**

Professor Zygmunt Machoy, Pomeranian Medical Academy, Szczecin, Poland

**Vice President:**

Professor Koichi Kono, Osaka Medical College, Osaka, Japan

**Second Vice President:**

Professor N J Chinoy, Gujarat University, Ahmedabad, India

**Secretary:**

Professor Emeritus Gene W Miller, Utah State University

**Treasurer:**

Dr Bruce Spittle, University of Otago Medical School, Dunedin, New Zealand

**Editorial Board:**

Dr DJ Ballentyne, University of Victoria, Victoria, BC, Canada

Dr Miklos Bély, National Institute of Rheumatology, Budapest, Hungary

Dr AW Burgstahler, Professor Emeritus, University of Kansas, Lawrence, KS, USA

Prof Shouren Cao, Chinese Academy of Preventive Medicine, Beijing, China

Dr M Chikuma, Osaka University of Pharmaceutical Sciences, Osaka, Japan

Prof NJ Chinoy, Gujarat University, Ahmedabad, India

Dr Edward Czerwinski, Kraków Academy of Medicine, Kraków, Poland

Prof Mark Diesendorf, University of Technology, Sydney, NSW, Australia

Dr Richard G Foulkes, Abbotsford, BC, Canada

Prof J Franke, Rehaklinik an der Salza, Bad Langensalza, Germany

Prof G Neil Jenkins, Newcastle-upon-Tyne, England, UK

Prof Rongdi Ji, Chinese Academy of Preventive Medicine, Beijing, China

Prof K Kono, Osaka Medical College, Osaka, Japan

Prof Jerzy Krechniak, Medical University, Gdańsk, Poland

Dr KAVR Krishnamachari, National Institute of Nutrition, Hyderabad, India

Dr Lennart Krook, Professor Emeritus, Cornell University, Ithaca, NY, USA

Dr John R Lee, 9620 Bodega Hwy, Sebastopol, CA, USA

Prof C James Lovelace, Humbolt State University, Arcata, CA, USA

Dr Zygmunt Machoy, Pomeranian Medical Academy, Szczecin, Poland

Dr GW Miller, Professor Emeritus, Utah State University, Logan, UT, USA

Prof F Murray, Murdoch University, Murdoch, WA, Australia

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

Dr BP Rajan, Madras Dental College, Madras, India

Dr Bruce Spittle, University of Otago Medical School, Dunedin, New Zealand

Dr Jörg Spitz, Dept. of Nuclear Medicine, Wiesbaden, Germany

Prof Guifan Sun, China Medical University, Shenyang, China

Prof AK Susheela, Fluorosis Res & Rural Develop Foundation, New Delhi, India

Prof SPS Teotia, LLRM Medical College, Meerut, India

Prof H Tsunoda, Iwate Medical University, Morioka, Japan

Prof Zan-Dao Wei, Guiyang Medical College, Guizhou, China

Dr Sally Wheeler, Hawkesbury Agricultural Res. Unit, Richmond, NSW, Australia

Prof Y Yoshida, Osaka Medical College, Osaka, Japan

Prof NBK Yoshitake, Shiga University of Medical Science, Shiga-Ken, Japan

Prof Ming-Ho Yu, Western Washington University, Bellingham, WA, USA

**FLUORIDE**, official journal of the International Society for Fluoride Research (ISFR), publishes quarterly reports on biological, chemical, ecological, industrial, toxicological and clinical aspects of inorganic and organic fluoride compounds. The International Standard Serial Number (ISSN) is 0015-4725.

**SUBSCRIPTION:** For the year 2001, payable in advance, US\$40, 4000 Yen, or GBP 25, with a subscription agency discount of 12.5%. For residents of Australia and New Zealand only, A\$40 and NZ\$40, respectively.

**COPIES** of articles in *Fluoride* are available from:

University Microfilms International, Box 91, Ann Arbor, MI 48106, USA.

Institute for Scientific Information, 3501 Market St., Philadelphia, PA 19104, USA.

BIOSIS, c/- Advanced Information Consultants, Box 87127, Canton, MI 48187, USA.

The UnCover Company, 3801 E. Florida, Suite 200, Denver, CO 80210, USA.

**MANUSCRIPTS**, including papers presented at ISFR conferences, are accepted for publication after appropriate evaluation and recommendation by qualified reviewers. Send to Dr AW Burgstahler, Editor, *Fluoride*, 1620 Massachusetts Street, Lawrence, KS 66044-4254, USA. Fax (USA) 785-843-0736. The following instructions apply to original research reports. Research reviews and discussion papers, with appropriate variations in format, may also be accepted.

#### **INSTRUCTIONS TO AUTHORS**

The submitted paper, with a copy, should be written concisely in English. Either American or British spelling is accepted. Measures should be in metric system. Double space with generous margins. A computer disk should accompany the paper *after* it has been accepted for publication. It should contain the text, charts, tables, graphics, *and* the editor's suggestions for revisions.

**Title:** A concise but informative title should be followed by name(s) of the author(s). The address where the research was carried out, and for correspondence, should appear at the bottom of the first page.

**Summary:** Begin with a brief factual summary.

**Key words:** List (in alphabetical order) the major themes or subjects.

**Introduction:** State the reason for the work with a brief review of previous work on the subject.

**Materials and Methods:** Condense. However, if the methodology is new or developed by the author(s) it can be more detailed.

**Results:** List the direct conclusions of the work.

**Discussion:** Deal with general conclusions, referring to other work on the subject. In short papers, Results and Discussion may be combined.

**Abbreviations or Acronyms:** Define, either in brackets or in footnotes, when they first appear.

**Acknowledgments:** Keep brief. They may include funding source, technical assistance, text editing and useful comments.

**References:** References are identified by superscripted numbers in the order in which they first appear in accordance with the uniform requirements for manuscripts submitted to biomedical journals. These are described in: International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals [special report]. *N Engl J Med* 1997;336:309-15.

**Membership:** Researchers and others interested in fluoride research are invited to join the ISFR. Applications for membership should be sent to the Secretary: Dr Gene W Miller, P.O. Box 725, Logan, UT 84321, USA (E-mail: plants@baicor.com). For the year 2001 the membership fee, which includes subscription to the journal, is the same as the subscription schedule above.