



New Journal of Glass and Ceramics





Journal Editorial Board

ISSN Print: 2161-7554 ISSN Online: 2161-7562 http://www.scirp.org/journal/njgc/

Editor-in-Chief

Dr. Bouzid Menaa Fluorotronics, Inc., USA

Editorial Board

Dr. Nikolai Bokov Institute of Silicate Chemistry of Russian Academy of Sciences, Russia

Dr. Nikolaos Bouropoulos University of Patras, Greece

Dr. Ahmed Brara National Center of Studies and Integrated Research, Algeria

Dr. Andrew Burns Kent State University Stark Campus, USA

Dr. Deepika Chaudhary University of Rajasthan, India

Dr. Belviso Claudia The Institute of Methodologies for Environmental Analysis (IMAA), Italy

Prof. Zhen-Yan Deng Shanghai University, China

Prof. Emad Ewais Central Metallurgical R & D Institute (CMRDI), Egypt

Dr. Dusan Galusek Slovak Technical University, Slovak

Prof. Aswini GhoshIndian Association for the Cultivation of Science, IndiaDr. Mafalda GuedesEscola Superior de Tecnologia de Setúbal, PortugalDr. Wusheng GuoUniversitat Autonoma de Barcelona, Spain

Prof. Michael LanaganPenn State University, USADr. Hong LiPPG Industries, Inc., USA

Prof. Ji-Guang Li

Northeastern University, China

Prof. Igor Mikhailovskij Kharkov Institute of Physics and Technology, Ukraine

Dr. Nelcy Della Santina Mohallem Universidade Federal de Minas Gerais, Brazil

Dr. Faik Nuzhet OktarMarmara University, Turkey

Dr. Mukul Chandra Paul Central Glass & Ceramic Research Institute, India

Prof. Zhijian PengChina University of Geosciencs, China

Dr. Gary R. Pickrell Virginia Polytechnic Institute and State University, Germany

Dr. Luis Prado Technische Universität Hamburg-Harburg, Germany

Dr. Liudvikas PraneviciusVytautas Magnus University, LithuaniaProf. Giancarlo C. RighiniNational Research Council, ItalyProf. Sylwester J. RzoskaPolish Academy of Sciences, Poland

Dr. Sklari Stella Centre for Research and Technology, Greece

Prof. Boris SuboticRuðer Boskoviæ Institute, CroatiaProf. Maria SuszynskaPolish Academy of Sciences, PolandProf. Kulwant Singh ThindGuru Nanak Dev University, India

Prof. Spyros Yannopoulos Foundation for Research and Technology Hellas, Greece

Prof. Xinhua Zhu Nanjing University, China



New Journal of Glass and Ceramics

ISSN Print: 2161-7554 ISSN Online: 2161-7562 http://www.scirp.org/journal/njgc

New Journal of Glass and Ceramics (NJGC) is an international, specialized, English-language journal devoted to publication of original contributions concerning all branches of glass and ceramics, their properties and applications. It is an openaccess, peer-reviewed journal describing scientific and technological advances that cover the basic sciences, engineering aspects and applied technology of glass and ceramics as bulk and films.

Editor-in-Chief

Dr. Bouzid Menaa

Fluorotronics, Inc., USA

Editorial Board

Dr. Nikolai Bokov

Dr. Nikolaos Bouropoulos

Dr. Ahmed Brara

Dr. Andrew Burns

Dr. Deepika Chaudhary

Dr. Belviso Claudia Dr. Maryanne M. Collinson

Prof. Zhen-Yan Deng

Prof Emad Ewais

Dr. Dusan Galusek

Prof. Aswini Ghosh

Dr. Mafalda Guedes

Dr. Wusheng Guo Prof. Michael Lanagan

Dr. Hong Li

Prof. Ji-Guang Li

Prof. Igor Mikhailovskij

Dr. Nelcy Della Santina

Mohallem

Prof. Faik Nuzhet Oktar

Dr. Mukul Chandra Paul

Prof. Zhijian Peng

Dr. Gary R. Pickrell

Dr. Luis Prado

Dr. Liudvikas Pranevicius Prof. Giancarlo C. Righini Prof. Sylwester J. Rzoska

Dr. Sklari Stella

Prof. Boris Subotic Prof. Maria Suszynska

Prof. Kulwant Singh Thind

Prof. Spyros Yannopoulos

Prof. Xinhua Zhu

Subject Coverage

The journal publishes the highest quality original full articles, communications, notes, reviews, special issues and books, covering both the experimental and theoretical aspects including but not limited to the following materials, techniques and studies:

- Aerogels
- Automotive Glasses
- Bioceramics
- Bioglass
- Cements and Concrete
- Ceramic and Glass Powders
- Ceramic Composites
- Coatings Process
- · Crystallization in Glass

- Decorative Glasses
- Glass Fibers
- Glass Polymers
- Low-softening Temperature Glasses
- New Inorganic Glasses
- Organic-inorganic Glasses
- Powder Preparation and Colloidal Sciences
- Refractories and Industrial Glasses and Ceramics
- Sol-gel Glasses

With applications in: nanotechnology, optics, photonics, biomedical, biomaterials for implants and prosthesis, dentistry, environment, energy, thermal insulation, materials reinforcement, architectural restoration.

Contributions to fundamental and basic sciences of glass and ceramics research will be highlighted.

These concerns among others the properties and the characterization of glasses: glass structures studies, diffusion and kinetics in glasses, phase studies, thermodynamics, mechanical, thermal stability, salvation, surface properties, porosity, electrical, thermal, optical, magnetic and conductivity properties.

These concern also the theoretical aspect of the science of glass and ceramics with structure-properties relationship including modeling approaches, mechanisms. Manuscripts dealing with the technical aspect including the development of innovating tools for materials processes and productions as well as the characterization techniques of the materials are welcome

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. Authors are responsible for having their papers checked for style and grammar prior to submission to NJGC. For more details about the submissions, please access the website.

Website and E-Mail

http://www.scirp.org/journal/njgc Email: njgc@scirp.org

TABLE OF CONTENTS

Volume 3	Number 1	January 2013
•	Values Enhancement by Incorporation of Mag c Matrix Hosts	gnetic Powders in
J. R. Martín	nez, J. R. de Alba, I. G. Blanco-Esqueda, A. Guerrero-Se	rrano, G. Ortega-Zarzosa 1
Spectroscop	pic Studies of 50Bi ₂ O ₃ -(50 - x)B ₂ O ₃ -xSm ₂ O ₃ Gl	asses System
S. Rakpanic	ch, J. Kaewkhao, K. Boonin, J. Park, H. J. Kim, P. Limsuv	wan 6
Sol-Gel Syn	nthesis of SiO2-CaO-Na2O-P2O5 Bioactive Glas	s Ceramic from Sodium
Metasilica	ate	
L. A. Adams	s, E. R. Essien, R. O. Shaibu, A. Oki	11
Mechanical	l Properties of Porosity-Free Beta Tricalcium	Phosphate (-TCP) Ceramic
by Sharp	and Spherical Indentations	
D. Chicot, A	A. Tricoteaux, J. Lesage, A. Leriche, M. Descamps, E. R.	guiti-Constantin
Synthesis at	nd Characterization of $La_{0.8}Sr_{0.2}MnO_{3-\delta}$ Nanos	tructures for Solid Oxide
Fuel Cells	S	
V. S. R. Cha	nnu, R. Holze, E. H. Walker	
	ng of Thermal Replication for Designing Prog	
D. Lochegn	ies, P. Moreau, F. Hanriot, P. Hugonneaux	
Thermal Co	onductivity and Microstructure Properties of	Porous SiC Ceramic
Derived fi	rom Silicon Carbide Powder	
X. W. Wu, H	H. W. Ma, X. C. Chen, Z. B. Li, J. Li	
Difference i	in Structural Relaxation Times of Inner Surfa	ce and Inner Bulk Region
of Silica (Glass Arc Tube	
T. Honma, N	N. Tamura, K. Saito, E. Sekiya	
Structural (Changes by Thermal Treatment up to Glass O	btention of
P_2O_5 -Na ₂ O	O-CaO-SiO ₂ Compounds with Bioglass Compo	sition Types
C. Volzone,	F. M. Stábile	53