international year of glass

Each month, we will be highlighting articles from different areas of glass science in the online blog Ceramic Tech Today.



International Journal of Applied Glass Science special issue celebrates IYOG

By Eileen De Guire

ario Affatigato and Alicia Durán, editorin-chief and co-editor, respectively, of International Journal of Applied Glass Science (IJAGS), dedicated the July 2022 issue (Volume 13, Issue 3) to the International Year of Glass. Affatigato and Durán served as guest editors for the issue, curating 16 articles, of which three are open access. Durán also is leading the global International Year of Glass celebrations.

The editors resisted the temptation to publish a retrospective issue highlighting the profound contributions that glass already made to the advancement of science, engineering, and human well-being. Appropriately, they kept the focus on the future and what solutions glass can contribute to the hefty challenges that lie ahead.

Affatigato says in the cover's caption, "The United Nations' declaration making 2022 the International Year of Glass allowed the global glass community to celebrate the wonders of this amazing material. Taken as a whole, the articles in this issue highlight the breadth of our field and the continuing promise of glass as a material unparalleled in human history."

The result is a well-balanced issue that covers the interdependent triad of structure, properties, and applications. Grand challenges in energy, communication, and medicine lead to glass applications in pharmaceutical packaging, industrial glass, battery anodes, optical fibers, and photocatalysts. Several papers address properties of glass, such as thermal properties for heat management, indentation and abrasion properties, and the elusive glass relaxation phenomenon. Other papers work to unlock the mysterious and intriguing structure of glass.

Access the special issue at https://bit.ly/ IJAGS-celebrating-IYOG. ACerS members have access to all ACerS journals by logging into the Society's website.

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Title	Authors
The uniqueness of glass for passive thermal management for optical fibers OPEN ACCESS https://doi.org/10.1111/ijag.16543	John Ballato and Peter D. Dragic
<i>Glass: The best material for pharmaceutical packaging</i> https://doi.org/10.1111/ijag.16559	Emanuel Guadagnino, Massimo Guglielmi, and Fabiano Nicoletti
A Corning perspective on the future of technical glass in our evolving world OPEN ACCESS https://doi.org/10.1111/ijag.16560	Jeffrey T. Kohli, Mathieu Hubert, Randall E. Youngman, and David L. Morse
Indentation and abrasion in glass products: Lessons learned and yet to be learned https://doi.org/10.1111/ijag.16549	Arun K. Varshneya, Guglielmo Macrelli, Satoshi Yoshida, Seong H. Kim, Andrew L. Ogrinc, and John C. Mauro
Impact of a temperature-dependent stretching exponent on glass relaxation https://doi.org/10.1111/ijag.16548	Brittney M. Hauke, Matthew Mancini, and John C. Mauro
Atomistic molecular dynamics in polyethylene oxide and polymethyl methacrylate blends having significantly different glass transition temperatures https://doi.org/10.1111/ijag.16553	Junko Habasaki
Chemical approach to the glass structure and properties https://doi.org/10.1111/ijag.16551	Natalia Vedishcheva, Alberto López- Grande, and Francisco Muñoz
A century of structural and vibrational spectroscopy in vitreous silica: A short review https://doi.org/10.1111/ijaq.16572	B. Hehlen
High-coordinated alumina and oxygen triclusters in modified aluminosilicate glasses https://doi.org/10.1111/ijag.16565	Rebecca S. Welch, Sierra Astle, Randall E. Youngman, and John C. Mauro
Curved lattices of crystals formed in glass https://doi.org/10.1111/ijag.16574	Evan J. Musterman, Volkmar Dierolf, and Himanshu Jain
Iron-phosphate glass-ceramic anodes for lithium-ion batteries https://doi.org/10.1111/jiag.16557	Shibin Qi, Xiangyu Li, Yuanzheng Yue, and Yanfei Zhang
Development of photocatalysts based on TiO_2 films with embedded Ag nanoparticles https://doi.org/10.1111/ijag.16575	María Virginia Roldán, Estanislao Porta, Alicia Durán, Yolanda Castro, and Nora Pellegri
Development of a force field for modeling lithium borosilicate glasses https://doi.org/10.1111/ijag.16570	Shingo Urata, Tatsuya Miyajima, Noriyoshi Kayaba, Lu Deng, and Jincheng Du
Radiation-induced darkening and its suppression methods in Yb ³⁺ -doped silica fiber core glasses https://doi.org/10.1111/ijag.16561	Chongyun Shao, Chunlei Yu, Yan Jiao, Georges Boulon, Malgorzata Guzik, Lei Zhang, Fengguang Lou, Meng Wang, Weibiao Chen, and Lili Hu
Direct monitoring of immediate release of Zn from zinc- doped bioactive glass OPEN ACCESS https://doi.org/10.1111/ijag.16568	Dagmar Galusková, Hana Kaňková, Anna Švančárková, Lenka Buňová, and Dušan Galusek
A comprehensive study of the batch-to-melt conversion process of a high-boron alkaline earth aluminosilicate glass https://doi.org/10.1111/ijag.16582	Hong Li, Manuela Reben, Jason Dobyne, Qingwei Wang, and Xiaoyun Liu