

We are very excited to announce the launch of our annual writing contest! This is a great opportunity for civil-engineers to expose their research and development to a global audience of industry experts. Plus, the winner will receive a monetary award of \$1,000. The "Giatec Award for Best Paper" is open to civil-engineering professors, students (undergraduate and graduate), and researchers across Canada and the U.S. Interested individuals can submit either an expository paper or a previously published article that relates to one of the following topics:

- Non-destructive testing (NDT) technologies for concrete
- Concrete durability and sustainability
- Concrete testing technology, including; thermocouples, sensors, and probes
- Wireless concrete testing
- Rebar corrosion of concrete
- Electrical resistivity of concrete
- Novel cement-based materials

Eligibility Criteria

- Articles must be written in English
- Articles must be a minimum of 1000 words in length
- Articles must cover one of the topics listed above
- Previously published articles must have been published in 2018
- Articles must be submitted by July 31, 2019

How to Submit

Submitting is easy. Simply upload a copy of your published article below. Remember, the deadline for submissions is July 31, 2019. A winner will be announced on September 1, 2019.

- File Upload*

- Full Name*

- Email*

- University (Optional)

Important Dates

Submission deadline: July 31, 2019

Winner announced: September 1, 2019

Share Your Research with a Global Scientific Community!

In addition to the CAD \$1,000 award for the author of the winning article, the top 10 submissions will:

- Be featured on the Giatec blog, which has a global audience of 150,000 industry experts; and
- Be shared across all of Giatec's social media channels, where we engage with 50,000+ users each month.

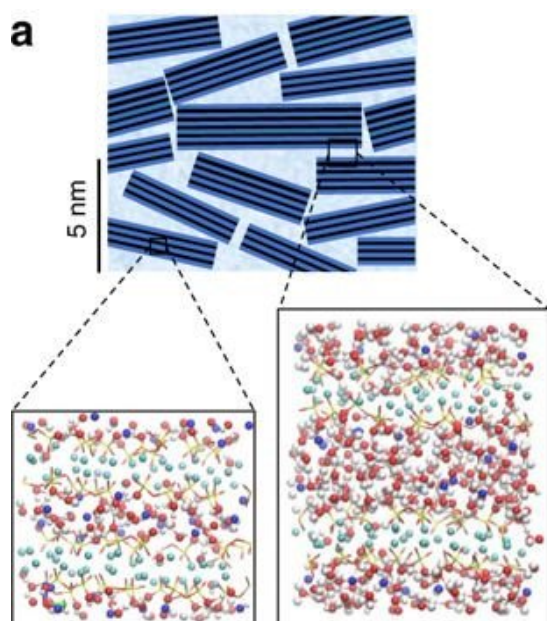
Getting this kind of exposure on a global scale is a huge advantage for researchers, especially students who are just beginning to grow their networks and careers.

Last Year's Winner

Nanoscale Origins of Creep in Calcium Silicate Hydrates

Ali Morshedifard, Saeed Masoumi, and Mohammad Javad Abdolhosseini Qomi
Nature Communications, volume 9, Article number: 1785 (2018)

Synopsis



The authors propose a novel three-staged incremental stress-marching technique to study nanoscale longtime phenomena, specifically creep, in atomistic simulations. The stress-induced time-dependent behavior of C-S-H was investigated by the application of a chain of aging shear cycles at the nanoscale. The model results showed a stretched exponential relaxation in the first stage. When fully relaxed, C-S-H was found to behave viscoelastically upon further loading, which the authors described by the standard solid model. By progressively increasing the interlayer water, the time-dependent response of calcium-silicate-hydrates was found to exhibit a transition from viscoelastic to logarithmic creep. The results of the study bridge the gap between theoretical atomistic simulations and nanomechanical experimental measurements, which paves the way for the design of reduced aging construction materials starting from the nanoscale behavior of the material.

[Check out the full article here](#)

About Giatec

Giatec is transforming the world of concrete testing. We develop leading technologies to build new concrete structures or evaluate the health of existing structures, faster, safer, and more efficiently. Giatec recently won “[Most Innovative Product](#)” at World of Concrete 2019 and the [2019 Innovation Award](#) from the National Association of Corrosion Engineers. Headquartered in Ottawa, Canada, Giatec was recognized in 2018 as one of the country's fastest growing companies.