

## Brunauer Cements Award

Year	Recipients	Paper Title
2019	Jeffrey Bullard, John Hagedorn, Tyler Ley, Qinang Hu, Wesley Griffin, & Judith Terrill	"A critical comparison of 3D experiments and simulations of tricalcium silicate hydration," <i>Journal of the American Ceramic Society</i> , 101(4), 1453-1470 (2018)
2018	Delphine Marchon, Patrick Juillard, Emmanuel Gallucci, Lukas Frunz, & Robert J. Flatt	"Molecular and submolecular scale effects of comb copolymers on tri calcium silicate reactivity: Toward molecular design" <i>Journal of the American Ceramic Society</i> , 100(3), 817-841. (2017)
2017	Jeffrey W. Bullard and George W. Scherer	"An Ideal Solid Solution Model for C–S–H", <i>Journal of the American Ceramic Society</i> , 99 [12] 4137–4145 (2016)
2016	Sungchul Bae; Rae Taylor; David Shapiro; Peter Denes; John Joseph; Rich Celestre; Stefano Marchesini; Howard Padmore; Tolek Tyliszczak; Tony Warwick; David Kilcoyne; Pierre Levitz; Paulo J. M Monteiro	"Soft X-ray Ptychographic Imaging and Morphological Quantification of Calcium Silicate Hydrates (C–S–H)", <i>Journal of the American Ceramic Society</i> , Vol 98, Issue 12, Dec 2015, pages 4090-4095
2015	Hamed M. Kayello; Naresh K. R. Tadisina; Natalia Shlonimskaya; Joseph J. Biernacki; Donald P. Visco Jr.	"An Application of Computer-Aided Molecular Design (CAMD) Using the Signature Molecular Descriptor"
		Part 1. "Identification of Surface Tension Reducing Agents and the Search for Shrinkage Reducing Admixtures", <i>Journal of the American Ceramic Society</i> , 97 (2) 365-377 (2014)

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	Natalia Shlonimskaya; Joseph J. Biernacki; Hamed M. Kayello; Donald P. Visco Jr.	Part 2. "Evaluating Newly Identified Surface Tension-Reducing Substances for Potential Use as Shrinkage-Reducing Admixtures", <i>Journal of the American Ceramic Society</i> , 97 (2) 378-385 (2014)
2014	No Award Given	
2013	Jeffrey J. Thomas	"The Instantaneous Apparent Activation Energy of Cement Hydration Measured Using a Novel Calorimetry-Based Method"
2012	Alan J. Benesi Hayden Black Michael W. Grutzeck Pearl Kaplan Bernie O'Hare Rachel A. Steinle	"Evidence of Solid Water Bridges Found in Hydrating Tricalcium Silicate Paste"
2011	Jeffrey W. Bullard Robert J. Flatt	"New Insights Into the Effect of Calcium Hydroxide Precipitation on the Kinetics of Tricalcium Silicate Hydration"
2010	Rouzbeh Shahsavari Markus Buehler Roland Pellenq Franz-Josef Ulm	"First Principles Study of Elastic Constants and Interlayer Interactions of Complex Hydrated Oxides: Case Study of Tobermorite and Jennite"
2009	Krassimir Garbev Günter Beuchle Peter Stemmermann Leon Black Marc Bornfeld	"Cell Dimensions and Composition of Nanocrystalline Calcium Silicate Hydrate Solid Solutions. Part 2: X-Ray and Thermogravimetry Study"
2008	Jeffrey J. Thomas	"A New Approach to Modeling the Nucleation and Growth Kinetics of Tricalcium Silicate"
2007	John J. Valenza II George W. Scherer	"Mechanism for Salt Scaling"
2006	Elena Bonaccorsi Stefano Merlini	"The Crystal Structure of Tobermorite 14A (Plombierite), a C-S-H Phase"

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	Anthony Kampf	
2005	Vanessa K. Peterson Brett A. Hunter Abhi Ray	"Tricalcium Silicate T1 and T2 Polymorphic Investigations: Rietveld Refinement at Various Temperatures Using Synchrotron Powder Diffraction"
2004	Valeri S. Harutyunyan Eduward S. Abovyan Paulo J. M. Monteiro Vahram P. Mkrtchyan Minas K. Balyan Ashoi P. Aivazyan	"Xray Diffraction Investigations of Microstructure of Calcium Hydroxide Crystallites in the Interfacial Transition Zone of Concrete"
2003	Hua Ai J. Francis Young George Scherer	"Thermal Expansion Kinetics: Methods to Measure Permeability of Cementitious Materials: II, Application to Hardened Cement Pastes"
2002	Glen H. Kirby Jennifer A. Lewis	"Rheological Property Evolution in Concentrated Cement - Polyelectrolyte Suspensions"
2001	George W. Scherer	"Measuring Permeability of Rigid Materials by a Beam-Bending Method: I, Theory"
2000	Ping Yu R. James Kirkpatrick Brent Poe Paul McMillan Xiandong Cong	"Structure of Calcium Silicate Hydrate (C-S-H): Near-, Mid-, and Far- Infrared Spectroscopy"
1999	Nobuhiro Miura Naoki Shinyashiki Shin Yagihara Masami Shiotsubo	"Microwave Dielectric Study of Water Structure in the Hydration Process of Cement Paste" (1998)
1998	D.P. Bentz	"Three-Dimensional Computer Simulation of Portland Cement Hydration and Microstructure Development"
1997	D. Viehland J.-F. Li I.-J. Yuan	"Mesostructure of Calcium Silicate Hydrate Gels in Portland Cement Paste: Short Range Ordering, Nanocrystallinity, and Local Compositional Order"

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	Z. Xu	
1996	Stephen Kwan Judith LaRosa Michael W. Grutzeck	" <sup>29</sup> Si and <sup>27</sup> Al MASNMR Study of Stralingite"
1995	Norifumi Isu Satoshi Teramura Hideki Ishida Takeshi Mitsuda	"Mechanical Property Evaluation during Autoclaving Process of Aerated Concrete Using Slag:II, Fracure Toughness & Microstructure"
1994	Ian G. Richardson A.R. Brough R. Brydson G. Groves C. Dobson	"Location of Aluminum in Substituted Calcium Silicate Hydrate (C-S-H) Gels as Determined by <sup>29</sup> Si and <sup>27</sup> Al NMR and EELS"
1993	Hideki Ishida Katsumi Mabushi Kaori Sasaki Takeshi Mitsuda	"Low Temperature Synthesis of $\beta$ -Ca <sub>2</sub> SiO <sub>4</sub> from Hillebrandite"
1992	Ellis Gartner David F. Myers	"Influence of the Ferrite Phase on Cement Strength Development"
1991	Oludele O. Popoola Waltraud M. Kriven J. Francis Young	"Microstructural and Microchemical Characterization of a Calcium Aluminate - Polymer Composite (MDF Cement)"
1990	A. Zurg I. Odler F. Phiemann K. Berghofer	"Autoclave Free Formation of a Hemihydrate Gypsum"
1989	No Award	

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1988	Waltraud M. Kriven Chin-Jong Chan J. Francis Young	"Analytical Electron Microscopic Studies of Doped Dicalcium Silicates"
1987	P. Brown	"The Effect of Particle Size Distribution on the Kinetics of $C_3S$ Hydration"
1986	Hamlin M. Jennings Steven K. Johnson	"Simulation of Microstructure Development During the Hydration of a Cement Compound"