

## Brunauer Cements Award

Year	Recipients	Paper Title
2021	Sara Mantellato and Robert J. Flatt	"Shifting factor—A new paradigm for studying the rheology of cementitious suspensions" published in the <i>Journal of the American Ceramic Society</i> , 2020, 103(6), pp. 3562-3574
2020	Nishant Garg and Jorgen Skibsted	"Dissolution kinetics of calcined kaolinite and montmorillonite in alkaline conditions: Evidence for reactive Al(V) sites," <i>Journal of the American Ceramic Society</i> , 2019;102:7720–7734
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 Juilland, 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 Tyliczszak; 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		"An Application of Computer-Aided Molecular Design (CAMD) Using the Signature Molecular Descriptor"

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	Hamed M. Kayello; Naresh K. R. Tadisina; Natalia Shlonimskaya; Joseph J. Biernacki; Donald P. Visco Jr.	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)
	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)
<b>2014</b>	No Award Given	
<b>2013</b>	Jeffrey J. Thomas	"The Instantaneous Apparent Activation Energy of Cement Hydration Measured Using a Novel Calorimetry-Based Method"
<b>2012</b>	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"
<b>2011</b>	Jeffrey W. Bullard Robert J. Flatt	"New Insights Into the Effect of Calcium Hydroxide Precipitation on the Kinetics of Tricalcium Silicate Hydration"
<b>2010</b>	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"
<b>2009</b>	Krassimir Garbev Günter Beuchle Peter Stemmermann Leon Black Marc Bornefeld	"Cell Dimensions and Composition of Nanocrystalline Calcium Silicate Hydrate Solid Solutions. Part 2: X-Ray and Thermogravimetry Study"

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<b>2008</b>	Jeffrey J. Thomas	"A New Approach to Modeling the Nucleation and Growth Kinetics of Tricalcium Silicate"
<b>2007</b>	John J. Valenza II George W. Scherer	"Mechanism for Salt Scaling"
<b>2006</b>	Elena Bonaccorsi Stefano Merlino Anthony Kampf	"The Crystal Structure of Tobermorite 14A (Plombierite), a C-S-H Phase"
<b>2005</b>	Vanessa K. Peterson Brett A. Hunter Abhi Ray	"Tricalcium Silicate T1 and T2 Polymorphic Investigations: Rietveld Refinement at Various Temperatures Using Synchrotron Powder Diffraction"
<b>2004</b>	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"
<b>2003</b>	Hua Ai J. Francis Young George Scherer	"Thermal Expansion Kinetics: Methods to Measure Permeability of Cementitious Materials: II, Application to Hardened Cement Pastes"
<b>2002</b>	Glen H. Kirby Jennifer A. Lewis	"Rheological Property Evolution in Concentrated Cement - Polyelectrolyte Suspensions"
<b>2001</b>	George W. Scherer	"Measuring Permeability of Rigid Materials by a Beam-Bending Method: I, Theory"
<b>2000</b>	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"
<b>1999</b>	Nobuhiro Miura Naoki Shinyashiki Shin Yagihara	"Microwave Dielectric Study of Water Structure in the Hydration Process of Cement Paste" (1998)

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	Masami Shiotsubo	
1998	D.P. Bentz	"Three-Dimensional Computer Simulation of Portland Cement Hydration and Microstructure Development"
1997	D. Viehland J.-F. Li I.-J. Yuan Z. Xu	"Mesostructure of Calcium Silicate Hydrate Gels in Portland Cement Paste: Short Range Ordering, Nanocrystallinity, and Local Compositional Order"
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)"

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<b>1990</b>	A. Zurg I. Odler F. Phiemann K. Berghofer	"Autoclave Free Formation of a Hemihydrate Gypsum"
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<b>1989</b>	No Award	
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<b>1988</b>	Waltraud M. Kriven Chin-Jong Chan J. Francis Young	"Analytical Electron Microscopic Studies of Doped Dicalcium Silicates"
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<b>1987</b>	P. Brown	"The Effect of Particle Size Distribution on the Kinetics of C <sub>3</sub> S Hydration"
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<b>1986</b>	Hamlin M. Jennings Steven K. Johnson	"Simulation of Microstructure Development During the Hydration of a Cement Compound"
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