

South Texas Section - AIChE Best Fundamental Paper Award

Year Awarded	Year Award Presented	Recipients (& all authors)	Best Fundamental Paper Title	Periodical and Date Published
		(STS member authors are in bold and <u>underlined</u> .)		
2022	2023	Harold U. Escobar-Hernandez , Lisa M. Pérez, Pingfan Hu, Fernando A. Soto, Maria I. Papadaki, Hong-Cai Zhou, & Qingsheng Wang	"Thermal Stability of Metal–Organic Frameworks (MOFs): Concept, Determination, and Model Prediction Using Computational Chemistry and Machine Learning"	ACS Industrial Engineering & Chemistry Research , April 21, 2022, Vol. 61, pp. 5853–5862
2021	2022	Siraj Sidhik, Wenbin Li, Mohammad H. K. Samani, Hao Zhang, Yafei Wang, Justin Hoffman, Austin K. Fehr, Michael S. Wong , Claudine Katan, Jacky Even, Amanda B. Marciel , Mercouri G. Kanatzidis, Jean-Christophe Blancon, & Aditya D. Mohite	"Memory Seeds Enable High Structural Phase Purity in 2D Perovskite Films for High-Efficiency Devices"	ADVANCED MATERIALS , Vol. 33, June 6, 2021, pgs. 2007176 (1 of 11)
2020	2021	Arjun Valiya Parambathu , Philip M. Singer , George J. Hirasaki , Walter G. Chapman , & Dilipkumar Asthagiri	"Critical Role of Confinement in the NMR Surface Relaxation and Diffusion of n-Heptane in a Polymer Matrix Revealed by MD Simulations"	The Journal of Physical Chemistry B 2020, Vol. 124, April 8, 2020, pp. 3801–3810
2019	2020	Hao Li, Sujin Guo, Kihyun Shin, Michael S. Wong , and Graeme Henkelman	"Design of a Pd–Au Nitrite Reduction Catalyst by Identifying and Optimizing Active Ensembles"	ACS Catalysis 2019, No. 9, pp. 7957–7966
2018	2019	Kun Jiang, Robert B. Sandberg, Austin J. Akey, Xinyan Liu, David C. Bell, Jens K. Nørskov, Karen Chan, and Haotian Wang	"Metal ion cycling of Cu foil for selective C–C coupling in electrochemical CO ₂ reduction"	Nature Catalysis , Vol. 1, February 2018, pp. 111–119
2017	2018	Qiuyi Yuan, Hieu A. Doan, Lars C. Grabow , and Stanko R. Brankovic	"Finite Size Effects in Submonolayer Catalysts Investigated by CO Electrosorption on Pt _{sML} /Pd(100)"	Journal of the American Chemical Society . 2017, 139, pp. 13676–13679
2016	2017	Stacy L. Pesek, Yen-Hao Lin, Hui Zhen Mah, Will Kasper, Bo Chen, Brian J. Rhode, Megan L. Robertson, Gila E. Stein, and Rafael Verduzco	"Synthesis of bottlebrush copolymers based on poly(dimethylsiloxane) for surface active additives"	Polymer (Elsevier), Volume 98, January 2016, pp. 495–504
2015	2016	Wael A. Fouad, Le Wang, Amin Haghmoradi, Sumnesh K. Gupta, and Walter G. Chapman	"Understanding the Thermodynamics of Hydrogen Bonding in Alcohol-Containing Mixtures: Self Association"	The Journal of Physical Chemistry B , 2015, 119 (44), pp 14086–14101
2014	2015	Johnny Saavedra, Hieu A. Doan , Christopher J. Pursell, Lars C. Grabow , and Bert D. Chandler	"The critical role of water at the gold-titania interface in catalytic CO oxidation"	Science , Vol. 345, No. 6204, 26 September 2014, pp. 1599-1602
2013	2014	Rachel Liontas, Kun Ma, George J. Hirasaki , and Sibani Lisa Biswal .	"Neighbor-induced bubble pinch-off: novel mechanisms of in situ foam generation in microfluidic channels"	Soft Matter , 2013, 9, 10971
2012	2013	Aditya Agrawal, Paul Luchette, Peter Palfy-Muhoray, Sibani Lisa Biswal , Walter G. Chapman , and Rafael Verduzco	"Surface Wrinkling in Liquid Crystal Elastomers"	The Royal Society of Chemistry's Soft Matter , 2012, 8, pp. 7138–7142
2011	2012	Yu-Lun Fang, Kimberly N. Heck, Pedro J.J. Alvarez, and Michael S. Wong	"Kinetics Analysis of Palladium/Gold Nanoparticles as Colloidal Hydrochlorination Catalysts"	ACS Catalysis , Vol. 2011, No. 1, pages 128–138
2010	2011	Nikta Fakhri, Frederick C. MacKintosh, Brahim Lounis, Laurent Cognet, and Matteo Pasquali	"Brownian Motion of Stiff Filaments in a Crowded Environment"	Science , 24-December, 2010, Vol. 330, pp. 1804-1807
2009	2010	Gang Cheng, Pauline Markenscoff, and Kyriacos Zygorakis (Rice University)	"A 3D Hybrid Model for Tissue Growth: The Interplay between Cell Population and Mass Transport Dynamics"	Biophysical Journal 97, 401–414 (2009)
2008	2009	Kimberly N. Heck , Benjamin G. Janesko, Gustavo E. Scuseria, Naomi J. Halas and Michael S. Wong (Rice Univ.)	"Observing Metal-Catalyzed Chemical Reactions in Situ Using Surface-Enhanced Raman Spectroscopy on Pd-Au Nanoshells"	J. Am. Chem. Soc. , 2008, 130, 16592–16600.
2007	2008	Kenneth R. Hall and G. A. Iglesias-Silva (Texas A&M Univ)	Improved Equations for the Standing-Katz Tables	Hydrocarbon Processing , 2007, April, 107-110
2006	2007	Dan Luss and Ganesh Viswanathan (Univ. of Houston)	"Hot Zone Formation and Dynamics in Long Adiabatic Packed Bed Reactor"	Industrial Engineering and Chemistry Research , 45, p7057-7066, 2006
2005	2006	G. Viswanathan, D. Luss , A. Bindal, and J. Khinast (Univ. of Houston)	"Stationary Transversal Hot Zones in Adiabatic Packed-Bed Reactors"	AIChE Journal , vol. 51 no. 11, pp 3029-3038.
2004	2005	J.T. Richardson , R. M. Scates, M. V. Twigg (Univ. of Houston)	"X-ray diffraction Study of the Hydrogen reduction of NiO/a-Al ₂ O ₃ steam Reforming Catalysts"	Applied catalysis A: General 267 (2004) 35–46.
2003	2004	G. A. Iglesias-Silva, A. Bonilla-Petriciolet, P. T. Eubank , J. C. Holste , & K. R. Hall (Texas A&M Univ)	"An algebraic method that includes Gibbs minimization for performing phase equilibrium calculations for any number of components or phases."	Fluid Phase Equilibria 210 (2003), pages 229-245
2002	2003	<i>No Award Given</i>	<i>No Award Given</i>	<i>No Award Given</i>
2001	2002	Dr. Nikos Mantzaris , Aaron Kelly, Friedrich Stone, & Prodromos Daoutidis	"Optimal Carbon Source Switching Strategy for the Production of PHA"	@NA
2000	2001	Jiaxiang Ren , Dr. Adriana S. Silva , & Ramanan Krishnamoorti (Univ. of Houston)	"Linear Viscoelasticity of Disordered Polystyrene-Polyisoprene Block Co-polymer Based Layered-Silicate Nano-Composites"	@NA
1999	2000	Bin Lin & Aydin Akgerman	"Isoprene/methyl acrylate Diels-Alder reaction in supercritical carbon dioxide"	Ind. Eng. Chem. Res. , Vol. 38, No. 12, 1999
1998	1999	R. Joe (Principal Author), Thomas A. Badgwell , & R.H. Hauge (Rice Univ.)	"Atomic Carbon Insertion as a low-substrate-temperature growth mechanism in diamond CVD"	Diamond and Related Materials 7, (1998), 1364-1374
1997	1998	Dr. Ron Darby , P.E., Ph.D. (Texas A&M Univ)	"Control valves: Match the trim to the selection"	Chemical Engineering , June, 1997
1996	1997	Suracha Udomsak (Principal Author), & Rayford G. Anthony (Texas A&M Univ)	@NA	@NA
1995	1996	Dr. Dan Luss, PhD (UH)		

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1994	1995			
1993	1994	C. Thibaud, C. Erkey, & A. Akgerman	"Investigation of the Effect of Moisture on the Sorbtion and Desorption of	<i>Environ. Sci. Technol.</i> , Vol. 27, No. 12, pp 2373-2380, 1993
1992	1993			
1991	1992			
1990	1991	Angel G. Guzman-Garcia , Peter N. Pintauro, Mark V. Veerbrugge, & Robert F. Hill	"Development of a Space-Charge Transport Model for Ion-Exchange Membranes"	<i>AIChE Journal</i> , Vol. 36, No. 7, pp. 1061-1074, July, 1990
1989	1990	Snehal A. Patel , James G. Daly, & Dragomir B. Bukur (Texas A&M Univ)	"Holdup and Interfacial Area Measurements Using Dynamic Gas Disengagement"	<i>AIChE Journal</i> , Vol. 35, No. 6, pp. 931-942, 1989
1988	1989	K. Zygourakis & C. W. Sandermann (Rice Univ.)	"Discrete Structural Models and Their Applications to Gas-Solid Reacting Systems"	<i>AIChE Journal</i> , Vol. 34, No. 12, pp. 2030-2040, December 1988
1987	1988	K. R. Hall , D. R. McGregor, J. C. Holub, D. T. Eubank , K. N. Marsh (Texas A&M Univ)	@NA	
1986	1987	R. G. Anthony , D. Moolon, M. Bracener, N. Brauner (Texas A&M Univ)	@NA	
1985	1986	D. M. Maron, N. Brauner, & A. E. Duckler (Univ. of Houston)	"Interfacial Structure of Thin Falling Films: Piecewise Modelling of the Waves"	<i>PhysicoChemical Hydrodynamics</i> , 6, 87, 1985
1984	1985	D. R. Paul & J. W. Barlow (Univ. of Texas)	@NA	
1983	1984	R.C. Fernandes, R. Semiat, & A. E. Dukler (Univ. of Houston)	@NA	
1982	1983	R. G. Anthony (Texas A&M Univ)		
1981	1982	W. K. Lee & R. W. Flumerfelt	@NA	
1980	1981	R. G. Anthony (Texas A&M Univ)		
1979	1980	J. G. Ekerdt (UT)	@NA	
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1975	1976	Dr. Dan Luss, PhD (UH)		
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1971	1972	Dr. Ron Darby , P.E., Ph.D. (Texas A&M Univ)		
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1969	1970	Dr. Dan Luss, PhD (UH)		
1968	1969			
1967	1968	William "Bill" Akers (Rice)		
1966	1967	Dr. Ron Darby , P.E., Ph.D. (Texas A&M Univ)		
1965	1966	Moye Wicks III		
1964	1965	??? David E. Rosenberg & David Hellums	D. E. Rosenberg and J. D. Hellums, Flow development and heat transfer in variable-viscosity fluids, <i>Indust. Engng Chem. Fu</i>	
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