Oren

Professor of Supramolecular and Polymer Chemistry, Jesus College, University of Cambridge

Prof. Oren is the Professor of Supramolecular and Polymer Chemistry, Director of the Melville Laboratory for Polymer Synthesis, Next Generation Fellow. His research focuses on dynamic supramolecular self-assembly at interfaces though the application of macrocyclic host-guest chemistry using cucurbit[n]urils in the development of novel supramolecular systems.

RESEARCH INTERESTS
Synthetic organic and polymer chemistry
Functional nanosystems
Dynamic supramolecular assemblies and hydrogels
Stimuli-responsive materials
Hierarchical self-assembly
Supramolecular catalysis
Drug-delivery systems

EDUCATION
California Institute of Technology
Ph.D., Chemistry, 2004

Cornell University
B.A., Chemistry (summa cum laude), 1999

ACADEMIC APPOINTMENT
University of Cambridge
Professor of Supramolecular and Polymer Chemistry, Oct 2015 – Present
Director of the Melville Laboratory, Oct 2015 – Present
University Reader in Supramolecular and Polymer Chemistry, Oct 2012 – Sep 2015
Assistant Professor / University Lecturer, Sep 2006 – Sep 2012

AWARDS, MEMBERSHIPS and FELLOWSHIPS
Corday Morgan Prize 2018 (RSC).
Covestro Lectures 2017 (Cornell University).
Aldrich Lecture Award 2016.
Cram Lehn Pedersen Prize in Supramolecular Chemistry 2014.
Bob Hay Lecture Award 2014.
Hickinbottom Award 2013 (RSC).
McBain Medal 2013 (SCI).
Harrison-Meldola Memorial Prize 2009 (RSC).
Walters-Kundert Next Generation Fellowship 2006.

SELECTED PUBLICATIONS

Applying support-vector machine learning algorithms toward predicting host-guest interactions with cucurbit[7]uril
A Tabet, T Gebhart, G Wu, C Readman, M Pierson Smela, VK Rana, C Baker, H Bulstrode, P Anikeeva, DH Rowitch, OA Scherman – Physical Chemistry Chemical Physics (2020) 22, 14976
(DOI: 10.1039/c9cp05800a)

Quantitative Supramolecular Heterodimerization for Efficient Energy Transfer.
G Wu, Z Huang, OA Scherman – Angewandte Chemie (International ed. in English)
(2020) anie.202006530
(DOI: 10.1002/anie.202006530)

Contact angle as a powerful tool in anisotropic colloid synthesis
M Kamp, B de Nijs, JJ Baumberg, OA Scherman – Journal of Colloid and Interface Science
(2020) 581, 417
(DOI: 10.1016/j.jcis.2020.07.074)

Stimulus-Mediated Ultrastable Radical Formation
JA McCune, MF Kuehnel, E Reisner, OA Scherman – Chem (2020) 6, 1819
(DOI: 10.1016/j.chempr.2020.05.005)

Citrate Coordination and Bridging of Gold Nanoparticles: The Role of Gold Adatoms in AuNP Aging
D-B Grys, B de Nijs, AR Salmon, J Huang, W Wang, W-H Chen, OA Scherman, JJ Baumberg – ACS Nano (2020) 14, 8689
(DOI: 10.1021/acsnano.0c03050)

Cascaded nanooptics to probe microsecond atomic-scale phenomena.
M Kamp, B de Nijs, N Kongsuwan, M Saba, R Chikkaraddy, CA Readman, WM Deacon, J Griffiths, SJ Barrow, OS Ojambati, D Wright, J Huang, O Hess, OA Scherman, JJ Baumberg – Proceedings of the National Academy of Sciences of the United States of America (2020) 117, 14819
(DOI: 10.1073/pnas.1920091117)

Design Principles for Aqueous Interactive Materials: Lessons from Small Molecules and Stimuli-Responsive Systems.
JA McCune, S Mommer, CC Parkins, OA Scherman – Advanced materials (Deerfield Beach, Fla.) (2020) 32, 1906890
(DOI: 10.1002/adma.201906890)

Nanometer Control in Plasmonic Systems Through Discrete Layer-By-Layer Macrocycle-Cation Deposition
SJ Barrow, A Palma, B de Nijs, R Chikkaraddy, RW Bowman, JJ Baumberg, OA Scherman – Nanoscale (2020) 12, 8706
(DOI: 10.1039/d0nr00902d)

Viscoelastic Hydrogel Microfibers Exploiting Cucurbit[8]uril Host-Guest Chemistry and Microfluidics.
Z-J Meng, J Liu, Z Yu, H Zhou, X Deng, C Abell, OA Scherman – ACS Applied Materials and Interfaces (2020) 12, 17941
(DOI: 10.1021/acsami.9b21240)

Host-Enhanced Phenyl-Perfluorophenyl Polar–π Interactions
Z Huang, X Chen, G Wu, P Metrangolo, D Whitaker, JA McCune, OA Scherman – Journal of the American Chemical Society (2020) 142, 7356
(DOI: 10.1021/jacs.0c02275)