

PUBLICATIONS (PEER-REVIEWED)

- Structural Changes in Noble Metal Nanoparticles during CO Oxidation and Their Impact on Catalyst Activity
S.W. Chee, J. Arce-Ramos, W.-Q. Li, A. Genest and U. Mirsaidov
Nature Communications, *accepted* (2020)
- Nanoscale Elastocapillary Effect Induced by Thin-Liquid-Film Instability
N. Vrancken, T. Ghosh, U. Anand, Z. Aabdin, S.W. Chee, Z. Baraissov, H. Terryn, S. De Gendt, Z. Tao, X.-M. Xu, F. Holsteyns and U. Mirsaidov
Journal of Physical Chemistry Letters, Vol. 11, Issue 7, 2751-2758 (2020)
- Rapid, Scalable Construction of Highly Crystalline Acylhydrazone Two-dimensional Covalent Organic Frameworks via Dipole-Induced Antiparallel Stacking
X. Li, J.-S. Qiao, S.W. Chee, H.-S. Xu, X.-X. Zhao, H.S. Choi, W. Yu, S.Y. Quek, U. Mirsaidov and K.P. Loh
Journal of the American Chemical Society, Vol. 142, Issue 10, 4932-4943 (2020)
- Strain stabilized nickel hydroxide nanoribbons for efficient water splitting
X.P. Wang, H.J. Wu, S. B. Xi, W.S.V. Lee, J. Zhang, Z.H. Wu, J.O. Wang, T.D. Hu, L.M. Liu, Y. Han, S.W. Chee, S.C. Ning, U. Mirsaidov, Z.B. Wang, Y.W. Zhang, A. Borgna, J. Wang, Y.H. Du, Z.G. Yu, S.J. Pennycook and J.M. Xue
Energy & Environmental Science, Vol. 13, Issue 1, 229-237 (2020)
- Real-Time Electron Nanoscopy of Photovoltaic Absorber Formation from Kesterite Nanoparticles
Y.-T. Qu, S.W. Chee, M. Duchamp, S. Campbell, G. Zoppi, V. Barrioz, Y. Giret, T.J. Penfold, A. Chaturvedi, U. Mirsaidov and N.S. Beattie
ACS Applied Energy Materials, Vol. 3, Issue 1, 122-128 (2020)
- Intermediate Structures of Pt–Ni Nanoparticles during Selective Chemical and Electrochemical Etching
S.F. Tan, S.W. Chee, Z. Baraissov, H.-M. Jin, T.L. Tan and U. Mirsaidov
The Journal of Physical Chemistry Letters, Vol. 10, Issue 20, 6090-6096 (2019)
- Real-Time Imaging of Nanoscale Redox Reactions over Bimetallic Nanoparticles
S.F. Tan, S.W. Chee, Z. Baraissov, H.-M. Jin, T.L. Tan, and U. Mirsaidov
Advanced Functional Materials, Vol. 29, Issue 37, 1903242 (2019)
- Interface Mediated Kirkendall Effect and Nanoscale Void Migration in Bimetallic Nanoparticles during Interdiffusion
S.W. Chee, Z. M. Wong, Z. Baraissov, S.F. Tan, T.L. Tan, and U. Mirsaidov
Nature Communications, 10, 2831 (2019)
- Direct Observations of the Rotation and Translation of Anisotropic Nanoparticles Adsorbed at a Liquid-Solid Interface
S.W. Chee, U. Anand, G. Bisht, S.F. Tan, U. Mirsaidov
Nano Letters, Vol. 19, Issue 5, 2871-2878 (2019)
- Disorder Engineering in Monolayer Nanosheets Enabling Photothermic Catalysis for Full Solar Spectrum (250–2500 nm) Harvesting
M.-Q. Yang, L. Shen, Y.Y. Lu, S.W. Chee, X. Lu, X. Chi, Z.H. Chen, Q.-H. Xu, U. Mirsaidov, G.W. Ho

Angewandte Chemie Int. Ed., Vol. 58, Issue 10, 3077-3081 (2019)

- Directed Self-Assembly of Ge Quantum Dots Using Focused Si²⁺ Ion Beam Patterning
S.W. Chee, M. Kammler, J. Graham, L. Gignac, M.C. Reuter, R. Hull and F.M. Ross
Scientific Reports, 8, 9361 (2018)
- Direct Observation of the Nanoscale Kirkendall Effect during Galvanic Replacement Reactions
S.W. Chee, S.F. Tan, Z. Baraissov, M. Bosman and U. Mirsaidov
Nature Communications, 8, 1224 (2017)
- Direct Observation of Interaction between Nanoparticles and Their Self-Assembly in Solution
S.F. Tan, S.W. Chee, G.H. Lin and U. Mirsaidov
Accounts for Chemical Research, Vol 50, 1303-1312 (2017)
- Desorption-Mediated Diffusion of Nanoparticles at the Liquid-Solid Interface
S.W. Chee, Z. Baraissov, D. Loh, P. Matsudaira and U. Mirsaidov
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- Dynamics of Nanoparticle Chain Formation
G.H. Lin, S.W. Chee, S. Raj, P. Krl and U. Mirsaidov
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- Real-Time Imaging of the Formation of Au-Ag Core-Shell Nanoparticles
S. F. Tan, S. W. Chee, G.H. Lin, M. Bosman, M. Lin, U. Mirsaidov and C.A. Nijhuis
Journal of the American Chemical Society, Vol 138, Issue 16, 5190-5193 (2016)
- Studying localized corrosion using liquid cell transmission electron microscopy
S.W. Chee, S.H. Pratt, K. Hattar, D.J. Duquette, F.M. Ross and R. Hull
Chemical Communications, Vol 51, Issue 1, 168-171 (2015)
- Irradiation-induced patterning in dilute Cu-Fe alloys
B. Stumphy, S.W. Chee, N.Q. Vo, R.S. Averbach, P. Bellon and M. Ghafari
Journal of Nuclear Materials, Vol 453, Issues 1-3, 66-74 (2014)
- Metastable Structures in Al Thin Films Prior to the Onset of Corrosion Pitting as Observed using Liquid Cell Transmission Electron Microscopy
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- Controlling the size and the activity of Fe particles for synthesis of carbon nanotubes
S.W. Chee and R. Sharma
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- Evaluation of the Role of Au in Improving Catalytic Activity of Ni Nanoparticles for the Formation of One-Dimensional Carbon Nanostructures
R. Sharma, S.W. Chee, A. Herzing, R. Miranda and P. Rez
Nano Letters, Vol 11, Issue 6, 2464 (2011)
- In-situ TEM Observation of the Gasification and Growth of Carbon Nanotubes through Iron Catalysts

X.F. Feng, S.W. Chee, R. Sharma, K. Liu, R.F. Zhou, X. Xie, X.Y. Lin, Q.Q. Li, S.S. Fan, K.L. Jiang
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- Electron beam induced growth of TiO₂ nanostructures
S.W. Chee, S. Sivaramakrishnan, R. Sharma and J.M. Zuo
Microscopy and Microanalysis, Vol 17, Issue 2, 274 (2011)
- Microstructural stability of nanostructured Cu alloys during high-temperature irradiation
N.Q. Vo, S.W. Chee, D. Schwen, X. Zhang, P. Bellon and R. S. Averback
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- Dynamic self-organization of Cu alloys under ion irradiation
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- Growth of Co precipitates in irradiated dilute Ag-Co alloys
S.W. Chee, P. Krasnochtchekov and R. S. Averback
J. Appl. Phys., 101, 014315 (2007)

CONFERENCE PROCEEDINGS (PEER-REVIEWED)

- An In Situ Transmission Electron Microscopy Study of Localized Corrosion on Aluminum
A. Pinkowitz, S.W. Chee, B.J. Engler, D.J Duquette and R. Hull
MRS Advances, Vol 1, Issue 25, 1877 (2016)
- Controlled Nucleation of Ge Islands on Si and Self-Assembly of Nanoscale Island Clusters
M. Gherasimova, S.W. Chee, R. Hull, M.C. Reuter and F.M. Ross
22nd Annual Connecticut Microelectronics and Optoelectronics – CMOC 2013 Symposium,
International Journal of High Speed Electronics and Systems, 23, 1420003 (2014)
- Studies of Corrosion of Al Thin Films using Liquid Cell Transmission Electron Microscopy
S.W. Chee, F.M. Ross, D. Duquette and R. Hull
2012 Fall MRS Meeting Proceedings, mrsf12-1525-ss11-03 (2013)
- Microstructural Changes in Silicon Induced by Patterning with Focused Ion Beams of Ga, Si and Au
S.W. Chee, M. Kammler, P. Balasubramanian, M.C. Reuter, R. Hull and F.M. Ross
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Science, Ultramicroscopy, 127, 126-131 (2013)

BOOK CHAPTERS

Liquid Cell Electron Microscopy, F. M. Ross (Ed.), Cambridge University Press, United Kingdom (2017)

- Resolution in Liquid Cell Experiments
N. de Jonge, N. Browning, J.E. Evans, S.W. Chee and F.M. Ross, 164-188
- Applications of Liquid Cell Transmission Electron Microscopy in Corrosion Science
S.W. Chee and G.M. Burke, 258-275