Recent publications for Wasi Faruqi (~2001 – 2015)

Prospects for Hybrid Pixel Detectors in Electron Microscopy

A.R.Faruqi

[Nucl.Instr. and Meth. 466, 146-154, (2001)](http://www.sciencedirect.com/science/article/pii/S0168900201008373)

 Evaluation of a Hybrid Pixel Detector for Electron Microscopy

A.R.Faruqi, D.M.Cattermole, R.Henderson, B.Mikulec and C.Raeburn

[Ultramicroscopy, 94, 263-276, (2003)](http://www.sciencedirect.com/science/article/pii/S0304399102003364)

Noiseless Direct Detection of Electrons in Medipix2 for Electron Microscopy. A.R.Faruqi, R.Henderson and L.Tlustos [Nucl.Instr. and Meth, 546, 160-163, (2005)](http://www.sciencedirect.com/science/article/pii/S0168900205006157)

Direct Single Electron detection with a CMOS Detector for Electron Microscopy A.R.Faruqi, R.Henderson, M.Prydderch, R.Turchetta, P.Allport and A.Evans.[Nucl. Instr. and Meth., 546, 170-175, (2005)](http://www.sciencedirect.com/science/article/pii/S0168900205006169)

 Electron Imaging with Medipix2 Hybrid Pixel Detector

G.McMullan, D.M.Cattermole, S.Chen, R.Henderson, X.Llopart, C.Summerfield, L.Tlustos and A.R.Faruqi

[Ultramicroscopy, 107, (2007), 401 - 413](http://www.sciencedirect.com/science/article/pii/S0304399106001963)

Direct Electron Detectors for Electron Microscopy

A.R.Faruqi

[Advances in Imaging and Electron Physics, (2007), 145, 55 – 94, Ed. Peter Hawkes](http://www.sciencedirect.com/science/article/pii/S1076567006450023)

Electronic detectors for electron microscopy

 A.R.Faruqi and R.Henderson

Current Opinions in Structural Biology, (2007), 17, 549-555

Electron microscope imaging of single particles using the Medipix2 detector.

G. McMullan, A. R. Faruqi

[Nucl Instr. and Meth., A591 (2008),129-133.](http://www.sciencedirect.com/science/article/pii/S016890020800418X)

Experimental observation of the improvement in MTF from backthinning a CMOS direct electron detector

G. McMullan,A. R. Faruqi,R. Henderson,N. Guerrini,R. Turchetta,A. Jacobs and G. van Hoften, EMC 2008 14th European Microscopy Congress 1–5 September 2008, Aachen, Germany, **1** (2008),73-74.

Potential impact of silicon pixel detectors on structural biology

A.R.Faruqi

[Nucl Instr. and Meth.(2009), A607, 7-12](http://www.sciencedirect.com/science/article/pii/S0168900209005889)

Principles and prospects of direct high resolution electron image acquisition with CMOS detectors at low energies
A.R.Faruqi
[J.Phys. Condensed Matter (2009), 21, 314004](http://iopscience.iop.org/0953-8984/21/31/314004)

The Detective Quantum Efficiency of Electron Area Detectors in Electron Microscopy

G.McMullan, R.Henderson, S.Chen and A.R.Faruqi

[Ultramicroscopy,109(2009), 1126–1143](http://www.sciencedirect.com/science/article/pii/S0304399109001120)

Experimental observation of the improvement in MTF from backthinning a CMOS direct electron detector

G. McMullan, A. R. Faruqi, R. Henderson, N. Guerrini, R.Turchetta, A.Jacobs, G.van Hoften

[Ultramicroscopy, 109 (2009) 1144–1147](http://www.sciencedirect.com/science/article/pii/S0304399109001168)

Enhanced imaging in low dose electronmicroscopy using electron counting

G. McMullan, A.T.Clark, R.Turchetta, A.R.Faruqi

[Ultramicroscopy, 109 (2009), 1411-1416](http://www.sciencedirect.com/science/article/pii/S0304399109001703)

McMullan, G., Turchetta, R. & Faruqi, A. R. 2011. Single event imaging for electron microscopy using MAPS detectors [*JINST,* 6 C04001](http://iopscience.iop.org/1748-0221/6/04/C04001).

A high frame rate, 16 Million pixels, radiation hard CMOS sensor

N. Guerrini, R. Turchetta, G. Van Hoften , R. Henderson, G. McMullan, A. R. Faruqi

J. Inst. 2011 (<http://dx.doi.org/10.1088/1748-0221/6/03/C03003>)

Electronic detectors for electron microscopy

A. R. Faruqi and G. McMullan

[Quarterly Reviews of Biophysics 44, 3 (2011), pp. 357–390.](http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8314062&fulltextType=RV&fileId=S0033583511000035)

Images of paraffin monolayer crystals with perfect contrast: Minimization of beam-induced specimen motion
R.M. Glaeser, G.McMullan, A.R.Faruqi, R.Henderson
[*Ultramicroscopy* **111** (2011), 90 - 100](http://www.sciencedirect.com/science/article/pii/S0304399110002640).

Chen S., McMullan G**.,** Faruqi A. R., Murshudov G. N., Short J. M., Scheres S. H., Henderson R.
[High-resolution noise substitution to measure overfitting and validate resolution in 3D structure determination by single particle electron cryomicroscopy](http://europepmc.org/abstract/MED/23872039)
*Ultramicroscopy* 135C:24-35. December 2013

Faruqi, A. R., Henderson, R. & McMullan, G. 2013.

Recent Developments in Direct Electron Detectors for Electron Cryo-Microscopy. Proceedings of Science (Vertex 2013)044.

[pos.sissa.it/archive/conferences/198/**044**/**Vertex2013**\_**044**.pdf](file:///C%3A%5CUsers%5CWasi%20Faruqi%5CDesktop%5Cpos.sissa.it%5Carchive%5Cconferences%5C198%5C044%5CVertex2013_044.pdf)

McMullan, G., Faruqi, A. R., Clare, D. & Henderson, R. 2014. Comparison of optimal performance at 300keV of three direct electron detectors for use in low dose electron microscopy. [*Ultramicroscopy,* 147, 156-163](http://www.sciencedirect.com/science/article/pii/S030439911400151X)

Progress and development of direct detectors for Electron Cryo-Microscopy

A.R.Faruqi, R.Henderson and G.McMullan

Invited review,

Advances in Imaging and Electron Physics, Vol. *190*, Burlington: Academic Press, 2015, pp. 103-141. <http://www.sciencedirect.com/science/article/pii/S1076567015000245>