

Electron Microscopy Resources

Online Resources

A listing of Microscopy & Imaging Resources on the web.

Introduction to Electron Microscopy

Thermo Fisher Scientific Electron Microscopy Solutions has produced a good [web article](#) summarizing the different types of microscopes.

Scanning Electron Microscopy

Download a [basic guide to SEM](#) from JEOL. There are also [Q&A](#) and [AtoZ](#) documents, for SEM, on the JEOL website.

Transmission Electron Microscopy

[Learn](#) to use Transmission Electron Microscopy an introductory guide by John Rodenburg.

[Scanning TEM](#) an introductory guide by John Rodenburg.

[Crystallography](#) provides an excellent introduction to crystallography for users interested in understanding diffraction.

Image Processing

[NIH Image J](#) (Image Processing and Analysis in Java) freeware is recommended.

Manufacturer's Websites

JEM-1220, JEM-ARM200CF, JEM-3010 TEMs and JSM-6320F SEM by [JEOL](#)

S-3000N SEM by [Hitachi](#).

CCD Cameras, GIF and EELS by [Gatan](#)

XEDS systems by [Oxford Instruments](#) (S-3000N, JEM-ARM200CF) or by [Thermo Fisher Scientific](#) (JSM-6320F, JEM-3010)

Axis-165 by [Kratos](#)

inVia Reflex Raman by [Renishaw](#)

Electron Microscopy Resources

Books

Electron Microscopy

[*Physical Principles of Electron Microscopy: An introduction to TEM, SEM and AEM*](#)

R.F.Egerton, Springer (2005)

Scanning Electron Microscopy

[*Scanning Electron Microscopy and X-ray Analysis*](#)

J.I. Goldstein, D.E Newbury et al, Springer (2003)

[*Advanced Scanning Electron Microscopy and X-ray Analysis*](#)

D.E. Newbury, D.C.Joy et al, Springer (1986)

Life Science Transmission Electron Microscopy

Electron Microscopy - Principles and Techniques for Biologists

J.J. Bozzola and L.D. Russell, Jones & Bartlett (1999) – out of print

Materials Science Transmission Electron Microscopy

[*Transmission Electron Microscopy - 2nd Edition*](#)

D.B. Williams and C.B. Carter, Springer (2009)

[*Principles of Analytical Electron Microscopy*](#)

D.C. Joy, A.D.Romig and J.I. Goldstein, Plenum Press (1986)

Electron Energy Loss Spectroscopy

[*Electron Energy Loss Spectroscopy in the Electron Microscope - 2nd edition*](#)

R.F.Egerton, Plenum Press (1996)

Scanning Transmission Electron Microscopy

[*Scanning Transmission Electron Microscopy*](#)

S.J. Pennycook & P.D. Nellist (eds.), Springer (2011)

X-Ray Photon Spectroscopy & Raman Spectroscopy

[*Surface Analysis - the Principal Techniques*](#)

J.C.Vickerman (ed), Wiley (1997)

Electron Microscopy Resources

S.J. Pennycook & P.D. Nellist (eds.), Springer (2011)