Name: **Andy Horsewell**

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Born: 22 June 1951
London, England

Nationality: British

1969 - 1973	B Tech (Hons) 1st Class Materials Science and Technology University of Bradford, England
1973 - 1976	PhD (Cantab) Department of Metallurgy and Materials Science University of Cambridge, England
1976 - 1981	Danish Research Council Fellowship Laboratory of Applied Physics Technical University of Denmark (DTU) Lyngby, Denmark
1981 - 1988	Research Scientist Materials Research Department Risø National Laboratory Roskilde, Denmark
1986 (3 months)	Visiting Scientist Los Alamos National Laboratory, USA
1988 - 1998	Senior Research Scientist Materials Research Department Risø National Laboratory Roskilde, Denmark
1989 (3 months)	Guest Professor EPFL Lausanne, Switzerland
1998 - 2005	Senior Lecturer Department of Manufacturing Engineering & Management Technical University of Denmark (DTU) Lyngby, Denmark
2005 - present	Professor Department of Manufacturing Engineering & Management Technical University of Denmark (DTU) Lyngby, Denmark

RESEARCH EXPERIENCE

1973 - 1976	Dept. of Metallurgy and Materials Science University of Cambridge, England PhD thesis
	Transmission electron microscopy Field ion microscopy Martensitic transformation in cobalt Structure of grain boundaries
1976 - 1981	Laboratory of Applied Physics Technical University of Denmark Lyngby, Denmark Danish Research Council Fellowship
	Transmission electron microscopy Creep of stabilised stainless steels Modelling of grain boundary sliding Interfacial structures. Epitaxy in Pt-Au CVD coating of hard metals
1981 - 1998	Materials Department Risø National Laboratory Roskilde, Denmark
	Transmission electron microscopy Irradiation damage studies. Fusion materials research Interfaces in immiscible alloys Grain boundaries and interfaces in ceramics Microstructure and properties of multilayered structure Internal stresses in multilayers In-situ ESEM of deformation and cracking in multilayers
1986 (3 months)	Los Alamos Meson Physics Laboratory (LAMPF) Los Alamos National Laboratory, USA Visiting Scientist
	Proton irradiation experiments
1989 (3 months)	Ecole Polytechnique Fédérale de Lausanne (EPFL) Lausanne, Switzerland Guest Professor
	Transmission electron microscopy Interfaces in immiscible systems; Al-Na

RESEARCH EXPERIENCE (cont.)

1998 - present

Materials Technology
Technical University of Denmark
Lyngby, Denmark

Transmission electron microscopy

- Nitrided steels. Microstructural development of surface layers
- Carbon nanotubes. Heating, electrical properties, degradation
- Ge-clusters in silica glass. Effect of high energy electron beam
- Tomography of porous polymers

Scanning electron microscopy / EDS / EBSD analysis

- MCrAlY / TBC coatings. Microstructural observation. Relationship to processing degradation and in-service wear
- Grey scale integration of x-ray dot maps for improved EDS
- Porous ceramics (SOFC and high Tc ceramics). In-situ ESEM of deformation / fracture
- 3D reconstruction of surfaces for metrology using stereo SEM

1999 (1 month)

Ecole Polytechnique Fédérale de Lausanne (EPFL)
Lausanne, Switzerland
Guest Professor

Transmission electron microscopy

- Energy Filtered TEM of steels

OTHER RESEARCH RELATED

2002 – present

National Centre for Electron Microscopy, Risø
Board member

2003 – 2005

Materials Science and Technology,
International journal
Institute of Materials, Minerals and Mining, London
Editorial Board member

from May 2005 –

Danish National Committee for Crystallography
(Den Danske Nationalkomité for Krystallografi)
Board member

from June 2005 –

Materials Science and Technology,
International journal
Institute of Materials, Minerals and Mining, London
Associate Editor

TEACHING EXPERIENCE

1974 - 1976	Cambridge University Demonstrator Natural Sciences Part 1A and 1B
1976 - 1981	Technical University of Denmark Assistant lecturer Electron microscopy, diffraction physics, crystallography
1989 -1992	EPFL Lausanne, Switzerland Ph.D. advisor Ion implantation, irradiation damage, helium in metals
1992 - present	Danish Ministry of Health Continuing Education for Orthodontists External Lecturer, metallurgy and materials for orthodontics
1994 - 1998	University of Cambridge, UK Ph.D. advisor Electron microscopy, materials science
1994 - present	Technical University of Denmark Ph.D. advisor Electron microscopy, materials science
1997 - 1998	Technical University of Denmark External Lecturer Electron microscopy
1998 - 2005	Senior Lecturer Department of Manufacturing Engineering & Management Technical University of Denmark
2005 – present	Professor Department of Manufacturing Engineering & Management Technical University of Denmark 42110: Introduction to Materials Science 42120: Practical course in metallurgy 41015: Mechanics & Materials 42160: Electron microscopy for Materials Research

OTHER TEACHING RELATED

2003 – present	Co-founder and organiser of DTU-Teachers' discussion group, '*Lærerværelset*'
2004 – present	Director of Studies, MSc Materials Technology, Department of Manufacturing Engineering and Management (IPL)
2004 – present	Pedagogical consultant LearningLab DTU
2005 – present	Pedagogical coordinator Department of Manufacturing Engineering and Management (IPL)
2005 – present	Chairman, Teaching and Learning Committee, Department of Manufacturing Engineering and Management (IPL)

INTERNATIONAL PUBLICATIONS (REFEREED) – from 2000 to present

102. Singh, B.N.; Eldrup, M.E.; **Horsewell, A.**; Ehrhart, P.; Dworschak, F. (2000) "On recoil energy dependent void swelling in pure copper. I. Experimental results".
Phil. Mag. A., **80 (11)**, 2629-2650

103. Rasmussen, A.A.; Jensen, A.D.; **Horsewell, A.**; Somers, M.A.J.S. (2001) "Microstructure in electrodeposited Cu layers; the role of the substrate"
Electrochimica Acta, **47**, 67 - 74

104. Appel, C.C.; Bonanos, N.; **Horsewell, A.** and Linderoth, S. (2001) "Ageing behaviour of zirconia stabilised by yttria and manganese oxide".
J. Mater. Sci. **36 (18)**, 4493 - 4501

105. Sørensen, B.F. and **Horsewell. A.** (2001) "Crack growth along interfaces in porous ceramic layers".
J. Am. Ceram. Soc. **84 (9)**, 2051 - 2059.

106. Mørup, S.; Jiang, J.Z.; Bødker, F. and **Horsewell, A.** (2001) "Crystal growth and the steady-state grain size during high-energy ball-milling".
Europhys. Lett., **56** (3), 441 - 446 .

107. Sørensen, B.F.; **Horsewell. A.** and Skov-Hansen P., (2002) "In-situ observations of crack formation in multi-filament Bi-2223 HTS tapes"
Physica C: Superconductivity, **372-376**, 1032-1035.

108. Cao, Q.P., Zhou, Y.H., **Horsewell, A.**, and J.Z. Jiang (2003) "Amorphous to Cu51Zr14 phase transformation in Cu60Ti20Zr20 alloy"
Journal of Physics: Condensed Matter, **15 (50),** 8703-8712

109. Bariani, P., DeChiffre, L., Nørgaard Hansen, H. and **Horsewell, A.** (2005) "Investigation on the traceability of three dimensional scanning electron microscope measurements based on the stereo-pair technique"
Precision Engineering, **29**, 219 - 228

110. Ou, H., Rørdam, T.P., Rottwitt, K., Grumsen, F. and **Horsewell, A.** (2005) "Ge-nanoclusters embedded in Ge-doped sililca-on-silicon waveguides"
Integrated Photonics Research and Applications: San Diego, April 11 – 13, 2005
Applied Optics. *In press.*

111. Mølhave, K., Tegtmeier Pedersen, A., Hyttel Clausen, C., Gudnasen, S.B., **Horsewell, A.** and Bøggild, P. (2005) "Transmission electron microscope study of individual multiwall carbon nanotube breakdown caused by Joule heating in air"
Nano Letters: *To be submitted for publication*

112. Mølhave, K., **Horsewell, A.**, Peter Bøggild, P. (2005) "Electron Irradiation Induced Destruction of Carbon Nanotubes in the presence of water vapour"
Nano Letters: *To be submitted for publication*