DR. OLEG KOLOSOV, DETAILS OF TEACHING EXPERIENCE

Undergraduate teaching

1. Lectures for undergraduates (3rd / 4th year undergraduates). Department of Materials, University of Oxford, UK (Michaelmas term 1997 - 1999). (Course material and handouts preparation, lectures, tutorials, tests and markings).

- **Advanced Microsctructural Characterization of Materials**. Advanced Option
- **Electrical Polymers.**

2. Undergraduate projects (3rd year undergraduates). Department of Materials, University of Oxford, UK (project brief preparation, supervision, marking).

- **Exploratory practical design - undegraduate research project (**Duration – one term).

3. Group tutorials (College teaching assignments, 3rd and 4th undergraduates, Department of Materials, University of Oxford, UK). 1996-1999.

Graduate teaching and supervision

4. Graduate lectures. University of Oxford, UK.
   - **Acoustic methods for materials characterisation.** Department of Materials, University of Oxford, (Michaelmas term, 1995).
   - **Acoustic Microsopy.** Interdepartmental Graduate Lectures in Science. Sub-faculty of Physical Sciences. (Hilary term, 1997).

5. **Oxford D.Phil. supervision**, University of Oxford, UK (1996-1999)

Graduate student thesis topics:

- "Characterization of stiffening layers by acoustic microscopy and Brillouin spectroscopy"
- "Ultrasonic Force Microscopy: surface elastic properties mapping and stiffness evaluation at a nanoscale level"
- "The Use of SAW Methods in Probing Near-Surface Elastic Properties"

6. **European exchange Ph.D. programme** supervision at University of Oxford, UK. EPFL (Switzerland), Aalborg University (Denmark) (1997-1999),

Graduate students thesis topics

- "Characterisation of mecahnical properties of SiC/Al2O3 nanocomposites by QAM"
- "Machining of Short Fibre Reinforces Thermoplastics".

7. **M.Sc. and Ph.D.** supervision, Moscow Institute of Physics and Technology (Moscow PhysTech), Russia (1983-1988).

Graduate students thesis topics

- "Transmission Acoustic Microscopy of Biological Tissues".
- "Polymer Materials Investigations by Non-destructive Ultrasonic Technique.
- "Studies of Physico-Mechanical Properties and Microsctructure of Biological Tissues and Collagen Systems by Acoustic Microscopy Techniques".
- "Development of Acoustic Microscopy Methods for Studies of Binary Polymer Blends".

Preferred teaching subjects

Physics
- General Physics
- Theoretical Physics
- Optics (Geometrical and Wave Optics, Quantum Optics)
- Spectroscopies and related methods

Material science
- Theory of Elasticity
- Materials Characterization Methods (mechanical, thermal, XRD, microscopies, spectrosopies)
- Polymer Physics
- Electrical Polymers
- Biopolymers
- Combinatorial Material Science
- High throughput methods in materials development
- Nanoscale and mesoscale materials

Special and advanced subjects
- Advanced Surface Science methods (scanned probe microscopies, XPS, EDS, ESCA, Electron Microscopies, RBS, SIMS)
- Physical Acoustic
- Non-destructive Testing and Acoustic Imaging
- Scanned Probe Microscopies

Research Funding and Grants Activity

Year	Research project	Responsibility	Granting body	Resources
2001 - present	Combinatorial science technology transfer from Symyx Technologies to a North Dakota State University.	Technical contact and initiator at Symyx, technical liason, initial project supervisor at Symyx	EPScOR Grant to the Office of Naval research	~ $10 MM
1998-1999	Determination of Hardness and Modulus of Thin Films and Coatings by Nanoindentation – "INDICOAT"	Principal investigator	CEC, SMT4-CT98-2249, **European Union**	~ $30 k
1998	Heterodyne Force Microscope	Principal investigator	Paul Instrument Fund, c/o The Royal Society, **UK**	~ $60 k
1998-1999	Micromechanical properties of polymer-ceramic food packaging nanocomposites	Project leader, PDRA supervisor	Toppan Oxford Centre, industry, **JAPAN**	~ $75 k 1 year PDRA
1997-2000	Ultrasonic Force Microscopy for materials studies	Co-investigator, RA supervisor	EPSRC, SPMI initiative, **UK**	~ $330 k, 3 yr. PDRA

1998	Development of the Optical Heterodyne Force Microscopy, high frequency UFM	Project leader	Japanese Society of Promotion of Science, **JAPAN**	Scientists exchange support
1997	Mapping of the mechanical properties of heterogeneous materials	Project leader	ERBFMBICT972289, **European Union**	~ $120 k 2 yr. PDRA
1997	Preparation and characterization of diamond like carbon and fullerene films	Project leader	British Council – JNICT, 423/RU, **PORTUGAL**	Scientists exchange support
1996-2001	Advanced EPSRC Fellowship – Heterodyne Force Microscopy	Grant recipient	EPSRC, B/96/AF/2232, **UK**	~ $300 k 5 years stipend + research expenses
1995	Development of Ultrasonic Force Microscope	Principal investigator	Paul Instrument Fund, c/o The Royal Society, **UK**	~ $120 k
1993	Atomic force spectroscopy at ultrasonic frequencies	Co-investigator	Nanotechnology programme AIST, **JAPAN**	~ $80 k
1991-1993	STA Research Fellowship – Microscale elastic properties of ceramics	Grant recipient	Science and Technology Agency, **JAPAN**	~ $ 120k 2 years stipend + research expenses