



# What it means to be a Visiting Professor

Professor Scott Lockyer  
Uniper Technologies Limited

# Key Factors for Success

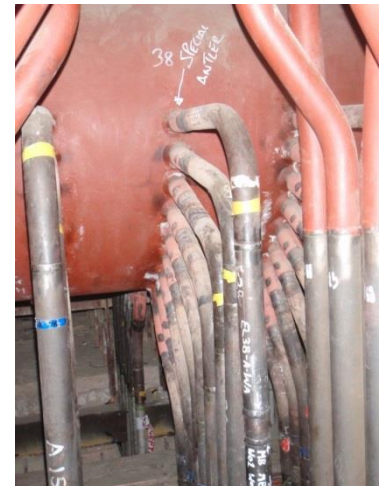
- Good working relationship with the Department
  - Knowledge of activities and capabilities
  - Not a stranger
- Proactive Academic Champion
  - Aid Staff Engagement
  - Identified teaching opportunities
- Plan of Action
  - Lectures
  - Final year and MSc Projects
  - Labs
- Time – Lectures take a long time to write!
- Patience – Don't forget you are the expert in your area, the students aren't.

# Who am I

- Professor Scott Lockyer – Technical Head, Materials and Corrosion at Uniper Technologies Limited (UTG)\*
  - UTG provide specialist engineering and scientific support services for Uniper and the wider energy sector
- Royal Academy of Engineering Visiting Professor of Advanced Materials at Loughborough University
- Qualifications
  - BTEC ONC and National Diploma in Engineering
  - Metallurgy & Materials Science BEng(Hons) and PhD from University of Liverpool
  - CEng, FIMMM and MWeldI
- Work
  - Postdoctoral Research Assistant/Fellow – University of Nottingham and Oxford University
  - Engineering Consultant – TWI Ltd, HSEC Ltd and UTG

# Good Working Relationship with Department

- Actively engaged with department as partner in EPSRC, InnovateUK and FP7 collaborative projects
- Supported a number of PhD projects
- Worked with Academic Sponsor on a number of Institute of Materials, Minerals and Mining committees.
- Become part of the Department
  - Attend graduations, staff-student events, etc.
  - Join Industrial Advisory Board



# Plan of Action

- Decide what you are going to do
  - Lectures – Individual or Full Module, Marking, Exam Questions?
  - Final Year Projects – Good project ideas always welcome
  - Mentoring and Soft Skills – Leadership, Team Working, etc.
- Start small and grow
  - Allow time to develop lecture materials – 20 hours to prepare 1 hour lecture!
  - See what works, i.e. hands-on activities, videos, pictures, etc.
  - Review and refine lecture materials accordingly
  - Build a portfolio of lecture materials
- Engage with as many of the academic staff as possible
- Collect feedback from students and staff
- Use Annual Return as opportunity to review progress and plan future engagement

# Plan of Action

- What did I do in 1<sup>st</sup> year?
  - 1 hour lecture on Smallpeice Trust Energy Materials one week course
  - 3 hour Industrial Case Study on Failure Investigation with practical session including set and marked coursework (hard!)
  - 2 hour lecture on Energy Materials for Conventional Generation
  - Supervised three final year projects - MEng, BEng and MSc
  - Industrial Visits - Design Museum and TWI Ltd
  - Organised colleague to provide lecture on Energy Economics
  - Participated in review of laboratory teaching
  - Undertook “New Lecturer” training courses - Planning & Design for Teaching, Presenting for Effective Learning and Supervision of Student Projects
  - Member of Industrial Advisory Board for the Department

# Plan of Action

- What do I do now?
  - 3 hour Industrial Case Study on Energy Materials and Failure Investigation with practical session for EPSRC CDT EngD Students
  - 2 x 1 hour lectures on Welding and Joining
  - 3 hour Welding and Joining lecture to MSc Students including practical session using samples from powerplant
  - Supervised Summer Bursary project that continued work undertaken in the third year MEng project
  - 2 hour workshop on the role of management and team working in engineering. Hosted at Uniper Technology Centre and used real examples for a case study.
  - Industrial Visits - TWI Ltd and Ratcliffe Power Station
  - Organised for a colleague to provide a 1hr lecture on “Emissions Reduction Technology for Fossil Power Plant” for the Sustainable Use of Materials module
  - Assisted in implementation of improvements for 1<sup>st</sup> year labs identified in review of laboratory teaching

# Plan of Action

- What do I do now?
  - Supervising three MEng group design projects
  - Supervising two final year BEng projects
  - 1 Hour lecture on Energy Materials for Engineering Foundation Degree
  - Trialling co-lecture on Creep in Materials with Academic whilst creep test taking place





# Benefits

- Visiting Professor
  - Access to students to undertake research projects
  - Access to Departments facilities and equipment
  - Increased visibility of Uniper and Power Industry
  - Personal Development
- University
  - Industrial relevance – Real life materials and engineering challenges
  - Industrial visits
  - Demonstrates how the individual modules link to together



# Input from the Academic Champion

- Visiting Professor contributions to the development of teaching and learning in the Materials department at Loughborough University have been invaluable
- Students have a great deal of respect for the industrial experience and value the opportunity to engage
- Connections have opened doors for specific industrial visits for the students
- Good to have external input, and 'critical friend' where appropriate
- Input into the complete revision of undergraduate materials teaching laboratory experiments and equipment has been invaluable
- New STEMLab building opening in 2017 – shared laboratories for teaching STEM subjects
- Materials at Loughborough came top in the 2016 National Student Survey (Q22 Mean score) in the country!



# Any Questions