



INVESTIGATION | ENGINEERING | RESEARCH

CURRICULUM VITAE

RICHARD ELLWOOD – ENGD BENG (HONS)

PROFESSIONAL PROFILE

Whilst working in the research laboratories of British Steel/Corus Dr. Ellwood investigated the automotive applications of steel, evaluating the design and the manufacturing procedures. He also investigated the performance of base materials, components and auto bodies with respect to their welding, fatigue, forming, and impact and crush characteristics.

Dr. Ellwood's research led him to publish and present three technical papers on the subjects of simulation testing, modelling and the design of suspension components using high strength steels and advanced manufacturing techniques.

Dr. Ellwood has conducted in-depth industrial failure analysis investigations into various components and plant equipment, becoming familiar with and trained in techniques such as 'Root Cause Failure Analysis' and 'Failure Mode Effect and Criticality Analysis'.

Working as a Reliability Engineer he was instrumental in the introduction of Reliability Centred Maintenance (RCM) to the Port Talbot steelworks. He managed and coordinated projects applying RCM in order to optimise plant availability, reduce maintenance costs and identify key areas where capital investment would be most cost-effective with, several notable successes.

Dr. Ellwood has spent five years in the Gwent Police Roads Policing Unit as a qualified Traffic Patrol Officer. He also has experience in the role of a Temporary Sergeant. As a Traffic Officer he was an advanced car driver and also an advanced motorcyclist.

During this time he gained an excellent practical understanding of vehicle handling and dynamics to supplement his academic background.

Whilst in the Police Service, he attended numerous road traffic collisions ranging from non-injury minor collisions through to those with fatalities.

Dr. Ellwood has conducted in-depth investigations into road traffic collisions as an Investigating Officer and Forensic Collision Investigator. He is experienced at giving evidence in Court and has an excellent track record of successful prosecutions for traffic related offences.

Dr Ellwood has reconstructed numerous collisions using scene survey data and Newtonian physics with considerations such as line of sight, reaction times and vehicle defects being taken into account.

Now working as a Consultant with GBB (UK) Ltd, Dr Ellwood has conducted numerous investigations into collisions considering damage consistency / magnitude and occupant movement. He has identified and evidenced numerous cases of fraudulent collisions or where the damage was exaggerated, including false airbag deployments.

Dr Ellwood has also conducted failure analysis investigations into failed components identifying whether they failed before or during the collision. He has considered defects and determined their likely contribution to the collision.

CCTV is becoming increasingly significant in collision investigation and Dr Ellwood has gained experience of analysing and reconstructing incidents based primarily on CCTV footage.



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Dr Ellwood's investigations have not been limited to collision investigation or suspension components; he has also conducted investigations into engine failures; disassembling and analysing the parts for defects, damage and wear.

Following examinations he has provided evidence of poor or non-existent repairs and identified issues with manufacturing / assembly techniques in relation to warranty claims.

ACADEMIC CREDENTIALS AND PROFESSIONAL AFFILIATIONS

Qualification	Location	Date
Engineering Doctorate	University of Wales, Swansea	(1998 - 2002)
BEng (Hons) Integrated Engineering	Sheffield Hallam University	(1995 - 1998)

SPECIALISED QUALIFICATIONS

Qualification	Location	Date
Forensic Collision Investigation for Police Part 1- City & Guilds	AiTS	2011
UCPD - Forensic Collision Investigation	De Montfort University / AiTS	(2011 – 2012)
Forensic Examination of Vehicle Lamps	Sheffield Hallam University	2011
Police Vehicle Examination and Prohibition (PG9)	Avon and Somerset Police	2009

EXPERIENCE AND EMPLOYMENT

Position	Location	Date
Consultant	GBB (UK) Limited	2013 to Present
PC/TPS Response / Roads Policing	Gwent Police	2005 to 2013
Reliability Engineer	Corus Strip Products, Port Talbot	2002 to 2005
Research Engineer	Corus Strip Products, Port Talbot	1998 to 2002

PUBLICATIONS/PRESENTATIONS

Details	Date
Ellwood R, Lewis C, "Maximising the Fatigue Durability of Down-Gauged High Strength Steel Structures." Proceedings of the First International Conference on Component Optimisation, IRC, University of Wales, Swansea, UK, 29 March - 1 April 1999. Editors: W.J. Evans, R.W. Evans and M.R. Bache.	29 March - 1 April 1999
Ellwood R, Fourlaris G, Jones T, "Evaluating the fatigue performance of a down gauged high strength steel suspension arm." Materials Science and Technology, Vol. 19, 1017-1024 (2003)	2003
Ellwood R, Fourlaris G, Jones T "Reliability of Test results from simple test samples in predicting the fatigue performance of components." Materials and Design Vol. 23 (4) 118-1210, 2007	2007