

A day in the life of a Forensic Physicist

Working as a consulting forensic physicist much of my time is spent between the lab and the courts, giving expert testimony with a well balanced practice of defence and plaintiff work.

8:00am. – Meet at a quarry. Examine exploded excavator battery which caused serious injuries to the operator. Dispute on liability between machine operator, quarry operators, excavator manufacturers, excavator maintainers and battery manufacturers. Debate about hydrogen build-up, ventilation, gas sealing, use of conducting tools, previous attempted repairs and training. Photograph and measure anything potentially relevant. Remove battery and hold for laboratory examination.

10:00am. – Attend High Court consultation on eye injury accident from flying staple on a factory production line. Dispute about whether the injured party was wearing his safety spectacles. A trajectory from the staple gun to the eye appears impossible with the glasses on. Could it have tumbled or deflected? My tests say no line of sight, too much aerodynamic drag and too little momentum for injurious bounce or deflection. Injured party was not wearing his glasses. Trial goes on. Plaintiff reviews situation. Case settles for fraction of its value. Physics wins!

11:30am. – Meet Counsel in a road traffic accident. Report already submitted and exchanged with defendants. No agreement.

12:10pm. – Testify at Court on findings of report. Lines of sight, skid marks, vehicular distortion, vault and throw distances and final positions of vehicles confirm plaintiff's version of events. Rigorous cross-examination. Defendants do not call their expert. Plaintiff succeeds. Feeling smug.

1:15pm. – Lunch at the desk. Deal with post and e-mails. Plan some golf.

2:00pm. – Meeting at office with builder who believes his footwear allowed an ankle over-articulation injury. Boots examined. Very poor ankle support. Made to European Certification standard in China but standard does not address ankle support. Should the builder's employers have addressed this themselves? Dispute looming.

3:00pm. – Correct drafted reports. Collate photographs and maps. Pursue solicitors for fees payment. Consult with costs accountants. Most difficult part of the job is getting paid.

4:30pm – Factory meeting. Electric fork-lift truck crushed driver who was standing beside it and switched it on from the outside. Should not have been possible. Dead man's switch should have prevented activation. Used in cold room. Controls frozen? Transpired that ice build up on dead man's lever arm under foot pedal was keeping it depressed and effectively bypassing it. Maintenance issue, but should truck manufacturers not have anticipated it so that it locked out and would not start with the dead man's switch bypassed? Machinery's Directive. Was it certified for cold room use? Suppliers run for cover.

7:00pm. – Dictate report on the way home.

Pat Culleton

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Pat graduated from Trinity College Dublin with an MA in Experimental Physics and continued his studies with postgraduate engineering, geotechnology, computing and environmental engineering qualifications from UCD, and TCD. He founded PLC Engineering, Consulting Forensic Engineers and Scientists in 1989.