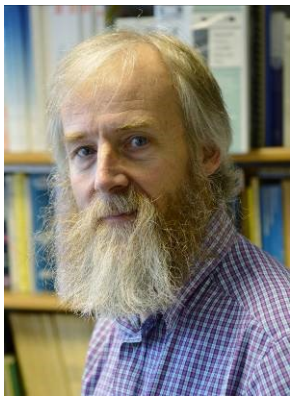

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ANDREW DAWSON

CURRICULUM VITAE

Name	Andrew Robert Dawson
Date of Birth	23rd March 1952
Nationality	British
Present Appointment	Associate (Emeritus), University of Nottingham Consulting Engineer
Former Appointments	Assistant & Associate Professor, University of Nottingham, 1983-2020 Senior Geotechnical Engineer, Frank Graham Geotechnical, 1982-1983 Geotechnical Engineer, WLPU Consulting Enginners, 1977-1981
Education	BA Engineering (1st Class Honours), University of Lancaster (1977) MSc Soil Mechanics, Imperial College, London University (1977-78) Diploma of Imperial College (1978)
Languages	English: Mother Tongue French: Basic knowledge/conversational level / technical competence
Professional Qualifications	Chartered Civil Engineer Fellow of Geological Society (1981) Member of Institution of Civil Engineers (1983) European Engineer (1990)
Committee Membership	British Standards Institution, B502/4 “Unbound & Hydraulically Bound Aggregates” British Standards Institution, B510/4 “Cementitous Bound, Unbound Granular, Waste & Marginal Materials” Chairman, US Transportation Research Board, Committee AFP70 “Aggregates” Member, US Transportation Research Board, AFP70(1), sub-committee on Unbound Granular Materials *Former Chairman*, COST351 “Water movements in Road Pavements and Embankments”, (EU COST programme) *Former member* CIRIA Research Project Steering Committee, “Industrial By-Products in Roads - Water Quality Affects”

Former Vice Chairman, COST337 “Improved use of Granular Materials” and chair of two sub-committees
Former Vice Chairman, COST347 “Accelerated Load Testing of Pavements”
Former member Institution of Civil Engineers Ground Engineering Group Board
Former member CEN “Cyclic triaxial test” Standard Technical Committee
Former member US Transportation Research Board, A2K05 “Highway Subsurface Drainage” & AFP30 “Soil & Rock Properties”

Awards

Jackson Memorial Prize for undergraduate project work (1974-75)
Institution of Civil Engineers’ Prize for outstanding undergraduate work (1977)
Institution of Highways and Transportation Croda award for best technical paper (1989)
Institution of Mechanical Engineers’ award for best paper in railway engineering (2001)
US Transportation Research Board prize for best design and construction paper (2001)

Industrial Experience

Mr Dawson started his career in civil engineering as a Technician with major civil engineering contractors before his University education. He then spent 5 years as a geotechnical engineer with engineering consultants engaged in a wide variety of work including design of earth dams, slope stability assessments, highway schemes, water resource and hydraulic studies, advanced laboratory testing of soils, earthworks design, finite element analysis and numerous small and large site investigation contracts.

Research Experience

From late 1983 he was on the teaching and research academic staff at the University of Nottingham, teaching in geotechnics and pavement engineering. His research expertise centred on the application of geotechnical and environmental engineering principles to pavements. This encompasses the behaviour of pavement foundations and low-volume & unsealed road pavements; soil behaviour under repeated loading; unbound aggregate material packing and mechanical behaviour; soil and aggregate constitutive modelling; analytical methods for pavement analysis and assessment; geosynthetic reinforcement and separation; pavement drainage; repeated load test methods; in-situ measurement of pavement performance; use of secondary aggregates in un-, cement- and bituminous-bound pavement materials including both mechanical and leaching aspects; sensitivity of pavements to environmental loading; energy harvesting from pavements; virtual aggregate assemblages.
The mechanical and environmental aspects of the use of re-cycled and by-product aggregates has been a particular feature; also the reuse of service trench arisings, the effects of climate change on pavement behaviour, the use of pavement foundations as heat stores, the relationship between aggregate particle properties, packing and overall granular material performance, road sustainability evaluation, microstructural properties of materials and pavement performance maintenance and evaluation.
He has supervised more than 40 PhD students, 3 MPhil, many MSc and one MRes students. He continues to supervises/co-supervise ~6 PhDs. He has examined about 30 other PhD students, including 12 as external examiner, 5 being at overseas universities.
He has been the principal research investigator on EPSRC, European Union, British Council, TRL, UK Government, Environment Agency and industry-sponsored research projects in these areas to a value of approximately £4,000,000. Support in cash or in kind from a wide range of sponsors (including Tarmac, Network Rail, Rail Link Engineering, Tensar, Forestry Commission, Yorkshire Water, etc., etc.) has been associated with these projects. He has been responsible for establishing and maintaining research co-operative links with research centres in many countries

He developed and holds a patent on a non-contacting strain instrumentation system.

Selected research projects

- Low volume road condition monitoring for Brasil
- Novel materials for railway track drainage
- ROADEX – Maintenance of low-volume roads in Europe's Northern Periphery.
- ZeroWASTER – Highway trench reinstatement with zero waste and reduced emissions
- P2R2C2 – Pavement performance and rehabilitation requirements with climate change
- WATMOVE – Water movements in road pavements and embankments
- COURAGE – Construction with unbound road aggregates
- ALT – Accelerated load testing of pavements
- Appropriate & Efficient Maintenance of low-cost Rural Roads in Developing Countries
- Characterising unbound pavement materials: developing a harmonized European approach
- Development of modified materials to aid pavement solar energy harvesting
- RUTT – Roads under timber transport (materials, tyre pressure and economic aspects)
- Timber Haulage and Forest Roads – Solutions for cost-effective transport and strategic benefits in Scotland
- Technical audit of capital pavement maintenance schemes
- Enabling the use of secondary aggregates and binders in pavement foundations
- Transient ground movements caused by high speed trains crossing soft soil
- Aggregate shakedown and its influence on pavement performance
- Improvements to road foundation design
- Ground and surface water contamination adjacent to embankments comprising pfa
- Environmental impact of industrial by-products in road construction
- Making the best of byways
- Fibre-stabilized and cement treated aggregate bases and sub-bases
- Weight limits for agricultural vehicles
- High volume transport for developing countries (road infrastructure elements)
- Demonstrating the use of post-consumer tyres to deliver sustainable construction for public rights of way & trails

Other Professional Activity

Mr Dawson has acted as a consultant on many aspects of pavement foundations and has authored several reports into the use of specific materials/plant used in pavement engineering. He has been responsible for drafting/editing publications and guides on pavement foundation design and materials. These subjects have also been covered by him in many technical seminars and continuing education courses. He was primary organiser of many of the UNBAR (UNBound Aggregates in Roads) Symposia.

Paper Presentations

He has given invited keynote lectures, workshops and presentations in the UK, N & S America, a large number of European countries, in S Africa, in Malaysia, China, Australia and New Zealand at a wide range of international conferences and overseas

universities and professional venues.

Publications

Mr Dawson has authored and co-authored more than 270 technical papers principally in the areas of pavements, geotechnical and materials engineering. He has been the editor of several books including “Water in Road Structures” (2008) published by Springer. He has contributed chapters to the Institution of Civil Engineers “Highway Engineering Manual”, to a book on “Modern Earth Buildings” to a book on “Climate Change, Energy, Sustainability and Transportation Infrastructure” and to another on the use of Geofoam in construction. Some recent publications are listed here:

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11th September 2021