8.45 Registration/ coffee

9.15 Introduction to Pavement Materials
- Introduction to aggregates and aggregate manufacture
- Binders – Bitumens, Emulsions and Polymer Modified Binders – Manufacture/Grades and Applications.
- Brief overview of Bituminous Mixtures
- Recent Developments in Bitumens/Binders & Asphalt mixtures

Gearoid Lohan (Atlantic Bitumen)

10.15 Bituminous Mixed Materials
- Bituminous Mixtures – introduction & terminology
- Product types & differences
- Empirical (Recipe) & Design mixtures
- Product uses – “horses for courses”
- Finding your way around NRA Series 900

Sean Cassidy (Lagan Group)

Coffee break – 11.00 to 11.30

11.30 Cold Mix and Low-Energy Asphalts
- Unbound Aggregates (NRA Series 800)
- Bitumen Bound Mixes: SWM and Foam-mix
- Grave-emulsion
- Cold-mix Asphalt – a different technology
- Other Low-energy Asphalts
- Measuring your carbon footprint.

Alan Kavanagh (Atlantic Bitumen)

12.15 Material Testing/Quality Control
- Unbound/Bound mixes
- Quality Assurance – Type testing & FPC
- CE Marking.

Alan Lowe (CRH)

Lunch – 13.00 to 14.00
DAY 1 (cont)

• **14.00 Pavement & Minor Works** –
  - Introduction to design principles for Pavement & Minor works (PMI)
  - Categorisation of PMI schemes
  - The NRA’s PMI process from project identification to project closeout
  - Project milestones and documentation
  - Template documents for PMI schemes – Minor works contracts.

_Eddie Winterlich (National Roads Authority)_

• **14.45 Pavement Design/Overlays**
  - Practical applications - initial site evaluation
  - FWD survey – Interpretation
  - Pavement design and construction.
  - Emergency Repairs/Works

_John Mitchell (Offaly County Council)_

• **15.30 Geotextiles / Geogrids** –
  - Types of Geosynthetics – Natural & Manufactured
  - Site & Laboratory conformance testing
  - Functions of Geosynthetics
  - Typical Geosynthetics applications
  - Geosynthetics in road maintenance

_Tony Broderick (Irish Tar & Bitumen Suppliers Ltd)_

• **16.15 Close of Day 1.**

DAY 2 – 22ND September 2011

• **09.15 Road repairs, Drainage and Trench Reinstatement** –
  - Need to maintain assets
  - Repair methods & materials
  - Trench Reinstatement
  - Quality control issues
  - Engineering management of Maintenance

_Jim Campbell (Cold Chon)_

• **10.00 Pavement Surveying** –
  - Structural Condition – FWD.
  - Skid Resistance
  - Visual Condition
  - Road Profile & Ride Quality
  - New Developments – Mobile Mapping & GPS.

_Brian Mulry (Pavement Management Services Ltd)
Coffee break – 10.45 to 11.15

11.15 National Roads Authority Standards & Specifications

- NRA Design Manual for Road & Bridges (NRA DMRB)
- NRA Manual of Contract Documents for Road Works (NRA MCDRW)
- How and when to apply for a departure from Standard or Specification
- Latest updates
- What is next?

Alastair De Beer (National Roads Authority)

12.00 Surface Dressing –

- Function, Mechanism and Types of Surface Dressing
- Component Material requirements
- Design principles – IAT Design method & Design for special applications
- Quality Control
- Remedial works options

Edmund Hegarty (Irish Tar & Bitumen Suppliers Ltd)

Lunch – 13.00 TO 14.00

14.00 Sustainability in Road Construction –

- Soil Stabilisation – capping & sub base
- Cold Road Recycling - In-situ & off-site, structural
  1. Pavement evaluation & mix design
  2. Site application including recycling options
  3. Irish & International experience
- Hot road recycling – surface courses
- Warm mix technology

John Jordan (Wirtgen Ireland Ltd)

14.45 Health & Safety at Road Works. –

- Risk Management works (Ashbourne Document)
- Controls and Responsibilities
- Documentation
  1. Safety Plans
  2. The Traffic Management Process
- Planning and Design of Roadworks
- Pedestrians and Vulnerable Road Users

Charlie Kerr. (Donegal County Council)

15.45 IAT Presentation (to be confirmed)

Chris Lycett. (President - Institute of Asphalt Technology)

16.00 Close of Day 2.