



“Achieving quality water in diverse and productive agricultural landscapes under a changing climate”

5th November

08.00: *Registration opens*

09.00 – 10.00: **Conference opening:**
Minister Andrew Doyle [DAFM] and Claudia Olazabal [European Commission]

10.00 – 10.30: *Coffee*

Session I: Soil analysis and nutrient management

10.30 – 11.00: **Patrick Drohan [Penn State Univ, USA]:** “Opportunity is knocking and we must answer. A path for farming and food production in the shadow of “big problems”.”

11.00 – 11.15: **Noeleen McDonald [DAFM, IE]:** “Room for nutrient improvement: A Field scale audit of P management and soil P trends in two mixed-use catchments”

11.15 – 11.30: **Sofie Van’t Veen [Aarhus Univ, DK]:** “A nitrogen emission map for catchments based on stream measurements used to calculate nitrogen emissions from agricultural areas in three small Danish catchments”

11.30 – 11.45: **Romain Hebert [Teagasc, IE]:** “Effects of manure type and soil properties on phosphorus bioavailability and environmental risk”

11.45 – 12.00: **Amber Manley [Rothamsted, UK]:** “A comparative study of lipid extraction methods for the quantification of biomarkers within soil and cattle slurry”

12.00 – 13.30: *Lunch*

Session II: Drivers, controls and time lags – meeting the expectations

13.30 – 14.00: **Phil Haygarth [Lancaster Univ, UK]:** “Climate change is accelerating phosphorus transfer to catchment”

14.00 – 14.15: **Magdalena Bieroza [SLU, SE]:** “Challenges in reducing nutrient and sediment losses in agricultural catchments

14.15 – 14.30: **Michael Rode [UFZ, DE]:** “Major controls of base flow soluble reactive phosphorus losses in humid temperate headwater streams”

14.30 – 14.45: **Sara Vero [AFBI, UK]:** “Cause of phosphorus elevation during low-flows across three contrasting watercourses”

14.45 – 15.00: **Maëlle Fresne [Teagasc, IE]:** “Assessing the role of colloidal P in P delivery to surface water in two contrasting agricultural catchments”

15.00 – 15.30: *Coffee*

Session III: Options for management approaches in reducing contaminant loss risk

15.30 – 16.00: **Donnacha Doody [AFBI, UK]:** “Regional Constraints on Sustainable Livestock Production: Challenges and Opportunities”

Session III: Continued.....

- 16.00 – 16.15: **Rachel Cassidy [AFBI, UK]:** “Field to catchment scale carrying capacities to limit soil P risk to water quality”
- 16.15 – 16.30: **Marc Stutter [JHI, UK]:** “Designed riparian buffers improve functions and uptake”
- 16.30 – 16.45: **Paul Quinn [Newcastle Univ, UK]:** “The ditch of the future: managing flow and pollution rates in agricultural systems”
- 16.45 – 17.00: **Brian Kronvang [Aarhus Univ, DK]:** “Targeted drainage measures for improvement of water quality in Denmark”
- 17.00 – 17.15: **Etana Ararso [SLU, SE]:** “Pros and cons of grass buffer strips on Swedish arable land”
- 17.15 – 17.30: **Nikki Baggaley [JHI, UK]:** “Validation of soil erosion risk maps using legacy and agency farm assessment data”
- 19.30: *Gala dinner*

6th November

09.00 – 13.30: **Field trip (including pack lunch)**

1. **Catchment visit (Castledockrell):** Data acquisition and analysis
2. **Catchment visit (Ballycanew):** Agronomy and knowledge transfer
3. **Field visit:** The Duncannon Blue Flag Farming and Communities Scheme
4. **Workshop (Whites hotel):** The Catchment Challenge - an interactive workshop on balancing competing demands on land functions
5. **Johnstown castle:** gardens, museum and castle tour

Session IV: **Long-term in-situ monitoring and modelling of water quality**

- 13.30 – 14.00: **Adrian Collins [Rothamsted, UK]:** “Can the sediment pollution gap from intensive livestock farming be closed? Assessment using the North Wyke Farm Platform, UK”
- 14.00 – 14.15: **Russell Poole [Marine Inst, IE]:** “Quantifying components of the aquatic organic carbon cycle of a humic lake: a case study from the Burrishoole catchment, Co. Mayo”
- 14.15 – 14.30: **Jørgen Windhoff [Aarhus Univ, DK]:** “Monitoring pitfalls: Aquatic environment”
- 14.30 – 14.45: **Faruk Djodjic [SLU, SE]:** “Combining high-resolution spatially distributed models with export coefficients produced by field-scale process-oriented model”
- 14.45 – 15.00: **Phoebe Morton [AFBI, UK]:** “Understanding the hydrological dynamics of acid herbicides in river catchments using high resolution data”
- 15.00 – 15.15: **Yusheng Zhang [Rothamsted, UK]:** “Use of regulatory information and monitoring data to update pollutant loadings from Sewage Treatment Works across England at national scale”
- 15.15 – 15.45: *Coffee*

Session V: **Impact of multiple stressors on aquatic ecology**

- 15.45 – 16.15: **Mary Kelly-Quinn [UCD, IE]** “*Multiple stressors – a challenge for freshwater assessment and impact mitigation*”
- 16.15 – 16.30: **Katri Rankinen [Finnish Environ Inst, FI]:** “An integrated assessment framework for assessment of key ecosystem services and effect on aquatic ecology”
- 16.30 – 16.45: **Maria Snell [AFBI, UK]:** “Strong and recurring seasonality revealed within stream diatom assemblages”
- 16.45 – 17.00: **Daíre ó hUallacháin [Teagasc, IE]:** “Cattle exclusion from watercourses: environmental implications”
- 17.00 – 17.15: **Karen O’Neil [Teagasc, IE]:** “Catchments of conservation concern: Sediment flux and provenance”

Poster session:

- 17.15 – 19.15: **All presenting authors**

7th November

Session VI: Decision Support Tools

- 09.00 – 09.30: **Caroline Read [Overseer Ltd, NZ]:** “Overseer, the story of a New Zealand decision support tool supporting sustainable farming practice”
- 09.30 – 09.45: **Eva Mockler [EPA, IE]:** “Science tools to help get the right measures in the right place”
- 09.45 – 10.00: **Ian Thomas [UCD, IE]:** “A next generation critical source area map of phosphorus losses in Irish agricultural catchments for decision support”
- 10.00 – 10.15: **Miriam Glendell [JHI, UK]:** “Risk-based modelling of phosphorus pollution in Irish agricultural catchments”
- 10.15 – 10.30: **Tim Hyde [Teagasc, IE]:** “NMP Online as a tool to support water quality improvement in Ireland”
- 10.30 – 11.00: *Coffee*

Session VII: Integrated management, stakeholder engagement and catchment economics

- 11.00 – 11.15: **Joe Crockett [Dairy Sust Ire, IE]:** “A new and integrated approach to catchment management in Ireland based on comprehensive stakeholder engagement”
- 11.15 – 11.30: **Dennis Collentine [SLU, SE]:** “BIOWATER systems attribute survey: Modelling Agricultural Land Management Scenarios in the Nordic Countries in the Year 2050”
- 11.30 – 11.45: **Michele McCormack [Teagasc, IE]:** “Factors influencing nutrient management practices on Agricultural Catchment farms”
- 11.45 – 12.00: **Mark Wilkinson [JHI, UK]:** “A margin of error? Assessing effectiveness and placement of grassed and raised field margins to enhance multiple benefits”
- 12.00 – 12.15: **Bertel Nilsson [GEUS, DK]:** “New methods for third generation river basin management plans under the Water Framework Directive-assessment of the impact of surface water from groundwater”
- 12.15 – 12.30: **Andy Vinten [JHI, UK]:** “Managing nutrient loads. Water levels and wetland ecology: opportunities and sticking points in the upper Lunan Water, Scotland”
- 12.30 – 14.00: *Lunch*

Session VIII: Knowledge transfer, Water governance and policy implementation

- 14.00 – 14.30: **Ruth Hennessy [LAWPRO, IE] and Ivan Kelly [ASSAP, IE]:** “Changing mind sets to improve water quality”
- 14.30 – 14.45: **Brigid Carroll [ACP farmer, IE]:** “A Farmer’s perspective”
- 14.45 – 15.00: **Shervin Shahvi [Teagasc, IE]:** “Using Fuzzy Cognitive Maps and stakeholder engagement to achieve safe drinking water in Ireland”
- 15.00 – 15.15: **Charlotte-Anne Chivers [Univ. Exeter, UK]:** “Improving extension services surrounding diffuse water pollution from agriculture: new insights from England”
- 15.15 – 15.30: **Edward Burgess and Per-Erik Mellander [Teagasc, IE]:** “Closing of the conference”
- 15.30 – 16.00: *Coffee*