DAY 1 – TUESDAY 19TH NOVEMBER

08.45 – 09.30  Registration

ROOM 1

PLENARY KEYNOTE
Chair – Steve Bungay, Owner & Director, Helix Environmental Consultancy Ltd

09.30 – 10.10  The future of bioresource management in the UK
    Alexander Maddan, CEO, Agrivert Ltd

ADVANCES IN ANAEROBIC DIGESTION
Chair – Sam Hughes, Technical Director and Head of Bioresources, Jacobs

Session sponsored by:  JACOBS

10.15 – 10.40  Full scale validation of a model to predict anaerobic digester performance
    Oxtoby, S.1,2, Winter, P.1, Smith, S.R.2, 1Thames Water, UK, 2Imperial College London, UK

10.40 – 11.05  Genomics orchestration surpasses biochemical limitations for a new renaissance in anaerobic digestion
    Lee, P-H., Imperial College London, UK

11.05 – 11.35  Morning break & exhibition

11.35 – 12.00  How to Transition from conventional MAD to THP digestion; experiences from Basingstoke
    Merry, J.1 and Fountain, P.2, 1Stantec, UK, 2Thames Water, UK

12.00 – 12.25  The effects of thermal hydrolysis and ammonia concentration on digestion rates at Basingstoke STW. Searching for the sweet spot
    Panter, K.1, Fountain, P.2, Shana, A.2, 1Cambi, UK, 2Thames Water, UK
12.25 – 12.50  Operating a three-staged thermophilic anaerobic digestion facility
Parry, D.¹, Sela, Y.², Rabinowitz, B¹, Clark, C.¹, Jacobs, USA ²Mey Ezor Dan, Israel

12.50 – 13.15  Unravelling the Ephyra sludge digestion technology
Koornneef, E., Visser, A., Hendriks, A., Royal HaskoningDHV, The Netherlands

13.15 – 14.15  Networking lunch

Afternoon chair – Rowland Minall, General Manager, Aqua Enviro

14.15 – 14.40  Enhanced biogas production in mesophilic sludge digesters
Baloch, I.¹, Liang, S.², Bagnall, T.¹, Clark, P.¹, Bungay, S.³, Southern Water, UK, ²Stantec, UK,
³Helix Environmental Consultancy Ltd, UK

14.40 – 15.05  The role of ammonia stripping in the enhancement of anaerobic digestion
Eden, R.¹, Moulden, M.¹, Richardson, K.¹, Thomas, T.², Organics Ltd, UK ²University of Warwick,
UK

15.05 – 15.30  Process intensifying the circular biosolids economy via hydrodynamic cavitation. Increasing
biogas and biomethane yields of secondary sewage sludge AD plants
Greenwood, E.¹ and Ageridis, N.², ¹CaviMax Ltd, UK, ²Projective Ltd

15.30 – 16.00  Afternoon break & exhibition

AMMONIA MANAGEMENT
Chair – Céline VaneecqHauta, Assistant Professor at Université Laval

16.00 – 16.25  Operational experience with treatment of THP-MAD sidestream liquors with the
ANAMMOX®-process
Driessen, W.¹, Veldhoven, J.T.A.², Janssen, M.², Hobbs, E.³, Went, C.³, ¹Paques bv, The
Netherlands, ²Waterschap De Dommel, The Netherlands, ³Severn Trent Water, UK

16.25 – 16.50  Successful commissioning of Basingstoke STW DEMON® liquor treatment
plant
Inkpin, L.¹, Madden, G.², Merry, J.³, Fountain, P.⁴, ¹Contractor, ²Costain, UK, ³MWH Global, UK,
⁴Thames Water, UK

16.50 – 17.15  Ammonia removal with different deammonification technologies from thermal hydrolysis
anaerobic digestion dewatering liquors
Ochs, P.¹, Martin, B², Germain-Cripps, E.², van Loosdrecht, M.³, Stephenson, T.¹, Soares, A.¹,
¹Cranfield University, UK, ²Thames Water, UK, ³Delft University of Technology, The Netherlands

ROOM 2

LANDBANK SECURITY
Chair – Alec Llewellyn, Bioresources Manager, Northumbrian Water Ltd

10.15 – 10.40  Landbank security issues in the United States
Pepper, I., Water & Energy Sustainable Technology (WEST) Center, The University of Arizona,
USA
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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Authors and Details</th>
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<tr>
<td>10.40 – 11.05</td>
<td>Overview of biosolids legislation, production and management in developed and developing countries worldwide</td>
<td>Salazar-Espitia, J.D., González, A.F.R., Vasco, J.M.N., National University of Colombia, Catholic University of Manizales, Columbia</td>
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<td>11.05 – 11.35</td>
<td>Morning break &amp; exhibition</td>
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<td>11.35 – 12.00</td>
<td>Recontamination of dewatered biosolids by <em>E. coli</em></td>
<td>Svennevik, O.K., Jonassen, K.R., Svensson, K., Dadgar, F., Hagen, L.H., Westereng, B., Solheim, O.E., Nilsen, P., Horn, S., Bakken, L., Norwegian University of Life Sciences, Norway, Cambi Group AS, Norway</td>
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<td>12.00 – 12.25</td>
<td>The Biosolids Assurance Scheme: new clothes for the Emperor?</td>
<td>Tompkins, D., Aqua Enviro, UK</td>
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<td>12.25 – 12.50</td>
<td>Towards Quality by Design to improve the quality and marketing potential of recovered end-products</td>
<td>Vaneekhaute, C., Université Laval, Canada</td>
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<td>12.50 – 13.15</td>
<td>Phosphate Acceptance Map: A new research tool for determining land suitability for application of biosolids</td>
<td>Wadsworth, R., Hallett, S., Sakraban, R., Cranfield University, UK</td>
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<td>13.15 – 14.15</td>
<td>Networking lunch</td>
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<td>15.30 – 16.00</td>
<td>Afternoon break &amp; exhibition</td>
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<td>16.00 – 16.25</td>
<td>Techno-economic analysis of anaerobic digestion pre-treatment technologies for a UK site</td>
<td>Smith, R.W., and Rus, E., Jacobs, UK</td>
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<td>16.25 – 16.50</td>
<td>Exelys, a simple &amp; continuous TH technology, initial feedbacks from two installations start-up</td>
<td>Bigot, B., MacBeath, S., Nielsen, E., Veolia Water &amp; Technologies UK, Veolia Water &amp; Technologies, Biosolids Techno BU, Denmark</td>
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<td>16.50 – 17.15</td>
<td>Prediction of viscosity based on sludge type and characteristics and its significance for thermal hydrolysis economy</td>
<td>Svensson, K. and Dadgar, F., Cambi Group AS, Norway</td>
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ROOM 3

CONVERTING GENETIC INFORMATION INTO ACTION – PROGRESS AND PROBLEMS
Chair – Angela Bywater, Environmental Biotechnology Network (EBNet), University of Southampton

10.15 – 10.40 Can we predict microbial responses in anaerobic digestion?
Chong, J., University of York, UK

10.40 – 11.05 Metabolic modelling meets anaerobic digestion
Rossa, C.A., University of Surrey, UK

11.05 – 11.35 Morning break & exhibition

11.35 – 12.00 The genomic diversity of UK industrial anaerobic digesters resolved from metagenomes
Quince, C., University of Warwick, UK

12.00 – 12.25 Manipulation of community evolution and ecology as a tool to improve performance
Sierocinski, P., Environment and Sustainability Institute, University of Exeter, UK

12.25 – 12.50 Organic loading rate: A promising microbial management tool in anaerobic digestion
Villa, R., De Montfort University, UK

12.50 – 13.15 The importance and potential for optimising the biology within AD systems – an industry view
Taylor, T., Yorkshire Water

13.15 – 14.15 Networking lunch

MAKING BIOGAS PAY (MORE) – MARKETS FOR BIOMETHANE AND CO₂
Chair – Kiara Zennaro, Head of Biogas, Renewable Energy Association

14.15 – 14.40 Biogas Policy – Past, Present and Future
Hopwood, L., NNFCC, UK

14.40 – 15.05 Full-scale digester micro-aeration studies to improve biogas quality
Kraakman, B.¹,², Diaz, I.², Muñoz, R.²,¹ Jacobs, UK, ²Institute of Sustainable Processes, University of Valladolid, Spain

15.05 – 15.30 Gastop, optimization of the design of anaerobic digestion with reduced safety area and improved quality of the biogas produced
Simonsen, N.¹, Bigot, B.², Kjaer, R.¹,¹Krüger A/S, Denmark, ²Veolia Water Solutions & Technologies, UK

15.30 – 16.00 Afternoon break & exhibition

16.00 – 16.25 Energy production from biogas: responding to current and future opportunities
Horne, P¹, Richards, S.², Pogson, J.², Pennick, A.¹, ¹United Utilities, UK, ²Jacobs/United Utilities, UK
**DAY 2 – WEDNESDAY 20TH NOVEMBER**

**08.30 – 09.00 Registration**

**ROOM 1**

**PLENARY KEYNOTE**

*Chair – Dr David Tompkins, Head of Knowledge, Exchange & Innovation, Aqua Enviro*

**09.00 – 09.30 Nutrient recycling in Germany: current and future approaches**

Christian Kabbe, Managing Director, EasyMining Germany

**PROCESS MODELLING AND CONTROL**

*Chair – Wesley Wong, Technical Manager, GENeco*

**09.35 – 10.00 The 2030 net zero carbon challenge**

Brindle, R., United Utilities

**10.00 – 10.25 Automation, control and optimisation of the sludge line at WwTP Utrecht with Aquasuite Mine**

Heijkoop, D., Post, B., Koorneef, E., Royal HaskoningDHV, The Netherlands

**10.25 – 10.50 Utilizing integrated software, proven algorithms and decades of chemical applications experience to continuously automate and optimize an already advanced municipal dewatering operation in Denmark**

Jonker, E., Kemira Chemicals Germany GmbH

**10.50 – 11.20 Morning break & exhibition**

**THICKENING AND DEWATERING**

*Chair - Richard Lancaster, Technical Director Biosolids, Atkins*

**11.20 – 11.45 Why dewaterability of sewage sludge occurs upstream – a model to quantify the effects**

Kopp, J., Kläranlagen Beratung Kopp, Germany

**11.45 – 12.10 Vivianite & struvite: growing challenges for bioresources & wastewater operations**

Smyth, M., Aqua Enviro, UK
12.10 – 12.35 Techno-economic analysis of post THP+AD dewatering options for a UK site
Rus, E., Jacobs, UK

12.35 – 13.30 Networking lunch

13.30 – 13.55 Predicting dewatered cake solids after conventional AD, Pre-AD THP and Post-AD THP
Svennevik, O.K.1,2, Beck, G.1,4, Rus, E.1, Westereng, B.1, Higgins, M.1,6, Solheim, O.E.1,2, Nilsen, P.1,5, Horn, S.J.1, Svensson, K.2, Dadgar, F.2, 1Norwegian University of Life Sciences, Norway, 2Cambi Group AS, Norway, 3Norwegian University of Life Sciences, Norway, 4NIBIO, Norwegian Institute of Bioeconomy Research, Norway, 5Thames Water, UK, 6Bucknell University, Lewisburg, USA

13.55 – 14.20 The practical implementation of reducing sludge dewatering whole life costs
Sims, J.1 and Parker, D.2, 1Huber Technology, UK, 2Kier Services, UK

14.20 – 14.45 Biocage™ sludge thickening - operational experience from two water companies
Thomas, P., Crouch, J., Field, A., Afeco, UK

14.50 – 14.55 Student & early career professionals’ poster award presentation (sponsored by)

14.55 – 15.15 Afternoon break & exhibition

15.15 – 15.40 Demonstration of a continuous TORWASH® pilot plant for dewatering of sewage sludge
Nanou, P., Pels, J.R., Sebastiani, F., van der Meijden, C.M., Kuipers, H., Driessen, W., Vogelaar, J., TNO, The Netherlands

15.40 – 16.05 A look in the rear-view mirror after more than 10 years of Bucher presses operation on biosolids dewatering
Mischler, J-F., Bucher Unipektin, Switzerland

16.10 – 16.20 Conference close
Dr David Tompkins, Head of Knowledge, Exchange & Innovation, Aqua Enviro

ROOM 2

2020 AND BEYOND
Chair - Dr Lindsey Gove, Biosolids Scientist, Anglian Water Services Ltd

09.35 – 10.00 UK AD through the crystal ball. AD and the Climate Action Imperative
Scheven, D., AcrEnergy

10.00 – 10.25 Maximising efficiency when you are not starting from scratch...
Cherry, L., Severn Trent Water, UK

10.25 – 10.50 Lithium tracer testing across 12 sludge treatment centres to inform United Utilities’ resilience strategy for AMP7
Herron, D.1 and Croft, J.2, 1Aqua Enviro, UK, 2United Utilities, UK

10.50 – 11.20 Morning break & exhibition
11.20 – 11.45  Preparing for the future – NI Water’s sludge strategy  
Auty, D.¹ and McArthur, J.², ¹PROjEN Ltd, UK, ²Northern Ireland Water

RESOURCES RECOVERY / NEW PRODUCT DEVELOPMENT
Chair - Chris Thornton, European Sustainable Phosphorus Platform (ESPP)

11.45 – 12.10  Design of fired-clay brick prototype from biosolids generated in an Andean municipal WWTP in Colombia  
Salazar-Espitia, J.D.¹, Ossa-Galvis, G.A.¹, González, F.A.C.¹, Orjuela, A.M.Z.¹, Rios, A.N.¹, Benites, D.G.¹, Vasco, J.M.N.², Yepez, O.D.C.¹, Rubio, O.A.P.¹, Salazar, M.T.J.³, Cardona, J.A.³, Baena, J.E.⁴, Arango, L.A.⁴, Buitrago, M.⁴, Montoya, A.L.⁵, Izaza, I.C.C.⁵, ¹National Learning Service of Colombia, ²Catholic University of Manizales, Colombia, ³Caldas University, ⁴Tejares Terracota of Colombia S.A., ⁵Aguas de Manizales S.A. E.S.P.

12.10 – 12.35  ABC economy – a three phase approach to valorising food production waste  
Kleemann, R. and Murphy, F., University College Dublin, Ireland

12.35 – 13.30  Networking lunch

13.30 – 13.55  Compact phosphorus precipitation and capture technology with operational and ecological benefits for wastewater treatment plants with anaerobic digestions  
Dittmann, M., O’Brien, L., Knörle, U., Eliquo Water Group

13.55 – 14.20  Biosolids and biogenic fertilisers: developing a circular economy  
Whipps, A.¹ and Hammond, A.², ¹Pell Frischmann, UK, ²CCm Technologies Ltd, UK

14.20 – 14.45  Futurethinking the sludge value chain  
Lake, A., Iwaki, M., Hughes, S., Jacobs, UK

14.50 – 14.55  Student & early career professionals’ poster award presentation (ROOM 1)

14.55 – 15.15  Afternoon break & exhibition

15.15 – 15.40  Rigenera sewage sludge innovative treatment for the production of organic biosolids  
Cavallino, R.M. and Campi, F., Rigenera S.r.l., Italy

15.40 – 16.05  Can we feed the world with resource-recovered sewage sludge?  
Heitmann, M.¹, Fowler. G.¹, Perrault, A.², ¹Imperial College London, UK, ²Thames Water Utilities Ltd, UK

16.10 – 16.20  Conference Close (ROOM 1)
POSTERS

Disrupting dewatering... dredging and subsequent microplastic removal
Pring, W., KCP Ltd, UK

Phosphorus in agricultural soils: the role of biofertilisers and their derivatives
Tompkins, D., Aqua Enviro, UK

Anaerobic digestion of solid residue from lignocellulose catalysis
Hurst, G., Peeters, M., Tedesco, S., Manchester Metropolitan University, UK

Identifying rate limiting enzyme steps
Robson, J., University of York

Exploring the possibility of using hemoglobin as bioflocculant in dewatering of biosludge
Ghazisaidi, H.1, Garcia, R.2, Tran, H.1, Mayer, T.1, Nieman, C.2, D. Allen, G.1, 1University of Toronto, Canada, 2Agricultural Research Service (ARS), US Department of Agriculture

BONCAT-RACS: a technique to visualize and sort active microbes in anaerobic digestion system
Amekan, Y., University of York

Simultaneous Biogas Enhancement and Reduction of Landfill Leachate Toxicity Supported by Carbon Dioxide Microbubble in an Anaerobic Co-digestion of Food Waste-Landfill Leachate
Nugroho, W.A., Desai, P., Zimmerman, W.B., University of Sheffield, UK

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