

# EABG

# 2017

Experimental Analysis of Behaviour Group UK

LONDON MEETING: 10<sup>TH</sup> TO 12<sup>TH</sup> APRIL 2017

## CONFERENCE PROGRAMME

Organised by School of Psychology, Bangor University, Wales

*Venue: Department of Psychology*

*University College of London*



*Delegates, presenters and invited guests,*

Welcome to the 2017 meeting of the EABG London Conference of Behaviour Analysis. We hope that you will enjoy the event. As usual, we have a varied and interesting set of talks and posters covering both applied and basic issues that reflect the broad range of interest in Behaviour Analysis across the UK and Europe.

It is with pleasure that we host Dr Anthony Biglan as our *Professor Fergus Lowe Memorial Keynote Address*. He is Senior Scientist at Oregon Research Institute, the Co-Director of the Promise Neighborhood Research Consortium, and the author of the inspirational book *The Nurture Effect*.

It is also our pleasure to have two senior applied behaviour analysts working in the UK deliver our invited talks. Dr Corinna Grindle (Bangor University, Positive Behavioural Solutions) will be giving the first Sharland Foundation, SF-DDARIN Invited Talk on using behaviour analysis to teach reading, maths and writing to children with autism. Dr Jennifer Austin (University of South Wales) will be speaking about behavior analytic assessments and interventions with typically developing children within schools.

As usual at EABG, Day 1 and Day 2 are organised symposia and talks and Day 3 is reserved for workshops (please note there is an additional charge for workshops over and above conference registration).

We are very pleased again this year to offer many events giving BCBA Continuing Education Units (CEU). There will be no additional administration fee for CEU credits for those delegates who have registered for the conference.

We look forward to seeing you in London.

EABG Team

Dr Stacey Hunter, Dr Amy Hulson-Jones, Kaydee Owen, Dr Rebecca Sharp, Dr Carl Hughes.

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<http://www.eabg.bangor.ac.uk>

A special thank you to John Draper and the technical staff at the Department of Psychology, University College London for hosting the event.



DAY 1: MONDAY 10<sup>TH</sup> APRIL: MORNING SESSION

REGISTRATION (8:15-9:00) UCL FOYER			
TIME	LECTURE THEATRE: GROUND G03	ROOM 305	LECTURE THEATRE: LOWER GROUND
	<p><b>Symposium: Investigating Complex Human Behaviour in Children and Adults Using Relational Frame Theory</b> Chair: Ian Stewart (National University of Ireland, Galway)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: UK-SBA Positive Behaviour Support</b> Chair: Nick Barratt (Dimensions)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: Ethical practice in support services</b> Chair: Rebecca Sharp (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>
9:00	<p><b>Assessing and Training Containment and Hierarchical Relational Responding in Young Children</b> TERESA MULHERN &amp; Ian Stewart (National University of Ireland, Galway)</p>	<p><b>Is the quality of a PBS plan linked to training level of the author?</b> JO COULSON (Consultant)</p>	<p><b>Behaviour Analysis in Practice: Balancing Rights and Restrictive Practice</b> PHIL SMYTH (Ulster University/NUI Galway), Ken P. Kerr, &amp; Claire McDowell</p>
9:20	<p><b>Developing and Pilot Testing a Protocol To Measure Analogical Relational Responding in Young Children</b> ELLE KIRSTEN &amp; Ian Stewart (National University of Ireland, Galway)</p>	<p><b>Providing positive behavioural support services: Referral characteristics, resource allocation, case management and overview of outcomes</b> DAVE O'REGAN (Halton Borough Council), Sandy Toogood, Maria Saville, Kath McLennan, Claire Welch, Gill Morgan, &amp; Paul McWade</p>	<p><b>Organisational Culture &amp; Values: Contextual analysis &amp; professional practice issues</b> KEN P. KERR (Senior Psychologist, HSE), Phil Smyth, Emmeline Gillan, &amp; Claire McDowell</p>
9:40	<p><b>Using the IRAP to Investigate Relational Responding to the Self in the Context of Non-clinical Paranoia: Examining the Influence of Adverse Interpersonal Experiences</b> CORINNA STEWART, Megan Lynch, Ian Stewart (National University of Ireland, Galway) &amp; Yvonne Barnes-Holmes</p>	<p><b>Using Positive Behaviour Support to keep families together: a case study</b> CLAIRE WELCH (Halton Borough Council)</p>	<p><b>Flipping Ethics!</b> CLAIRE MCDOWELL (Ulster University), Philomena Smyth, &amp; Ken Kerr</p>
10:00	<p><b>ACT Practitioner Implicit and Explicit Responding To Failure And Success - Does Self-Compassion Matter?</b> FRANCESCO DELL'ORCO (Università IULM), Annalisa Oppo, Davide Carnevali, Diana Ferroni Bast, Giovambattista Presti, Paolo Moderato, &amp; Dermot Barnes-Holmes</p>	<p><b>PBS Academy survey</b> SUZI SCOTT &amp; Louise Denne</p>	<p><b>Discussant:</b> REBECCA SHARP (Bangor University)</p>
<b>REFRESHMENTS (floor 3 common room) 10:20-11:00</b>			

DAY 1: MONDAY 10<sup>TH</sup> APRIL: MORNING SESSION (continued)

TIME	LECTURE THEATRE: GROUND G03	ROOM 305	LECTURE THEATRE: LOWER GROUND
	<p><b>Symposium: Implementing reading programmes with diverse populations</b> Chair: Emily Tyler (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: Strengthening Mental Abilities with Relational Training (SMART): Methodological and Empirical Advances</b> Chair: Bryan Roche (Maynooth University)</p> <p><b>BCBA: 1.5</b></p>	<p><b>Symposium: Disseminating and supporting behaviour analysis</b> Chair: Stacey Hunter (CIEREI, Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>
11:00	<p><b>School-based implementation of computer aided instruction with at-risk children</b> Catherine Storey, CLAIRE MCDOWELL, &amp; Julian Leslie (Ulster University)</p>	<p><b>The relationship between general intelligence and performance on a multiple relational abilities test</b> DYLAN COLBERT (Maynooth University), Luke Touhy, Bryan Roche, Ian Stewart, &amp; Ian Grey</p>	<p><b>Embedding ABA into established professions: establishing the Royal College of Speech and Language Therapy clinical excellence network for s/lts interested in ABA</b> BETHAN MAIR WILLIAMS (Bangor University)</p>
11:20	<p><b>Investigating the effects of implementation support for a computer-based early reading programme: A cluster-randomised controlled trial</b> EMILY TYLER (Bangor University), Sarah Roberts, Richard Watkins, Richard Hastings, Claire McDowell, &amp; Julian Leslie (Ulster University)</p>	<p><b>Dosage Effects in SMART Training: Assessing the effects of SMART training on IQ in a sample of low IQ children in sub-optimal training conditions</b> MICAH AMD (Federal University of Sao Carlos) &amp; Bryan Roche (Maynooth University)</p>	<p><b>IPA: No not a beer, a tool to be used when working with Speech. What knowledge of the International Phonetic Alphabet can contribute to Behaviour Analysis</b> TARA E. MILLAN-BROPHY</p>
11:40	<p><b>The use of precision teaching within a Rtl framework to teach basic reading skills</b> BØRGE STRØMGREN &amp; Ingvild Rødin Lund (Oslo and Akershus University College of Applied Sciences)</p>	<p><b>SMART training as an add-on intervention to counteract cognitive decline in Alzheimer's patient: preliminary results of a clinical trial</b> GIOVAMBATTISTA PRESTI (Kore University), Salvatore Torregrossa, Edoardo Cumbo, &amp; Bryan Roche</p>	<p><b>Assessing the impact of brief staff training on special educational needs professionals' attitudes towards and understanding of ABA</b> SINÉAD SMYTH (Dublin City University), Claire McDowell &amp; Benjamin Reading (Ulster University)</p>
12:00	<p><b>Discussant:</b> J. CARL HUGHES (CIEREI, Bangor University)</p>	<p><b>A Brief Relational Operant Training Program: Analyses of Response Latencies and Intelligence Test Performance</b> SHANE MCLOUGHLIN, Ian Tyndall, &amp; Antonina Pereira (University of Chichester)</p>	<p><b>Implementation of School Wide Positive Behaviour Support in an Autism Spectrum Condition Specialist School – Progress and Challenges</b> SONYA MULVANEY (Trinity College Dublin), Niall Wilson, Laura Fearon</p>
<b>LUNCH 12:20 – 1:20</b>			

DAY 1: MONDAY 10<sup>TH</sup> APRIL: AFTERNOON SESSION

	LECTURE THEATRE: GROUND G03	ROOM 305	LECTURE THEATRE: LOWER GROUND
	<p><b>Symposium: Equivalence classes</b> Chair: Erik Arntzen (Oslo and Akershus University College)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: Interventions for people with developmental disabilities</b> Chair: Zoe Lucock (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: School-based interventions</b> Chair: Stacey Hunter (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>
1:20	<p><b>Class-Formation Sorting Tests and Equivalence Class Formation</b> ERIK ARNTZEN (Oslo and Akershus University College) &amp; Kristiane Rustad Bevolden (Oslo and Akershus University College)</p>	<p><b>Smartprompt: Supporting individuals with Autism Spectrum Disorder at university to better self-manage their academic behaviours using wearable technology</b> SEAN J. O'NEILL, Sinéad Smyth, Alan Smeaton, &amp; Noel E. O'Connor (Dublin City University)</p>	<p><b>SAFMEDS do not work for this child! The importance of implementation fidelity</b> STACEY HUNTER (Bangor University) &amp; J. Carl Hughes (Bangor University)</p>
1:40	<p><b>Effects of Varied Position and Numbers of Meaningful Stimuli on Equivalence Class Formation</b> JUSTICE MENSAH (Oslo and Akershus University College) &amp; Erik Arntzen (Oslo and Akershus University College)</p>	<p><b>Assisting people with intellectual disability to self-manage healthy lifestyle choices</b> LAURA SKELLY, Claire McDowell, Julian Leslie, Mark Donnelly (Ulster University) &amp; Philomena Smyth (Ulster University/ NUI Galway)</p>	<p><b>A short-time universal educational program aimed at reducing students' anxiety</b> BØRGE STRØMGREN &amp; Ana Stavrola Plavoukos (Oslo and Akershus University College of Applied Sciences)</p>
2:00	<p><b>Effects of Different Limited Hold Levels on Equivalence Class Formation</b> FELIX HØGNASON (Oslo and Akershus University College) &amp; Erik Arntzen (Oslo and Akershus University College)</p>	<p><b>Applications of errorless teaching strategies for individuals with learning disabilities: An updated review</b> VICTORIA MARKHAM, Richard May, Aimee Giles, Victoria Adshead, &amp; Georgia Tamiaki (University of South Wales)</p>	<p><b>The STAR League: An Investigation into the Effects of a Novel Group Contingency on teenagers' behaviour at school</b> CLARE BOHAN &amp; Sinéad Smyth (Dublin City University)</p>
2:20	<p><b>Many-to-One vs. One-to-Many: Training Structures and the Emergence of Three 7-Member Equivalence Classes in Adults</b> VANESSA AYRES PEREIRA &amp; Erik Arntzen (Oslo and Akershus University College)</p>	<p><b>Functional Analysis in an Applied Setting</b> JO COULSON (Consultant)</p>	<p><b>Discussant:</b> STACEY HUNTER, (CIEREI, Bangor University)</p>
<b>5-MIN ROOM TURN-AROUND</b>			
<b>POSTER SESSION ROOM 305 &amp; REFRESHMENTS (floor 3 common room) 2:45 – 3:35</b>			

	<b>LECTURE THEATRE: GROUND G03</b>
<b>3:40</b>	<p><b>TUTORIAL</b></p> <p><b>OBM APPLIED! LESSONS LEARNED FROM THE LAB TO THE BOARD ROOM</b>  MANUEL "MANNY" RODRIGUEZ (ABA Technologies, Inc.), Daniel Sundberg (ABA Technologies, Inc.), &amp; Shannon Biagi (ABA Technologies, Inc.)</p> <p><b>BCBA CE: 1</b></p>
<b>4:40</b>	<p><b>SF-DDARIN INVITED TALK</b></p> <p><b>WE CAN TEACH YOU THAT TOO! USING BEHAVIOUR ANALYSIS TO TEACH READING, MATHS AND WRITING TO CHILDREN WITH AUTISM</b>  DR CORINNA GRINDLE, Bangor University &amp; Positive Behaviour Solutions</p> <p><b>BCBA CE: 1</b></p>
<b>5:40</b>	<b>DAY END (social meeting in Tavistock Hotel bar from 6:00 onwards)</b>

DAY 2: TUESDAY 11<sup>th</sup> APRIL: MORNING SESSION

<b>REGISTRATION (8.30 – 9.00) UCL Foyer</b>			
TIME	LECTURE THEATRE: GROUND G03	ROOM 305	LECTURE THEATRE: LOWER GROUND
	<b>Symposium: Equivalence and visual perception</b> Chair: Erik Arntzen (Oslo and Akershus University College)  <b>BCBA CE: 1.5</b>	<b>Symposium: Super Dynamic Food Dudes to the Rescue: Increasing Children's Consumption of Fruit and Vegetables and their Levels of Physical Activity</b> Chair: Pauline Horne (Bangor University)  <b>BCBA CE: 1.5</b>	<b>Symposium: Advanced operant concepts: stimulus equivalence and delay</b> Chair: Rebecca Sharp (Bangor University)  <b>BCBA CE: 1.5</b>
9:00	<b>Electroencephalography (EEG) Recordings and Equivalence Class Formation</b> GURO DUNVOLL (Oslo and Akershus University College), Erik Arntzen, & Thorbjørn Elvsåshagen	<b>Controlled Evaluation of the Dynamic Dudes Multi-Component Physical Activity Intervention in UK Primary School Children</b> PAULINE HORNE (Bangor University), C. Fergus Lowe, Shona Whitaker, Ellen Dolan, Christie Culleton, & Kelly Mackintosh (Swansea University)	<b>Disentangling memory and inference in the study of equivalence class formation</b> DAVID W. DICKINS (University of Liverpool)
9:20	<b>Fixating, Attending, and Observing: Conceptual Distinctions and Roles in Visual Perception</b> STEFFEN HANSEN & Erik Arntzen (Oslo and Akershus University College)	<b>Validation of the Fitbit Zip® as a Measure of Pre-school Children's Step Count: A Cross-Sectional Study</b> CATHERINE SHARP (Bangor University), Pauline Horne (Bangor University), Duncan Pascoe (Bangor University), Mihela Erjavec (Bangor University), & Kelly Mackintosh (Swansea University)	<b>The Orienting Response and Stimulus-Stimulus Transitivity: Comparisons across Procedures and Training Structures across three, 3-member Classes</b> MICAH AMD, Joao H. Almeida, Carol Almeida, Henrique Pompermaier, H., & Julio deRose (Federal University of Sao Carlos)
9.40	<b>The Effects of Different Training Structures and Simultaneous and Delayed Matching-to-Sample in Elderly People</b> ANETTE BROGÅRD ANTONSEN & Erik Arntzen (Oslo and Akershus University College)	<b>Evaluation of the Super Dynamic Food Dudes Intervention for 3 – 4 year old Children at School</b> CATHERINE SHARP (Bangor University), Pauline Horne (Bangor University), C. Fergus Lowe (Bangor University), & Mihela Erjavec (Bangor University)	<b>Forget the good quickly but the bad consistently? Differences in Positive and Negative Valence Decay</b> MICAH AMD (Federal University of Sao Carlos), Armando Machado, & Julio deRose
<b>5-MIN ROOM TURN-AROUND</b>			
<b>POSTER SESSION ROOM 305 &amp; REFRESHMENTS (floor 3 common room) 10:05-10:55</b>			

DAY 2: TUESDAY 11<sup>th</sup> APRIL: MORNING SESSION

TIME	LECTURE THEATRE: GROUND G03	ROOM 305	LECTURE THEATRE: LOWER GROUND
	<p><b>Symposium: Using Behaviour Analysis in a Maintained Special Needs School Setting</b> Chair: Marguerite Hoerger (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: The Uses of a Function Acquisition Speed Test (FAST) for Assessing Stimulus Relatedness in Basic and Applied Social Research</b> Chair: Bryan Roche (Maynooth University)</p> <p><b>BCBA CE: 1.5</b></p>	<p><b>Symposium: Clinical applications of behaviour analysis</b> Chair: Rebecca Sharp (Bangor University)</p> <p><b>BCBA CE: 1.5</b></p>
11:00	<p><b>Using ABA in maintained special needs schools: The British Early Special School Teaching Model</b> MARGUERITE HOERGER (Bangor University), Denise Foran, Hannah Philpott, Richard Hastings, Helena O'Boyle, Laura Pitts, &amp; Elin Walker-Jones</p>	<p><b>Quantifying test effect sizes: What do implicit test effect sizes actually mean?</b> JAMIE CUMMINS, Bryan Roche, &amp; Aoife Cartwright (Maynooth University)</p>	<p><b>Using stimulus preference assessments to determine how and how people with dementia choose novel items</b> PUSHWINDER RAGHVANI &amp; Rebecca Sharp (Bangor University)</p>
11:20	<p><b>ABA provision for use in maintained schools: A consideration of prompting strategies</b> DENISE FORAN (Bangor University), Marguerite Hoerger (Bangor University), Hannah Philpott (Bangor University), Eimear Kelly, Richard Cross, &amp; Serena Jones</p>	<p><b>Using the Function Acquisition Speed Test to assess racial prejudice: Is anti-blackness necessarily relative to pro-whiteness?</b> ANTHONY O'REILLY (University of Essex), Bryan Roche (Maynooth University), &amp; Jamie Cummins (Maynooth University)</p>	<p><b>Teaching mands for information using 'wh' questions to a child with autism</b> NATALIE WOODS &amp; Ciara Padden (Tizard Centre, University of Kent)</p>
11:40	<p><b>Accepting Finished: Decreasing Problem Behaviour and Increasing Compliance to Handover Preferred Tangible Items</b> HANNAH PHILPOTT (Bangor University), Marguerite Hoerger (Bangor University), Aoife Lyons, &amp; Taryn Stine</p>	<p><b>Using the Function Acquisition Speed test to Assess Attitudes towards Condoms: A comparison of scoring methods</b> IAN TYNDALL (University of Chichester) &amp; Amy Curtis (University of Chichester), Bryan Roche (Maynooth University) &amp; Jamie Cummins (Maynooth University)</p>	<p><b>Effects of Functional Discrimination Training on Auditory-visual Conditional Discriminations in Children with Autism</b> SIGMUND ELDEVIK (Oslo and Akershus University College), Hege Aarli, Kristine B. Titlestad, Ellie Kazemi, &amp; Greg Elsky</p>
12:00	<p><b>Discussant:</b> MARGUERITE HOERGER (Bangor University)</p>	<p><b>Using two different FAST methods to assess skin tone preference</b> KHENSA BHATI (London South Bank University), Clodagh Murray (National University of Ireland, Galway), Bryan Roche (Maynooth University), &amp; Jamie Cummins (Maynooth University)</p>	<p><b>Evaluating the impact of brief Positive Behavioural Support Interventions with children with intellectual disabilities</b> GRETA BRUNSKILL &amp; Sandy Toogood (Bangor University)</p>
<b>LUNCH 12:20-1:20</b>			

DAY 2: TUESDAY 11<sup>th</sup> APRIL: AFTERNOON SESSION

	<b>LECTURE THEATRE: LOWER GROUND FLOOR</b>
1:20	<b>INVITED DISCUSSION</b>  <b>PLEASS SIR, MAY WE HAVE MORE SCHOOL-WIDE PBS IN THE UK?</b>  LOUISE DENNE (SF-DDARIN), Corinna Grindle, Katy Lee, Nicholas Ward, Gemma Nicholls, Andreas Paris, Richard Hastings, & J. Carl Hughes  <b>BCBA CE: 1</b>
2:10	<b>UPDATES FROM THE UK SOCIETY FOR BEHAVIOUR ANALYSIS</b>  JENNIFER L. AUSTIN (President), Mecca Chiesa, Kate Grant, Suzy Yardley, Richard May, Nick Barratt, Clodagh Murray, Mandy Williams, & Emily Groves (UK Society for Behaviour Analysis)
2:30	<b>INVITED SPEAKER</b>  <b>SCHOOL-BASED ASSESSMENT AND INTERVENTION FOR TYPICALLY DEVELOPING PUPILS</b> JENNIFER L. AUSTIN, PhD, BCBA-D (University of South Wales)  <b>BCBA CE: 1</b>
	<b>REFRESHMENTS 3:30 – 4:00</b>
4:00	<b>PROFESSOR FERGUS LOWE MEMORIAL KEYNOTE ADDRESS</b>  <b>HOW BEHAVIORAL SCIENCE CAN FOSTER THE EVOLUTION OF MORE NURTURING SOCIETIES</b> DR ANTHONY BIGLAN (Oregon Research Institute)  <b>BCBA CE: 1</b>
5:00	Closing Session DAY TWO END (End of organised symposia) (Social meeting in Tavistock bar from 6:30)

## POSTER PRESENTATIONS

DAY 1: MONDAY 10 <sup>th</sup> APRIL (2:45-3:35)	DAY 2: TUESDAY 11 <sup>th</sup> APRIL (10:05-10:55)
<p><b>Effects of facilitation procedures in the emergence of equivalence-equivalence relations in young adults</b>  MADELEINE MARCELINO, Ana Arantes, &amp; Nassim Elias (LAHMIEI Autism Institute at Federal University of São Carlos)</p>	<p><b>School-based behavioural intervention on a compulsive liar child</b>  ANA ARANTES &amp; Thais Pilon Ferro (LAHMIEI Autism Institute at Federal University of São Carlos)</p>
<p><b>Tizard Centre: Postgraduate Programmes in Applied Behaviour Analysis &amp; Positive Behaviour Support</b>  CIARA PADDEN, Peter McGill, Mecca Chiesa, &amp; Peter Baker (Tizard Centre, University of Kent)</p>	<p><b>Persistent barriers to implementing Positive Behaviour Support: three commonly encountered themes</b>  EMMA CASBON, Kath McLennan, Gillian Morgan, Dave O'Regan, Mike Nicholson, &amp; Claire Welch (Positive Behaviour Support Service, Halton Borough Council)</p>
<p><b>A Comparison of Differential Reinforcement and Noncontingent Reinforcement on the Duration and Variation of Tooth Brushing in Children</b>  LUKE STOCKLEY, Megan Gardner, &amp; Richard May (University of South Wales)</p>	<p><b>A comparison of discrete trial teaching and fluency training to teach flag labels to individuals with an autism spectrum disorder (ASD)</b>  BOBBIE-JAY HASSELBY &amp; Emily Tyler (Bangor University)</p>
<p><b>Using equivalence-based instruction and group responding to teach from the Irish science curriculum</b>  RONDA BARRON (Dublin City University), Sinéad Smyth, &amp; Julian Leslie</p>	<p><b>An Overview of Autism and Applied Behavior Analysis in the Gulf Cooperation Council in the Middle East</b>  SARAH NORTHROP (ABA Consultant), Michelle Kelly, Ingy Alireza, Heather Busch, Mohammad Al-Attrash, Susan Ainsleigh &amp; Nipa Bhuptani</p>
<p><b>Teaching mental calculation</b>  ROSSANA SOMALVICO &amp; Lorenza Chiozzi (Independent Consultants)</p>	<p><b>Behavioral approaches to working with people with comorbid dementia and intellectual disabilities: A review of the literature</b>  ZOE R. LUCOCK, Rebecca A. Sharp &amp; Robert Jones (Bangor University)</p>
<p><b>Using Behavioural Skills to Train Novice Therapists on Mand Training</b>  GEORGIA CHRYSOULA TSIKOURA, Aimee Giles, &amp; Veronica Dunning (University of South Wales)</p>	<p><b>Masters Programme in Applied Behaviour Analysis at Bangor University</b>  REBECCA A. SHARP, J. Carl Hughes, Marguerite L. Hoerger, Alexander Toogood, Elin Walker-Jones &amp; Emily Tyler (Bangor University)</p>
<p><b>A Comparison of Two Conditional Discrimination Procedures for Teaching Children with Autism</b>  BRITTANY M. DISANTI (Oslo and Akershus University College), Svein Eikeseth, Sigmund Eldevik, Jenna M. Conrad, &amp; Kortnie L. Cotter</p>	<p><b>Learning to survive a zombie apocalypse: An application of gamification to undergraduate teaching</b>  REBECCA A. SHARP, Stacey H. Hunter, Kate R. Isherwood, Rhiannon A. Willmot, Zoe R. Lucock, Kaydee Owen, Jessica Coimbra &amp; John A. Parkinson (Bangor University)</p>
<p><b>Class-wide use of SAFMEDS to improve mastery of A-level students' psychology terminology</b>  KATE GEARY, Stacey Hunter, &amp; J. Carl Hughes (CIEREI, Bangor University)</p>	

DAY 3 WEDNESDAY 12<sup>th</sup> APRIL

WORKSHOPS (NB: No Scheduled talks or symposia on Day 3).

(PLEASE NOTE THAT WORKSHOP COST IS NOT COVERED IN CONFERENCE REGISTRATION)

Workshop 1: Room: TBA	Workshop 2: Room: TBA	Workshop 4: Room: TBA
HALF DAY WORKSHOP (9:30 – 1:00)	FULL DAY WORKSHOP (9:00 – 4.30)	FULL DAY WORKSHOP (9:00 – 3:30)
<p><b>Beyond the Professional and Ethical Compliance Code: An approach to ethical reasoning in applied behaviour analysis.</b></p> <p>Dr Elin Walker Jones &amp; Dr Sandy Toogood (Bangor University)</p> <p>PRICE: Half day £60 FULL REGISTRANT / BCBA; £30 – STUDENT / BCABA (Please Note this charge is NOT covered in Conference Registration)</p> <p><b>BCBA CE: 4</b></p> <p><b>Workshop end: 12:30</b></p>	<p><b>Supervision Workshop</b></p> <p>Dr Rebecca Sharp, BCBA-D (Bangor University)</p> <p>PRICE: Half day £90 FULL REGISTRANT / BCBA / STUDENT / BCABA (Please Note this charge is NOT covered in Conference Registration)</p> <p><b>BCBA CE: 8</b></p> <p><b>Workshop end: 4:30</b></p>	<p><b>Introduction to Precision Teaching and Standard Celeration Charting and using TAGteach® in combination with Precision Teaching</b></p> <p>Dr Mike Beverley (Bangor University), Bethan Mair Williams (BCBA &amp; speech and language therapist), &amp; Kaydee Owen (Bangor University)</p> <p>PRICE: Half day £90 FULL REGISTRANT / BCBA; £70 (for members of the Royal College of Speech and Language Therapy clinical excellence network for s/lts interested in ABA); £45 – STUDENT / BCABA (Please Note this charge is NOT covered in Conference Registration)</p> <p><b>BCBA CE: 6</b></p> <p><b>Workshop end: 3:30</b></p>
	<p><b>Supervision workshop – continuing education HALF DAY WORKSHOP (1:30 – 4:30)</b></p> <p>Dr Rebecca Sharp, BCBA-D (Bangor University)</p> <p>PRICE: Half day £45 FULL REGISTRANT / BCBA / STUDENT / BCABA (Please Note this charge is NOT covered in Conference Registration)</p> <p><b>BCBA CE: 3</b></p> <p><b>Workshop end: 4:30</b></p> <p><i>*Please note that attendees can attend the full day or the afternoon only for the supervision workshop</i></p>	

## DAY 1

**8:15 - 9:00: REGISTRATION (Foyer of UCL Psychology)**

LECTURE THEATRE: GROUND G03

### **Symposium: Investigating Complex Human Behaviour in Children and Adults Using Relational Frame Theory**

Chair: Ian Stewart (National University of Ireland, Galway)

**BCBA CE: 1.5**

9:00

#### **Assessing and Training Containment and Hierarchical Relational Responding in Young Children**

TERESA MULHERN (National University of Ireland, Galway) & Ian Stewart (National University of Ireland, Galway)

Relational Frame Theory (RFT) sees containment (A is in B; B contains A) and hierarchical (A is a type of B; B is a class containing A) relational responding as core repertoires underlying categorization. A series of studies assessed and trained derived patterns of mutual and combinatorial entailment and transformation of function in containment and hierarchical relational repertoires in young (3-7 year old) typically developing children. Study 1 correlated performance in these repertoires with performance on other indices of categorization and intellectual performance. Study 2 trained arbitrary containment relations in three 5-year-olds using a combined (across components and participants) multiple baseline design. The intervention successfully established criterion level responding and generalization was also observed. Study 3 used a similar design to train arbitrary hierarchical relations in three 6-year-olds with a similarly successful outcome. Results are discussed in relation to previous research and for their implications with regard to future work.

9:20

#### **Developing and Pilot Testing a Protocol To Measure Analogical Relational Responding in Young Children**

ELLE KIRSTEN (National University of Ireland, Galway) & Ian Stewart (National University of Ireland, Galway)

It will be presented a series of papers that employ the Implicit Relational Assessment Procedure (IRAP) in the context of self-forgiveness. Specifically, brief and immediate relational responses (BIRRs) and extended and elaborate relational responses (ERRs) related to feelings and expected outcomes in the context of minor failings and successes. The studies aimed to develop an IRAP of self-forgiveness of minor failures; determine if BIRRs and ERRs yield similar or different results; determine if such measures should target failures in a general or specific manner and if such measures differ depending on whether they target feelings or expected outcomes of “problem” behaviours; explore the relationships among implicit and explicit measures in terms of associated feelings and outcomes, and various indicators of mental health. The results indicate that BIRRs may diverge from EERRs, but when BIRRs reflect problem behaviours specific to the individual participants, correlations with measures of psychopathology may emerge.

9:40

**Using the IRAP to Investigate Relational Responding to the Self in the Context of Non-clinical Paranoia: Examining the Influence of Adverse Interpersonal Experiences**

CORINNA STEWART (National University of Ireland, Galway), Megan Lynch (National University of Ireland, Galway), Ian Stewart (National University of Ireland, Galway), & Yvonne Barnes-Holmes (University of Ghent)

While paranoia has long garnered attention in clinical-cognitive psychology, this phenomenon has yet to be systematically explored using relational frame theory. This paper presents research examining non-clinical paranoia using the RFT-inspired Implicit Relational Assessment Procedure (IRAP). Self-concepts such as self-esteem and vulnerability have been implicated in paranoia and evidence suggests that adverse experiences are associated with paranoia and negative self-concepts in both general and clinical populations. Two studies are presented. Study 1 investigated patterns of responding to the self and others in terms of vulnerability/safety and deviousness/trustworthiness respectively in non-clinical participants with high and low levels of paranoia. Study 2 investigated the effect of social stress (i.e., exclusion) on paranoia and vulnerability. Results indicated that responding to the self in terms of ‘safety’ is particularly relevant to paranoia and that adverse experiences may impact this responding, with excluded individuals demonstrating increased state paranoia and reduced ‘Me-Safe’ responding on the IRAP.

10:00

**ACT Practitioner Implicit and Explicit Responding To Failure And Success - Does Self-Compassion Matter?**

FRANCESCO DELL’ORCO (Università IULM), Annalisa Oppo (Sigmund Freud University), Davide Carnevali (Università IULM), Diana Ferroni Bast (National University of Ireland, Galway), Giovambattista Presti (Università di Enna “Kore”), Paolo Moderato (Università IULM), & Dermot Barnes-Holmes (Ghent University)

This study investigates brief and elaborated derived relational responding related to failure and success in Acceptance and Commitment Therapy (ACT) therapists and controls using the Implicit Relational Assessment Procedure (IRAP) and correlating brief relational responding with explicitly measured self-compassion, depression, anxiety and stress. Thirty-four ACT-therapists and forty-one controls completed two IRAP assessments of feelings and outcomes in situations of success and failure, as well as IRAP-analogues and self-report measures of self-compassion, depression and anxiety. Implicitly, a significantly lower bias was observed related to denying that success lead to negative feelings for the ACT group (OR=0.19 95% CI: 0.23–0.88). Explicitly, ACT therapists and controls diverged in terms of Common Humanity (OR=2.22; 95% CI: 1.12-4.42), and Isolation (OR=0.46; 95%CI: 0.23-0.88). As regards correlations between the IRAP and its analogues, divergences were found between the groups in the Success-Negative Feelings, Failure-Negative Outcomes and Failure Positive Outcomes trial types.

**10:20 – 11:00: REFRESHMENTS (COMMON ROOM FLOOR 3)**

**Symposium: Implementing reading programmes with diverse populations**

Chair: Emily Tyler (Bangor University)

**BCBA CE: 1.5**

11:00

**School-based implementation of computer aided instruction with at-risk children**

Catherine Storey, CLAIRE MCDOWELL, &amp; Julian Leslie (Ulster University)

This study compared Headsprout™, with Special Education Needs Coordinator (SENCO) literacy support for students with specific literacy difficulty. Participants were 32 children between the ages of 6 and 9. All participants had a Special Education Need (SEN) as a result of a specific literacy difficulty and were in receipt of supplementary literacy support from their school SENCO and received free-school meals. Participants' literacy skills were assessed prior to intervention using the Phonics Early Reading Assessment (PERA) and measures of interest were Word/Non-Word Recognition and Sentence Reading Score. Participants were then randomly assigned to a Headsprout™ intervention group or a waiting list control group. Children in the control group continued with their daily 30-minute one to one literacy lessons delivered by the SENCO while children in the intervention group discontinued these sessions, which were replaced with 30 minutes of Headsprout™ Early Reading. Results show that children in the Headsprout™ group scored significantly higher in post-intervention measures of Word Recognition and Sentence Reading (than the control group. Dolch Word assessment probes demonstrated that the Headsprout™ intervention group experienced a 48.4 word increase from pre- to post-intervention while the control group experienced a 14.5 word increase from pre- to post-intervention.

11:20

**Investigating the effects of implementation support for a computer-based early reading programme: A cluster-randomised controlled trial**

EMILY TYLER (Bangor University), Sarah Roberts, Richard Watkins, Richard Hastings, Claire McDowell, &amp; Julian Leslie (Ulster University)

There has been an increasing acknowledgement of the need for robust evidence of the efficacy of educational interventions, and for such evidence to be a key part in decision making regarding the choice of programmes or approaches used in schools. Implementation is considered to play a key role in the effectiveness of programmes or approaches adopted by schools. Therefore, further implementation research is arguably required to elucidate what support is effective for schools to obtain positive outcomes using evidence-based practices. The current study investigated the effects of ongoing implementation support for the use of a computer-based early reading programme (Headsprout Early Reading) on implementation fidelity and reading outcomes. In this cluster-randomised controlled trial, 22 schools were assigned randomly to implement the programme either with or without support. Participants in all schools were assessed using the York Assessment of Reading for Comprehension (YARC) prior to randomisation and following the 6-month intervention period. Both groups demonstrated significantly increased reading skills from Time 1 to Time 2, with a moderate effect size. However, there were no significant differences on core implementation fidelity indicators or reading outcomes between the groups. We will discuss the implications of these findings in relation to programme characteristics, school buy-in and staff training, developing support systems within and across schools, and future research.

11:40

**The use of precision teaching within a RtI framework to teach basic reading skills**

BØRGE STRØMGREN &amp; Ingvild Rødin Lund (Oslo and Akershus University College of Applied Sciences)

The current study aimed to teach basic level reading skill to students presenting with moderate risk for developing reading difficulties. The RtI framework advocates that all students are screened three times each educational year in order to assess whether students are at a risk to develop learning difficulties. One such screening aimed at detecting reading difficulties is DIBELS. A Norwegian version of the DIBELS was employed with 12 students in grade level 3 (8 years of age) in order to detect reading difficulties. The 12 students were nominated by their teacher as presenting with some reading difficulties. Following the DIBELS screening, 6 students at Tier 2 risk level/reading difficulties—they represent the experiment group whereas the other six students represent the control group. The experiment group students received a diagnostic reading test (STAS) in order to pinpoint a starting point in a phonic/phonological awareness reading sequence. Following the STAS test, the experimental group students receives precision teaching (PT) with word lists on screen (TempoLex) and paper. Results show that a short PT-intervention may improve basic reading skills, and that paper based word lists appear to yield higher correct words per minute than a computer based reading program.

12:00

**Discussant:** J. CARL HUGHES (Bangor University)**12:20 – 1:20: LUNCH****Symposium: Equivalence classes**

Chair: Erik Arntzen (Oslo and Akershus University College)

**BCBA CE: 1.5**

1:20

**Class-Formation Sorting Tests and Equivalence Class Formation**

ERIK ARNTZEN (Oslo and Akershus University College) &amp; Kristiane Rustad Bevolden (Oslo and Akershus University College)

The purpose of the present experiment was to replicate and extend the existing knowledge of the concordance between the matching-to-sample (MTS) test and the sorting test. A linear series training structure has often been used when comparing sorting tests and equivalence class formation. Hence, the conditional training was arranged as a many-to-one training structures. Six healthy adults served as participants in the present experiment and were allocated to two different groups. In Group 1, the participants were exposed to an immediate sorting test after training of baseline relations, followed by the administration of a MTS test, and second sorting test. In Group 2, the participants were exposed to an immediate MTS test after training of the baseline relations, followed by a sorting test and a second MTS test. The results show systematic replication of earlier findings with respect to concordance between the tests.

1:40

**Effects of Varied Position and Numbers of Meaningful Stimuli on Equivalence Class Formation**

JUSTICE MENSAH (Oslo and Akershus University College) & Erik Arntzen (Oslo and Akershus University College)

The present experiment extends the literature on research with familiar pictorial stimuli by examining if the performance in a potential equivalence class will vary as a result of the position of pictures in a three 5-member classes ( $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E$ ). Seventy-five participants were assigned randomly to five experimental groups. The experimental design included two reference groups; all stimuli as abstract stimuli (ABS) and all abstract stimuli except C as familiar pictures (C-as-Pic). For the three remaining groups, the position and number familiar pictures varied: C1, B2, and D3-as-Pictures group (C1/B2/D3-as-Pic), C1, and B2-as-Pictures group (C1/B2-as-Pic) and C1, and D3-as-Pictures (C1/D3-as-Pic) group. The results showed that performance in all the picture groups were significantly better than the abstract group. Furthermore, it was found that performance in C-as-Pic was significantly better than C1/B2-as-Pic and C1/D3-as-Pic but not C1/B2/D3-as-Pic. Lastly no significant difference was found between C1/B2-as-Pic, C1D3-as-Pic and C1/B2/D3-as-Pic.

2:00

**Effects of Different Limited Hold Levels on Equivalence Class Formation**

FELIX HØGNASON (Oslo and Akershus University College) & Erik Arntzen (Oslo and Akershus University College)

After preliminary training of identity matching, 20 adult participants, in two groups, were trained to form three 5-member classes in a LS training structure. The A, B, D, and E stimuli were abstracts, and the C stimuli were familiar pictures. For both groups, the limited hold (LH) contingencies for responding in the training was set to 0.7 s for the sample and 1.2 s for the comparisons. Subsequently, two tests for derived relations were implemented. For Group 1, the LH levels in the tests were the same as in the training. For Group 2, the LH levels were 0.7 s for the sample, and increased by 5 s, or 6.2 s for the comparisons. No one in Group 1 responded in accordance with stimulus equivalence, while, n out of 10 participants responded in accordance with the experimenter defined classes in Group 2.

2:20

**Many-to-One vs. One-to-Many: Training Structures and the Emergence of Three 7-Member Equivalence Classes in Adults**

VANESSA AYRES PEREIRA (Oslo and Akershus University College) & Erik Arntzen (Oslo and Akershus University College)

The objective of this experiment was to compare the outcomes of two training structures, Many-to-One (MTO) and One-to-Many (OTM). Participants were 34 normal adults who were trained to form three 7-member equivalence classes. Half of them were exposed to the MTO, and the other half were exposed to the OTM. The main findings showed that fifteen out of seventeen (88%) participants of both groups formed equivalence classes. Significant differences between groups were found only for number of trials for baseline test trials; the OTM group emitted significant ( $t(32)=2.21, p = .034$ ) more correct responses in baseline test trials than the MTO group.

Analysis of response speed over training and test indicated that, the MTO group emitted faster responses ( $M=.77$  resp/s) than the OTM group ( $M=.34$  resp/s) in the last five training trials. This difference was maintained over the first five test trials of baseline (MTO:  $M=.55$  resp/s; OTM:  $M=.35$  resp/s).

**2:45 – 3:35: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3<sup>rd</sup> floor)**

3:40: INVITED TUTORIAL, LECTURE THEATRE GROUND G03

**OMB APPLIED! LESSONS LEARNED FROM THE LAB TO THE BOARD ROOM**

Manuel "Manny" Rodriguez (ABA Technologies, Inc), Daniel Sundberg, & Shannon Biagi

**BCBA CE: 1**

Organizational behavior management (OBM for short) was launched officially in 1977 with the first publication of the Journal of Organizational Behavior Management. However, the history of OBM dates based to the early 1900s with the developments of industrial engineering. Later, Dr. B.F. Skinner's work and founding of behaviorism led quickly to early pioneers adopting behavior analysis to apply in work settings (e.g., Aubrey Daniels, Ed Feeney, William Abernathy, Beth Sulzer Azaroff, Carl Binder, and many more). As with most applications of behavior analysis, OBM has been vastly studied in the lab, in small to large businesses, and across a variety of subject matters such as safety, quality, training and development, and leadership. This presentation will offer a perspective on the evolution of OBM applied across these various settings and subject matters, focusing the audience's attention on lessons learned and how OBM can be applied to make a positive difference in the world.

4:40: SF-DDARIN INVITED TALK, LECTURE THEATRE GROUND G03

**WE CAN TEACH YOU THAT TOO! USING BEHAVIOUR ANALYSIS TO TEACH READING, MATHS, AND WRITING TO CHILDREN WITH AUTISM**

DR CORINNA GRINDLE (Bangor University & Positive Behaviour Solutions)

**BCBA CE: 1**

There has been considerable interest in the use of Applied Behaviour Analysis methods as a comprehensive intervention model for children with autism in home and centre-based or school-based settings. Recent systematic reviews and meta-analyses suggest positive outcome data, especially for cognitive, language, and adaptive skills. In addition to a focus on social, language and other adaptive skills, ameliorating academic skill deficits (in reading, writing, and maths) is often a component of these programs. However, within the research literature on interventions for children with autism, investigating the best methods of teaching academics has received limited attention. In this presentation I will describe an approach for extending what we know about the psychology of learning to the teaching of academic skills to more fully account for the full range of skills that may be lacking in children with autism. I will describe three distinct strands of research that have effectively taught reading, maths,

and handwriting skills to children with autism. This talk will provide a new framework for developing and evaluating academic programs for children with autism.

Learning Objectives:

- Attendees will be able to describe several elements of specific educational practice that are crucial for teachers to use when teaching academic skills to children with autism
- Attendees will be able to describe recent evidence based approaches to teaching maths, writing and reading to children with autism.

**DAY END (social meeting in Tavistock Hotel bar from 6:00 onwards)**

**Symposium: UK-SBA Positive Behaviour Support**

Chair: Nick Barratt (Dimensions)

**BCBA CE: 1.5**

9:00

**Is the quality of a PBS plan linked to training level of the author?**

JO COULSON (Consultant)

The quality of a behaviour support plan (BSP) could be critical to successful reduction of challenging behaviours and related to the decreased use of restrictive practices (Webber et al, 2011). This study aims to assess the quality of BSPs, using the BSP-QEII developed by Browning-Wright (2003), to demonstrate that the quality of the BSP is linked to the PBS training level of the author. The quality of BSPs is important because, high quality BSPs are related to significantly better outcomes for people supported and improved treatment integrity (Cook et al, 2012). The BSPs were randomly coded to enable blind quality assessment in relation to the four training levels of the author. Data is still being collected and will be evaluated in February and March 2017.

9:20

**Providing positive behavioural support services: referral characteristics, resource allocation, case management and overview of outcomes**

DAVE O'REGAN (Halton Borough Council), Sandy Toogood (Bangor University), Maria Saville (Halton Borough Council), Kath McLennan (Halton Borough Council), Claire Welch (Halton Borough Council), Gill Morgan (Halton Borough Council), & Paul McWade (Halton Borough Council)

This paper describes the work of a specialist, peripatetic positive behavioural support service. Characteristics of referrals made to the service, a brief analysis of how the team spends its time, an overview of case management performance indicators and a review of referral closing reports for reported outcomes are presented. Most service effort is spent on intervention. Behaviour Analysts in the team spend more time on assessment and intervention planning, while Behavioural Support Workers mainly assist intervention implementation. Case management timescales vary. The reported outcomes of the assessment and intervention process are positive. The model of the specialist positive behavioural support service appears to be effective in increasing quality of life, reducing challenging behaviour and increasing functionally equivalent alternate behaviour.

9:40

**Using Positive Behaviour Support to keep families together: a case study**

CLAIRE WELCH (Halton Borough Council)

Sam was a teenage boy who lived at home with his family. Challenging behaviour was resulting in concerns that he was at risk of being unable to live at home and access local services. An out of borough placement was likely for Sam. Once he was referred to the Positive Behaviour Support Service, a functional behavioural assessment was conducted. Sam's family were supported to implement a targeted intervention, in conjunction with a wide range of local services. Barriers that were encountered during the intervention process and steps taken to overcome them are discussed. Significant gains were made in improving Sam's quality of life, reducing

challenging behaviour and ensuring Sam could continue to live at home. The long-term impact of this support for the young man and his family are discussed.

10:00

**PBS Academy survey**

SUZI SCOTT & Louise Denne (SF-DDARIN)

The PBS Academy is a collective of organisations and individuals in the UK who have been working together since 2013 to promote Positive Behavioural Support (PBS) as a framework for working with children and adults with learning disabilities who are at risk of displaying behaviour that challenges. The impact of the PBS Academy is currently being evaluated and a plan is being developed to help support the work of the PBS Academy and to extend its reach. Many EABG participants will have recently participated in a short survey which explored views and current knowledge of the PBS Academy. The findings of this survey will be presented along with a discussion of their implications.

**10:20 – 11:00: REFRESHMENTS (Common room 3<sup>rd</sup> floor)**

**Symposium: Strengthening Mental Abilities with Relational Training (SMART): Methodological and Empirical Advances**

Chair: Bryan Roche (Maynooth University)

**BCBA CE: 1.5**

11:00

**The relationship between general intelligence and performance on a multiple relational abilities test**

DYLAN COLBERT (Maynooth University), Luke Touhy (Maynooth University), Bryan Roche (Maynooth University), Ian Stewart (NUI Galway), & Ian Grey (Zayed University)

Recent studies suggest that relational skills may be closely related to, or possibly fundamental to general intellectual performance. Various correlational analyses have highlighted the relevance of specific relational frames to various domains of intelligence. However, as of yet, there has not been a comprehensive analysis of the relative importance of each of the wider range of relational skills in general intelligence. The current study investigated the relationship between performance on the Wechsler Abbreviated Scale of Intelligence and the subtests of a Multiple Relational Assessment Test (MRAT). The MRAT is a computer based protocol which assesses proficiency in responding to a collection of relational frames. Results indicated that IQ performance correlates significantly with accuracy in responding to a range of same/opposite and same/different relational tasks but not Temporal, hierarchical and deictic relational tasks, suggesting that the strongest link between relational responding and intellectual performance may come in the form of coordination and distinction relation frames. However, fluency scores in relational responding across the various relational frame assessed, bear a more complex relationship to general intelligence. This difference in outcome will be discussed.

11:20

**Dosage Effects in SMART Training: Assessing the effects of SMART training on IQ in a sample of low IQ children in sub-optimal training conditions**

MICAH AMD (Federal University of Sao Carlos) & Bryan Roche (Maynooth University)

A growing consensus is that intelligence may be more malleable than initially thought, a view which has led to the development of several interventions for enhancing intellectual ability. One such intervention, known as SMART (Strengthening Mental Abilities with Relational Training), involves presenting participants with many and increasingly complex exemplars of problem solving tasks that involve a specific type of relational reasoning known as derived relational responding. Using corrective feedback across trials and numerous training sessions, relational reasoning skills can be enhanced along with scores on standardized tests of intelligence. The current study investigated whether or not the amount of training undertaken is predictive of increases in measures of intelligence, and whether or not the training is effective under non-optimal conditions involving low adherence, motivation and poor social and educational supports. The standard Raven's Progressive Matrices (sRPM) served as the baseline and dependent measure of the intervention. Results showed that neither baseline IQ nor relational reasoning ability were related to degree of IQ gain, but amount of training undertaken was. Significant gains in IQ were noted for the cohort of children who had progressed furthest with the training across the intervention period.

11:40

**SMART training as an add-on intervention to counteract cognitive decline in Alzheimer's patient: preliminary results of a clinical trial**

GIOVAMBATTISTA PRESTI (Kore University), Salvatore Torregrossa (Alzheimer and Dementia Unit – Neurodegenerative Disorders O.U.), Edoardo Cumbo (Alzheimer and Dementia Unit – Neurodegenerative Disorders O.U.), & Bryan Roche, (Maynooth University)

Twenty-seven patients with a diagnosis of mild-to-moderate Alzheimer's disease (AD) were enrolled in a prospective, randomized, 3 month, parallel-group study to evaluate the efficacy of a computer assisted multiple-exemplar relational training (RFT), as add-on non-pharmacological therapy to cholinesterase inhibitors (ChEIs). Participants were exposed to SMART (Strengthening Mental Abilities with Relational Training) a multiple exemplar training in the relational frames of SAME, OPPOSITE, MORE THAN, and LESS THAN across several sessions for 3 months. Training was conducted for 1hr weekly in an office setting at the Alzheimer's and Dementia Unit in Caltanissetta (Italy). Cognitive and executive functions were assessed at baseline, and at the end of training (3 months) using respectively MODA (Milan Overall Dementia Assessment), Coloured Progressive (CPM) and attentive matrices. Patients treated with RFT as add-on intervention scored significantly better MODA at the end of the study compared to those who received the drug only. CPM scores and Attentive matrices scores for combination therapy also rose for the treatment group compared to the drug only controls. Overall these data seem to suggest that an RFT-based training may slow down cognitive decline and improve general cognitive functioning in AD subjects treated with ChEI.

12:00

### **A Brief Relational Operant Training Program: Analyses of Response Latencies and Intelligence Test Performance.**

SHANE MCLOUGHLIN, Ian Tyndall, & Antonina Pereira (University of Chichester)

Previous research has suggested that training relational operants over several months can result in improved performance on cognitive intelligence tests. Most of this research so far neglects to include response latencies as an outcome measure. However, behaviours considered ‘intelligent’ should be examined within a temporal context. The aims of this study were threefold: to investigate whether a brief (3-week) training program would be effective in terms of improving (i) scores and (ii) reaction times on a standardised intelligence test, and lastly, (iii) to provide an initial pilot of a new multiple exemplar training procedure targeting complex relational networking processes. In this study, we administered the Kaufman Brief Intelligence Test to eight adult participants at each of four time points. Time 1-2: All participants received no intervention. Time 2-3: Four experimental participants received SMART (Strengthening Mental Abilities through Relational Training) relational operant skills training. Time 3-4: The four experimental participants received a relational skills training targeting higher-order analogical operant skills. The four Control group participants did not receive any intervention at Time 2-3 or Time 3-4. Experimental participants demonstrated significantly greater improvements in terms of both (i) response latencies, and (ii) response fluencies on the Verbal Knowledge subscale of the KBIT-2, while Control participant’ response accuracies, latencies, and fluencies did not improve significantly due to practice. The main implication of this research is that individual operant abilities may be differentiated based on both accuracy and latency of response, but only if learning opportunities are controlled for.

### **12:20 – 1:20: LUNCH**

#### **Symposium: Interventions for people with developmental disabilities**

Chair: Zoe Lucock (Bangor University)

#### **BCBA CE: 1.5**

1:20

#### **Smartprompt: Supporting individuals with Autism Spectrum Disorder at university to better self-manage their academic behaviours using wearable technology**

SEAN J. O’NEILL (Dublin City University), Sinéad Smyth (Dublin City University), Alan Smeaton (Dublin City University), & Noel E. O’Connor (Dublin City University)

Self-management skills are critical to successful study in third level education. Independent study behaviour is one aspect of university life that require the self-management of time in relation to study goals. Individuals with Autism Spectrum Disorder (ASD), that attend third level education, can have difficulty self-managing independent study. This may result in some students not meeting the standards required for successful course completion. The current study (N=2) used a changing criterion design to evaluate the effects of a novel intervention package to increase independent study in university students with ASD. The intervention combined a self-management strategy (goal setting and self-monitoring) together with wearable technology, available off the shelf and customisable, and was used to prompt and record behaviours consistent with student selected academic goals. Findings, and their implications for the kind of supports needed by students with ASD that attend third level education, are discussed.

1:40

**Assisting people with intellectual disability to self-manage healthy lifestyle choices**

LAURA SKELLY, Claire McDowell, Julian Leslie, Mark Donnelly (Ulster University) & Philomena Smyth (Ulster University/ NUI Galway)

The prevalence of obesity in people with intellectual disability (ID) is shown to be higher than that in the general population and a variety of factors have been suggested as likely to increase the risk of obesity in this population. Many of these factors are considered to be modifiable antecedents that can be targeted to improve health, increase quality of life and reduce associated health care costs. This presentation will begin by examining the current literature available on weight reduction interventions within the adult ID population. It will also present an outline of a current research project designed to target modifiable factors that influence obesity through the utilisation of assistive technology, combined with a novel self-management intervention which incorporates the use of empirically validated behavioural interventions to provide an ID specific intervention.

2:00

**Applications of errorless teaching strategies for individuals with learning disabilities: An updated review**

VICTORIA MARKHAM, Richard May, Aimee Giles, Victoria Adshead, & Georgia Tamiaki (University of South Wales)

Learning to discriminate is an essential component of skill acquisition (Jones & Eayrs, 1992). Errorless learning refers a set of teaching procedures that encourage correct responding from the outset of teaching. Such techniques may confer benefits over other discrimination strategies such as trial and error, particularly for individuals with learning disabilities (Touchette & Howard, 1984). The present review aims to update the literature on the application of errorless procedures since Lancioni & Smeets (1986). Electronic and manual searches using search terms identified in Lancioni & Smeets (1986) were carried out. Nineteen articles were included for review. Results are discussed in terms of the most common errorless procedures used, updates since Lancioni & Smeets (1986), and suggestions for further research.

2:20

**Functional Analysis in an Applied Setting**

JO COULSON (Consultant)

Descriptive functional assessment methods were used to generate hypotheses regarding the function of behaviour (shouting and slamming doors) for Mark, a 45 year old gentleman with severe learning disability and autism. The descriptive data suggested that behaviour occurred when Mark was deprived of attention, however Mark's method to gain attention was to mand for tangibles. The hypothesis of an attention function was then tested using the experimental functional analysis methods similar to Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994); thus providing four experimental conditions, baseline, tangible item, attention (preferred staff) and attention (non-preferred staff). Results indicated that the behaviour was maintained by access to attention from both preferred and non-preferred staff. A treatment (NCR and functional communication training) was developed based on the functional analysis and behaviour reduced to near zero levels.

**2:45 – 3:35: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3<sup>rd</sup> floor)**

## PARALLEL SESSION DAY 1 – LECTURE THEATRE, LOWER GROUND

**Symposium: Ethical practice in support services**

Chair: Rebecca Sharp (Bangor University)

**BCBA CE: 1.5**

9:00

**Behaviour Analysis in Practice: Balancing Rights and Restrictive Practice**

PHIL SMYTH (Ulster University/NUI Galway), Ken P. Kerr (Ulster University/University College Dublin), &amp; Claire McDowell (Ulster University)

Preventing, limiting and eliminating the use of restrictive practices is central to clinical practice and works to protect the Rights of Persons with Disabilities (the rights, freedoms and inherent dignity of people with disabilities). Restricted Practices are, however, sometimes a necessary component of supports for people with disabilities/challenging behaviour within traditional service provision and can often raise ethical issues for behaviour analysts in the design and implementation of support plans. This paper considers the role of restricted practices in clinical practice within an Irish context and the importance of a focus on individual rights. The paper also examines the often cited concept of the Least Restrictive Alternative in the development of supports, and considers possible differences in concept use from an ABA and Positive Behaviour Support (PBS) perspective. The paper will share the knowledge and experiences of the presenters gleaned through teaching and clinical practice and suggest some guidelines for behaviour analysts in engaging in the ethical use of restricted practices.

9:20

**Organisational Culture & Values: Contextual analysis & professional practice issues**

KEN P. KERR (Senior Psychologist, HSE), Phil Smyth (Ulster University/NUI Galway), Emmeline Gillan (Trinity College Dublin), &amp; Claire McDowell (Ulster University)

It is said that the true measure of any society can be found in how it treats its most vulnerable members. This also applies to services providing supports to individuals with Intellectual Disability (ID). As practitioners, we must understand the culture and ethos of services as this is integral to frontline practice and outcomes experienced. This is evident in the context of challenging behaviour where the components of Incident Analysis, Restrictive Practice, Safeguarding, Person Centred Planning, Restrictive Practices, and Rights Promotion are connected. These components are interrelated and the functioning of part(s) affect(s) the functioning of other parts within the organisation. This discussion paper presents reflections on the interrelated components central to much behavioural work and highlights evidence based practice related to each component. In addition the paper highlights the use of language which can set the agenda for change and growth of a rights based approach within organisations.

9:40

**Flipping Ethics!**

CLAIRE MCDOWELL (Ulster University), Philomena Smyth (Ulster University /NUI Galway), & Ken Kerr (Senior Psychologist, HSE)

Behavior analysts have long recognized the positive impact of peer instruction and active participation by students, on learning. However, for those teaching in University settings, it is often difficult to create opportunities for students to engage with material in ways other than reading, listening and notetaking. Educators have been working to break this lecture-centered instructional model by shifting the focus from a curriculum paced framework, to student learning needs as the driver of instruction. Some educators are turning to an alternative model of instruction called Flipped Learning, in which digital technologies are used to shift direct instruction from the group learning space to the individual learning space. Changing instruction in this way then allows teachers to reconsider how to maximize face-to-face time with students. This presentation will describe how the classroom in an MSc level ethics module was flipped to provide students increased opportunity to collaborate with peers, engage more deeply with content, practice skills, and receive feedback on their progress. It will describe how classes were designed to allow more time to be devoted to coaching students, providing immediate feedback and inspiring and assisting them with challenging projects that give them greater control over their own learning about ethical practice in support services.

10:00

**Discussant:**

Rebecca Sharp (Bangor University)

**10:20 – 11:00: REFRESHMENTS (Common room 3<sup>rd</sup> floor)**

**Symposium: Disseminating and supporting behaviour analysis**

Chair: Stacey Hunter (Bangor University)

**BCBA CE: 1.5**

11:00

**Embedding ABA into established professions: establishing the Royal College of Speech and Language Therapy clinical excellence network for s/lts interested in ABA**

BETHAN MAIR WILLIAMS (Bangor University)

There is a widespread assumption amongst the ABA community that speech and language therapists are hostile to behavioural principles. The presenter, herself a speech and language therapist and a BCBA, has made it her aim to challenge these assumptions and work with her professional body to establish a clinical excellence network across the UK and further afield, with two other colleagues. The attitude of the RCSLT to both ABA and evidence-based practice will be discussed, as well as the practicalities of establishing the network. She will give guidance to those from other professions who wish to establish formalised ways of having their interest in ABA acknowledged. This study used a web-based survey to ask behaviour practitioners in post questions about their job, including the duties they perform, and the reporting and management structures they fall into. The aim of this study is to identify the current roles, responsibilities and needs of behaviour practitioners within Services to identify the future needs of behaviour practitioners and behaviour support services, and to identify effective work practices

for practitioners in this role. The results of the study showed wide variety of skills and professional affiliations amongst current practitioners in post. It highlighted issues in relation to obtaining appropriate supervision and the current needs that practitioners have in order to fulfil their posts effectively.

11:20

**IPA: No not a beer, a tool to be used when working with Speech. What knowledge of the International Phonetic Alphabet can contribute to Behaviour Analysis**

TARA E. MILLAN-BROPHY

The International Phonetic Alphabet (IPA) is a universal system to transcribe speech sounds. Knowledge of the IPA, or even the typical development of Speech Sounds is not included in the general training for BCBA's yet many set speech sound targets. This presentation is focused on the basics of the IPA and what it can contribute to practise. Information about the manner, place, and voicing of speech sound production has direct application to program design enabling you to create better speech sounds targets through developmental knowledge, but also through shaping procedures from one sound to another because you have a deep understanding of the component parts of the sound (Gerenser, 2009). A frequent mistake made in speech programmes are the addition of vowels onto consonants for example learning /duh/ for the sound /d/. This means that when the client begins to chain sounds together for example in DOG, they produce duh-oh-guh rather than dog. Knowledge of the IPA and speech sound production would facilitate evidence based and data driven speech sound targets.

11:40

**Assessing the impact of brief staff training on special educational needs professionals' attitudes towards and understanding of Applied Behavior Analysis**

SINÉAD SMYTH (Dublin City University), Claire McDowell & Benjamin Reading (Ulster University)

Research-based evidence points to the efficacy and value of Applied Behavior Analysis (ABA) in meeting the needs of individuals with learning disabilities and autism. Nonetheless, public, government, and professional perception of ABA, can be negative. The current study was designed to measure the impact of a short intervention on professionals' attitudes towards, and knowledge of, ABA. Teachers and classroom assistants from two separate schools for children with severe learning difficulties completed a self-report survey on knowledge of and attitudes towards ABA. They were then presented with a 90 minute training module. Following training, the self-report was re-administered. The mean scores for each group increased only after the training had been delivered. Self-reported gains in knowledge and modifications to attitudes were shown to have been maintained in a follow-up self-report. Further research is needed to address the impact of training on classroom practice.

12:00

**Implementation of School Wide Positive Behaviour Support in an Autism Spectrum Condition Specialist School – Progress and Challenges**

SONYA MULVANEY (Trinity College Dublin), Niall Wilson, Laura Fearon

School Wide Positive Behaviour Support (SWPBS) emphasizes the creation of systems that support the adoption and durable implementation of evidence-based behavioural practices and procedures, and fit within on-going school development. Four key elements underpin SWPBS; 1) Outcomes, 2) Data, 3) Practices, and 4) Systems” (Positive Behavioral Interventions & Supports (PBIS), 2017). Inscape House School is part of the Together Trust

in the North West of England. The Together Trust has committed to PBS across all its services and Inscape House School embeds this through their developing SWPBS systems. A strategic group consisting of a Clinical Psychologist, PBS Team Lead, and Speech and Language Therapist/Board Certified Behaviour Analyst have been developing and implementing three tiers of SWPBS since 2015. This presentation details the progress so far in implementing SWPBS within a very diverse special school, including the challenges that have arisen. The school serves a population of children and young people with Autism Spectrum Conditions. Students present along the range of the spectrum and have very diverse needs. This paper will discuss workforce development for learning disability nurses across Scotland. It will outline the development of a strategic approach to developing skills and competence in positive behaviour support across Scotland. This work focuses on supporting the development of capacity and capability within both practice and education. Examples of a number of initiatives aimed at promoting the capacity and sustainability within education and practice will be presented.

### 12:20 – 1:20: LUNCH

#### **Symposium: School-based interventions**

Chair: Stacey Hunter (CIEREI, Bangor University)

#### **BCBA CE: 1.5**

1:20

#### **SAFMEDS do not work for this child! The importance of implementation fidelity**

STACEY HUNTER (CIEREI, Bangor University) & J. Carl Hughes (CIEREI, Bangor University)

There is ample research to show the effectiveness of Precision Teaching (PT) and the use of SAFMEDS (Say All Fast Minute Everyday Shuffled). Yet some teaching staff state that for some of the students it does not increase their learning. This study aimed to assess whether this was an implementation fidelity issue. We assessed 9 schools (2 High and 7 Primary schools) observing teaching assistants (TAs) using SAFMEDS with 10 students who were at risk of failing maths. All TAs received the same training in the delivery of SAFMEDS. The initial findings of the first observation session and fluency probes show a positive correlation between the accuracy of the implementation of SAFMEDS and students' performance on the fluency probes. This study provides further evidence into the importance of implementation fidelity and the use of SAFMEDS.

1:40

#### **A short-time universal educational program aimed at reducing students' anxiety**

BØRGE STRØMGREN & Ana Stavrola Plavoukos (Oslo and Akershus University College of Applied Sciences)

The current study, a replication of a former study, examined the effect of a short-time universal educational program aimed at reducing pupils' anxiety. Participants were students in grade levels 5-7 (10-13 year of age) in two Norwegian schools. Employing a waitlist control design, one school received the program while the other school waited, and received the program after the first school. The program consisted of 5 lectures á 45 minutes presented to the whole class. Students' anxiety were assessed by students and their parents at three times. Results indicate that a short-time universal educational program may be beneficial and reduce students' anxiety levels.

2:00

**The STAR League: An Investigation into the Effects of a Novel Group Contingency on teenagers' behaviour at school**

CLARE BOHAN & Sinéad Smyth (Dublin City University)

Group contingency interventions such as the Good Behavior Game have been used to improve behaviour mainly in primary level classes. Evidence on classroom management interventions for secondary school age pupils is more limited. The aim of the current study was therefore to test the effectiveness of a novel gamified interdependent group contingency (STAR League) with secondary school pupils. Participants acted as team captains, choosing a combination of classmates to take part on their team. Teams gained and lost points based on the behaviours displayed by members throughout the term. The intervention was applied to class of pupils attending a mainstream secondary where more than 50% of pupils are considered to be at risk of non-school completion. Behaviours such as school attendance and disruption in class were monitored and analysed in order to detect improvements.

2:20

**Discussant:**

STACEY HUNTER (CIEREI, Bangor University)

**2:45 – 3:35: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3<sup>rd</sup> floor)**

**8:15 - 9:00: REGISTRATION (Foyer of UCL Psychology)**

LECTURE THEATRE: GROUND G03

**Symposium: Equivalence and visual perception**

Chair: Erik Arntzen (Oslo and Akershus University College)

**BCBA CE: 1.5**

9:00

**Electroencephalography (EEG) Recordings and Equivalence Class Formation**

GURO DUNVOLL (Oslo and Akershus University College, Akershus University Hospital, Oslo University Hospital), Erik Arntzen (Oslo and Akershus University College) & Thorbjørn Elvsåshagen (Oslo University Hospital)

An example of EEG-based measures of complex human behavior are the N400 event related potential (ERP); an index of semantic processing. In a typical experiment, two stimuli are successively presented. The N400 component is a negative peak elicited 400 ms after the second stimulus is presented when there is no relation between the two stimuli. However, the N400 is not elicited if a relation has been established between the stimuli. The N400 effect also applies when the stimuli are not directly trained as in the test for equivalence class formation (Bortoloti et al, 2014). The current presentation discusses a pilot project in healthy adult volunteers to investigate ERPs during a priming procedure after formed three 3-member classes with C-stimuli as familiar pictures. The main findings from this pilot support the results from Bortoloti et al. (2014), that unrelated stimuli elicit a larger N400 than stimuli pair in equivalence classes.

9:20

**Fixating, Attending, and Observing: Conceptual Distinctions and Roles in Visual Perception**

STEFFEN HANSEN (Oslo and Akershus University College) & Erik Arntzen (Oslo and Akershus University College)

With eye-tracking technology, behavioral researchers are able to track changes in eye-movements and fixation patterns during matching-to-sample performance. Still, the challenge is to operationalize the behavioral functions that eye-movements entail during such events. The purpose of this presentation is to provide a conceptual systematic framework on visual perception from a behavior analytic viewpoint. Based on influential publications on the observing response and eye-fixation, we will present a conceptual distinction between fixating, attending, and observing—towards perception. Basically, (1) ocular observing responses occur with and without clear-cut eye-fixation and (2) ocular observing responses are context-specific, hence, vary across behaviors, settings, and individuals. In behavioral research, fixation measures such as rate, number, proportion, and pattern have profound implications as they reveal important information about behavioral eye-movement pattern in the response delay. Thus, a conceptual understanding of eye-fixations and ocular observing adds to our understanding of complex human behavior.

9:40

**The Effects of Different Training Structures and Simultaneous and Delayed Matching-to-Sample in Elderly People**

ANETTE BROGÅRD ANTONSEN (Oslo and Akershus University College) & Erik Arntzen (Oslo and Akershus University College)

In the present study, 62 people with the age of 70 years and older served as participants. The conditions in the experiment were presented in a combined single-subject design and group design with reversals. Both the training structures many-to-one (MTO) and one-to-many (OTM), and simultaneous (SIM) and delayed matching-to-sample (0 seconds) (DMTS) were manipulated. The purpose of the experiment was to study how equivalence class formation was influenced by either training structures (MTO and OTM) or matching arrangements (SIM and DMTS) or an interaction. The results showed that establishing conditional discrimination in DMTS required more training trials than in SMTS. Further, the results showed small differences in formation of equivalence classes between SMTS and DMTS, but there were more participants forming equivalence classes in MTO compared to OTM.

**10:05 – 10:55: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3<sup>rd</sup> floor)**

**Symposium: Using behaviour analysis in a maintained special needs school setting**

Chair: Marguerite Hoerger (Bangor University)

**BCBA CE: 1.5**

11:00

**Using ABA in maintained special needs schools: The British Early Special School Teaching Model**

MARGUERITE HOERGER (Bangor University), Denise Foran, Hannah Philpott, Richard Hastings, Helena O'Boyle, Laura Pitts, & Elin Walker-Jones

This talk will discuss the BESST special education model; within this model behaviour analysts collaborate with classroom teachers to provide an education based on the principals of Applied Behaviour Analysis to children in Key Stage 1. Children received 7 hours a week of 1:1 teaching, supplemented by group teaching. Interventions are designed by Behaviour Analysts and implemented by teaching staff. All of the children in the classroom receive an education based on the principles of Applied Behaviour Analysis. We will review data from the original cohort that found that children made significant gains on the measures of intelligence and adaptive behaviours. The talk will explore the how a relatively small staff group and deliver effective, behavioural teaching throughout the school day. We will compare descriptive data from a 2 classroom running the BESST model with 4 schools who delivered a standard special school education model. We consider how ABA can be effectively delivered throughout the day in a maintained school.

11:20

**ABA provision for use in maintained schools: A consideration of prompting strategies**

DENISE FORAN (Bangor University), Marguerite Hoerger (Bangor University), Hannah Philpott (Bangor University), Eimear Kelly (Bangor University), & Richard Cross

In the BESST model, children received 7 hours a week of 1:1 teaching, supplemented by group teaching. Interventions are designed by Behaviour Analysts and implemented by teaching staff. Determining an effective

and consistent prompting strategy for teaching is a particular challenge with a large staff group in a busy classroom. Each staff member works with every child. Errorless learning has been shown to be effective, but can be cumbersome when switching between therapists teaching multiple children. No-no prompting relies on a punishment and isn't considered ideal for frequent use in a maintained school. Using a parallel treatments design nestled in a multiple probe design, we taught three Key Stage 1 children using three different prompting strategies: no-no prompts, errorless learning, and a hybrid we called error correction. Error correction was preferred because the strategy is the same for every trial and minimises the chances that teaching staff will make mistakes when prompting. One child learned equally well in all three conditions; one learned skills more efficiently in the errorless and error correction conditions; and one learned skills equally in the errorless and error correction conditions, but did not learn any skills in the no-no prompting condition. Results suggest that the hybrid model at least as effective as previously identified prompting strategies.

11:40

**Accepting Finished: Decreasing Problem Behaviour and Increasing Compliance to Handover Preferred Tangible Items**

HANNAH PHILPOTT (Bangor University), Marguerite Hoerger (Bangor University), Aoife Lyons, & Taryn Stine

In maintained schools, we frequently rely on iPads or computers as reinforcement. Compliance with instructions to handover preferred tangible items and transition to the next activity is a required skill in education settings. Problem behaviour and non-compliance with the instruction "finished" can lead to disruption to classroom routines and reduced instructional time. The following study aims to extend Hanley, Jin, Vanselow, and Hanratty (2014) methodology on delay and denial tolerance training to teach two participants diagnosed with autism spectrum disorder to accept finished. The study taught participants to handover preferred items (tolerance response) following the instruction "it's finished" (termination cue) and transition to and complete a less preferred activity without engaging in problem behaviour. Initially the tolerance response resulted in immediate access to the reinforcer. Gradually and systematically a delay to reinforcement was introduced and during the delay the participants were required to comply with adult instructions including academic demands. A multiple baseline design across participants was used to evaluate the effects of the intervention. Following high rates of problem behaviour at baseline the intervention was introduced and problem behaviour immediately reduced to zero levels for both participants consecutively. Furthermore compliance with adult instructions following the tolerance response increased for both participants.

10:00

**Discussant:**

Marguerite Hoerger (Bangor University)

**12:20 – 1:20: LUNCH**

**Symposium: Super Dynamic Food Dudes to the Rescue: Increasing Children's Consumption of Fruit and Vegetables and their Levels of Physical Activity**

Chair: Pauline Horne (Bangor University)

**BCBA CE: 1.5**

9:00

**Controlled Evaluation of the Dynamic Dudes Multi-Component Physical Activity Intervention in UK Primary School Children**

PAULINE HORNE (Bangor University), C. Fergus Lowe (Bangor University), Shona Whitaker (Bangor University) Ellen Dolan (Bangor University), Christie Culleton, (Bangor University) & Kelly Mackintosh (Swansea University)

The Dynamic Dudes intervention for 4-11 year olds in primary schools was evaluated in 2 intervention and 2 control schools using a between groups repeated-measures design. Over 1000 children took part. The three main intervention components were: classroom exercise DVDs; playground activity stations, and a P.E. training DVD for teachers. Dependent measures were: fitness (20-m shuttle run); BMI; waist circumference; weekday and weekend day steps (accelerometers). Pedometer steps performed during the classroom exercise DVDs, and at matched times of day in the control schools, were also recorded. Fitness and weekday steps were significantly greater in the intervention than the control condition at 9-week and 17-week post-baseline. Significantly more pedometer steps were performed during the intervention classroom exercise DVDs, compared to control children over matched time periods. There were no significant effects on BMI, or waist circumference. We conclude that the intervention significantly increased activity and fitness in primary school children.

9:20

**Validation of the Fitbit Zip® as a Measure of Pre-school Children's Step Count: A Cross-Sectional Study**

CATHERINE SHARP (Bangor University), Pauline Horne (Bangor University), Duncan Pascoe (Bangor University), Mihela Erjavec (Bangor University), Kelly Mackintosh (Swansea University)

This study investigated the validity and reliability of Fitbit Zip accelerometer step counts by comparing them to observer counts of steps performed by preschoolers during a standardised walking task. Fifty-six 3-4 year olds (29 girls) recruited from 10 nurseries in North Wales took part in a cross-sectional study. The children participated in the video-recorded 5-minute walking task (independent variable) whilst wearing a custom-made tabard containing two Fitbit Zip devices enclosed separately in vertically aligned pockets located over the child's right hip. An excellent intra-class correlation was found between the steps recorded by the two Fitbit Zips. Concordance between the Fitbit Zip and observer counts was also high. Percent relative error was within acceptable limits. For both Fitbit devices, the Bland-Altman analysis identified a similar bias and limits of agreement. We conclude that the Fitbit Zip accelerometer provides a reliable and valid method of recording step counts in pre-school children.

9:40

**Evaluation of the Super Dynamic Food Dudes Intervention for 3 – 4 year old Children at School**

CATHERINE SHARP (Bangor University), Pauline Horne (Bangor University), C. Fergus Lowe (Bangor University), & Mihela Erjavec (Bangor University)

A 7-month controlled trial evaluated short-term effects of the Super Dynamic Food Dudes intervention on 3-4 year old children's (N=199) in-school fruit and vegetable intake, and activity. Two schools were randomly assigned to the multi-component intervention and two continued with their standard curriculum. Dependent measures were target fruit and vegetable consumption, total in-school activity, activity during Dynamic Dudes intervention components, BMI, waist circumference, and blood pressure. During the intervention phase, Dynamic Dudes children were consistently more active than control children at comparable times of day. Between condition change scores found that intervention children increased their step counts at post intervention significantly more than control children, but no difference at 2-month Follow up. Although fruit and vegetable consumption in the intervention and control conditions was matched at baseline, the intervention children consumed significantly more at post-intervention. The combined intervention increased healthy eating and activity skills in 3 – 4 year olds at school.

**10:05 – 10:55: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3rd floor)**

**Symposium: The Uses of a Function Acquisition Speed Test (FAST) for Assessing Stimulus Relatedness in Basic and Applied Social Research**

Chair: Bryan Roche (Maynooth University)

**BCBA CE: 1.5**

11:00

**Quantifying test effect sizes: What do implicit test effect sizes actually mean?**

JAMIE CUMMINS, Bryan Roche, & Aoife Cartwright (Maynooth University)

Implicit testing procedures have become highly prevalent in recent years in both social-cognitive and behaviour-analytic domains as a means of assessing associations between stimuli. In spite of this, comparably little conceptual research has been conducted to investigate the nature of the outcome variable produced by these tests using experimentally-controlled stimuli. Some researchers have suggested that test effect sizes should be proportionately related to the “strength” of stimulus relations. However, this has never been examined in a controlled laboratory study. The current study examined this issue by administering a recently developed behaviour-analytic “implicit test” known as the Function Acquisition Speed Test (FAST), following different amounts of training designed to establish stimulus equivalence relations of different strengths (i.e., degrees of relatedness). In a third condition, the FAST procedure was administered to assess the relatedness of pairs of stimuli of known standardised association strengths in the vernacular. Laboratory-controlled stimulus relatedness was found to co-vary with test effect sizes. The comparative test effect sizes found using stimulus relations established in the vernacular raise some complex interpretive issues that will be discussed.

11:20

**Using the Function Acquisition Speed Test to assess racial prejudice: Is anti-blackness necessarily relative to pro-whiteness?**

ANTHONY O'REILLY (University of Essex), Bryan Roche (Maynooth University), & Jamie Cummins (Maynooth University)

The Function Acquisition Speed Test (FAST) is a behaviour-analytic implicit test for assessing verbal histories and implicit attitudes. The issue of the relativity of implicit test effects plagues the implicit testing literature both within and outside behaviour analysis, and yet no study has systematically examined the changes in effects that occur when a salient contrast category is employed. The current study used the FAST to investigate whether anti-black implicit attitudes are exacerbated by the presence of pro-white comparison categories on the test. Specifically, two groups of participants were each administered one FAST test procedure, both of which assessed the already established strength of black-bad stimulus relations using real world stimuli. This was achieved by assessing the rate at which a functional relation was established between exemplars of black and negative word stimuli. However, for one group, a simultaneous functional relation between nonsense words was also established, whereas for the other the second functional relation was a "contrast relation" consisting of white and positive stimuli. It was found that the use of positive and white stimuli in the contrast relation did not increase the strength of anti-black stimulus relations. This result will be interpreted in the context of the particular stimulus relations employed for the analysis.

11:40

**Using the Function Acquisition Speed test to Asses Attitudes towards Condoms: A comparison of scoring methods**

IAN TYNDALL (University of Chichester), Amy Curtis (University of Chichester), Bryan Roche (Maynooth University), & Jamie Cummins (Maynooth University)

One million people worldwide contract a Sexually Transmitted Infection (STI) every day. Research has proposed that framing effects influence individuals' engagement in safe sex, which may decrease this problem. The current study assesses the impact that message framing has on changing implicit attitudes towards condom use using the Function Acquisition Speed Test (FAST; O'Reilly et al., 2012), and changing explicit attitudes towards condom use as measured by the by the Safe Sex Behaviour Questionnaire (SSBQ; Dilorio, 2009). Fifty one participants took part in the current study and were equally divided into either the gain frame condition, loss frame condition or no message condition. Two FAST tests were administered following the message intervention in each condition. One FAST measured positive attitudes towards condoms, and the other measured negative attitudes. A significant positive bias towards condoms was found in the gain framed message condition, as opposed to the loss condition and control condition that found no bias for or against condoms. The SSBQ, however, did not detect any change in attitude from pre to post message. It can be concluded, therefore, that the FAST may be a more sensitive tool for measuring attitude change towards safe sexual practices than the SSBQ.

12:00

**Using two different FAST methods to assess skin tone preference**

Khensa Bhati (London South Bank University), Clodagh Murray (National University of Ireland, Galway), Bryan Roche (Maynooth University), & Jamie Cummins (Maynooth University)

The current study investigated perceptions of attractiveness and skin tone, prompted by a rise in skin bleaching, particularly among Asian communities in the UK. To this end, four sets of stimuli consisting of images of women of Asian origin across four skin “shades” were selected for use in a Functional Acquisition Speed Test (FAST). Three separate FASTs were run across participants to assess the relative relatedness of various pairs of skin tone exemplar stimuli to words positively and negatively evaluative of attractiveness.

Male and female participants of various ethnicities (n=120) were randomly assigned to one of the three FAST conditions. A clear bias towards the more rapid acquisition of light skin tone – positive evaluative word relations was observed, with effects varying as a function of participant ethnicity. The two different administration and scoring methods reported in the literature were employed in the study and the outcomes of these differing methodologies yielded slightly different results, an effect which will be discussed.

**12:20 – 1:20: LUNCH**

## PARALLEL SESSION DAY 2 – LECTURE THEATRE: LOWER GROUND

**Symposium: Advanced operant concepts: stimulus equivalence and delay**

Chair: Rebecca Sharp (Bangor University)

**BCBA CE: 1.5**

9:00

**Disentangling memory and inference in the study of equivalence class formation**

DAVID W. DICKINS (University of Liverpool)

In conventional studies of equivalence class formation (ECF), participants must first learn some stimulus-stimulus pairings, the ‘trained relations’, or ‘premise pairs’, where some of the stimuli (‘nodes’) serve in more than one such pair. Typically, participants are trained using a matching-to-sample (MTS) procedure until they attain some criterion of mastery of this test of cued recognition. Similar and additional kinds of memory retrieval must then be deployed when MTS is also used to test for equivalence relations. In tests of symmetry the roles of stimuli as cues (samples) or as retrieved items (comparisons) are now interchanged. In tests involving transitivity the sample cues the retrieval (usually covert recall?) of a node, which in turn must cue the recognition of the appropriate comparison. In such rearranged tests the participant must somehow both (a) select and (b) enact the appropriate algorithm. It is proposed that the memory load entailed by either (b) alone, or in interaction with (a), can be a factor in reducing the likelihood of ‘achieving’ ECF. If tests of the retrieval of the individual stimuli are given after training but before testing, recognition is usually robust, but often free recall is not. Here some experiments are considered in which, during tests of derived relations, a display of all the premise pairs was maintained in direct view, to see if participants were able (and chose) to apply an appropriate algorithm to these overlapping relations, without the additional burden of having to remember them.

9:20

**The Orienting Response and Stimulus-Stimulus Transitivity: Comparisons across Procedures and Training Structures across three, 3-member Classes**

MICAHA AMD, Joao H. Almeida, Carol Almeida, Henrique Pompermaier, H., &amp; Julio deRose (Federal University of Sao Carlos)

An ongoing inquiry within equivalence research involves clarifying the role of reinforcement in class formation - on one hand, Sidman<sup>1</sup> and others<sup>2</sup> maintain differential consequences to be fundamental towards the emergence of transitive stimulus-stimulus (S-S) relations. Alternatively, Tonneau<sup>3</sup> and others<sup>4</sup> propose environmental S-S correlations to be key in this regard. Another line of investigation has focused on how different training structures (many-to-one, one-to-many, linear) contribute towards class formation. The current experiment expands along both lines of inquiry. Specifically, twelve groups of participants were parsed along four procedures (e.g., matching-to-sample) and three training structures. Group, Structure and Procedure were entered into a stepwise regression, where only Procedure significantly predicted the emergence of transitive S-S relations, with the commonly used matching-to-sample procedure yielding the lowest accuracies. Our results demonstrate how orienting<sup>5</sup> towards relevant S-S correlations in the environment can suffice to establish transitive S-S relations sans differential reinforcement, supporting Tonneau’s correlational account.

9:40

**Forget the good quickly but the bad consistently? Differences in Positive and Negative Valence Decay**

MICAH AMD (Federal University of Sao Carlos), Armando Machado (University of Minho), & Julio deRose (Federal University of Sao Carlos)

Memories of emotional events that were once intensely valenced gradually become less valenced with time. Experiences establish emotionally valenced memories due to the presence of a biologically significant event (e.g., during conditioning<sup>1,2</sup>) and/or through mediation<sup>3</sup>. In classical behavioral theory<sup>2,4</sup>, valences established through conditioning are predicted to extinguish/decay like any other conditioned response. This was assessed across two experiments, where participants first rated the valences for abstract shapes and emotional faces along a unidimensional Likert scale to provide baseline valences. Next, some shapes were correlated with happy and sad faces respectively to condition them with positive and negative valences. These shapes, alongside others that had not been paired with anything earlier, were presented to participants multiple times over two months on a mobile application as participants continued to provide ratings. Analyses of variances revealed that only those shapes with conditioned valences evoked significantly different ratings across time, as predicted.

**10:05 – 10:55: POSTER VIEWING (ROOM 305) AND REFRESHMENTS (common room 3rd floor)****Symposium: Clinical applications of behaviour analysis**

Chair: Rebecca Sharp (Bangor University)

**BCBA CE: 1.5**

11:00

**Using stimulus preference assessments to determine how and how people with dementia choose novel items**

PUSHWINDER RAGHVANI & Rebecca Sharp (Bangor University)

Multiple stimulus without-replacement preference assessments, in which preferred items and activities that may also serve as potential reinforcers, have been used effectively with other populations (e.g., adults and children with intellectual disabilities). Typically, stimuli used in preference assessments are identified through indirect methods such as interviews with staff and family members, or by identifying stimuli with which the participant has already engaged. Therefore, novel items (i.e., unexperienced by the participants) are often not included. We evaluated how choices were made by six individuals with dementia when presented with arrays of novel stimuli (new items brought into their care home), arrays of non-novel stimuli (existing items available in their care home), and combined arrays of novel and non-novel items. The results showed that some participants (two of the six) preferred novel stimuli over familiar stimuli, which suggests that novel stimuli should be introduced when possible. Our study contributes to the literature supporting the use of stimulus preference assessments for people with dementia, and also

11:20

**Teaching mands for information using ‘wh’ questions to a child with autism**

NATALIE WOODS & Ciara Padden (Tizard Centre, University of Kent)

Children with autism often fail to learn to mand for information from the natural environment. A multiple baseline design was used to teach mands for information using ‘who’, ‘where’ and ‘what’ to a 6-year-old boy

with autism. Intervention components included manipulation of motivation, verbal prompting, time delays, and delivery of the information as reinforcement. Intervention was designed to bring manding under the control of motivation; a time delay to capitalise on motivation and the inclusion of abolishing operation trials were utilised for this purpose. Teaching of ‘what’ involved a mystery bag technique; teaching of ‘where’ used an interrupted chain technique, and teaching of ‘who’ involved a hidden objects technique using photographs of familiar adults. Following acquisition, mands were maintained at three month follow up. Generalisation to untrained situations and the natural environment was observed for both ‘what’ and ‘where’, and ‘who’ was generalised from photographs to in vivo people.

12140

**Effects of Functional Discrimination Training on Auditory-visual Conditional Discriminations in Children with Autism**

SIGMUND ELDEVIK (Oslo and Akershus University College), Hege Aarli (Pedagogical Psychological Centre), Kristine B. Titlestad (Bergen University College), Ellie Kazemi (California State University, Northridge), & Greg Elsky (Behavioral Learning Network)

Behavior analytic procedures have been largely successful in establishing auditory-visual conditional discriminations with children with autism. Nevertheless, some children may not learn such discriminations. In this study we examined if functional discrimination training could help. We compared the number of trials needed to establish auditory-visual conditional discriminations through functional and traditional arbitrary discrimination training in an adapted alternating treatment design. Five out of the eight participants showed more rapid acquisition and also demonstrated discrimination between more items in the functional discrimination condition. The remaining three participants did not exhibit any discriminations in either condition within the allotted 500 trials/20 days. These findings suggest that in some cases, functional discrimination training may facilitate the establishment of auditory-visual conditional discriminations.

12:00

**Evaluating the impact of brief Positive Behavioural Support Interventions with children with intellectual disabilities**

GRETA BRUNSKILL & Sandy Toogood (Bangor University)

Children with intellectual disabilities (ID) are vulnerable to developing challenging behaviour, which can have a significant impact on the quality of life of children and their families. Positive Behavioural Support (PBS) represents the leading model for individuals with ID who show challenging behaviour, and evidence to support its effectiveness with children and families is growing. A tiered PBS pathway was developed within a specialist NHS Trust to support the delivery of PBS to children and families. Evaluation of the brief PBS intervention within this using outcome data from four families showed positive outcomes in terms of reductions in targeted behaviours, and improvements in quality of life goals as rated by parents of all four children, and fewer problems on the Aberrant Behaviour Checklist for three children. Recommendations are made for systematic evaluation of this pathway to inform local developments and the evidence-base for PBS in supporting children with ID.

**12:20 – 1:20: LUNCH**

**INVITED SPEAKERS: LECTURE THEATRE, LOWER GROUND FLOOR**

1:20

**PLEASE SIR, MAY WE HAVE MORE SCHOOL-WIDE PBS IN THE UK?**

LOUISE DENNE (SF-DDARIN), Corinna Grindle, Katy Lee, Nicholas Ward, Gemma Nicholls, Andreas Paris, Richard Hastings, & J. Carl Hughes

**BCBA CE: 1**

SW-PBS, the subject of the keynote address at the Festival of Behaviour Change hosted at Bangor University last year seems to be the new trend – PBS is more “palatable” than ABA and PBS is acknowledged as an effective way of working with individuals with learning disabilities and at risk of behaviour that challenges. There are a few examples of PBS being conducted in school settings some of which has been described as SW-PBS but whilst many are good examples that share core features of PBS in school settings none represent a systematic replication of the US SW-PBS model. Core work from the US in SW-PBS is with mainstream children and not with individuals with learning disabilities and at risk of behaviour that challenges, whereas in the UK the call for SW-PBS (or maybe more appropriately PBS in schools) has been predominantly driven by the needs of children with LD and at risk of behaviour that challenges. There is no doubt that an opportunity exists for SW-PBS in both mainstream and special education but the models may be different. This discussion-led symposium seeks to explore these questions. A short presentation will be followed by three case studies, each illustrating the use of the decision making triangle to identify to select, implement and integrate the most appropriate evidence-based academic and behavioural practices. A facilitated discussion inviting audience participation will address each of the questions posed as well as any others raised by participants.

The PBS Academy seeks to increase the use of PBS as a framework for supporting children and adults with learning disabilities across the lifespan. It also seeks to raise standards in the delivery of PBS, to develop the capacity of local communities to support people with learning disabilities, and to ensure a system of support that develops, recognises and rewards competent staff in the effective delivery of PBS across different settings.

The latest project has been the development of several resources, however does not include the establishment of the accreditation process itself. Accreditation needs to be conducted by an incorporated organisation and the PBS Academy currently exists in an informal capacity. However, establishing standards is a first and necessary step of any accreditation infrastructure and these standards are being made available under a creative commons licence for any organisation wishing to provide the accreditation process. This panel -led question and answer session will include a brief presentation of the standards followed by an opportunity for participants to ask about the standards and share views on what an accreditation system might entail.

2:10

**UPDATES FROM THE UK SOCIETY FOR BEHAVIOUR ANALYSIS**

JENNIFER L. AUSTIN, PhD., BCBA-D, President, Mecca Chiesa, Kate Grant, Suzy Yardley, Richard May, Clodagh Murray, Mandy Williams, & Emily Groves (UK Society for Behaviour Analysis)

This session will provide an overview of the activities and accomplishments of the UK-SBA over the past year, including the launch of our new website and voluntary register. We will discuss how the Society is working toward professional recognition of behaviour analysts in the UK, how we have engaged with the media to raise

the profile of behaviour analysis, and how we are endeavouring to meet the needs of both behaviour analysts and the consumers they serve. We also will announce the winner of the UK-SBA Student Research Award, introduce the newly elected members of the Board, and recognise outgoing board members. Input from attendees will be welcomed during a Q&A at the end of the session.

2:30

**SCHOOL-BASED ASSESSMENT AND INTERVENTION FOR TYPICALLY DEVELOPING PUPILS**

JENNIFER L. AUSTIN, PhD, BCBA-D (University of South Wales)

**BCBA CE: 1**

Challenging behaviour continues to plague both primary and secondary schools, despite a raft of educational and government policies to tackle it. As the number of children with significant behaviour problems grows, the need for practical, relevant, and evidence-based strategies for solving these problems has become an increasingly pressing issue. Behavior analysis certainly has much to offer with regard to helping schools solve their problems and achieve both their academic and behavioural goals. However, our literature has tended to focus less on applications of our science to typically developing children and adolescents, so there is still much we don't know about the nuances of working with these populations. This presentation will address some of the challenges associated with applying school-based functional analysis and intervention strategies with typically developing pupils, as well as delineating some possible solutions derived from both research and clinical practice.

**3:30 – 4:00: REFRESHMENTS**

4:00

**PROFESSOR FERGUS LOWE MEMORIAL KEYNOTE ADDRESS**

**HOW BEHAVIOURAL SCIENCE CAN FOSTER THE EVOLUTION OF MORE NURTURING SOCIETIES**

Dr ANTHONY BIGLAN (Oregon Research Institute)

**BCBA CE: 1**

This address will outline how behavioral scientists can significantly increase the nurturance of wellbeing in our societies. Despite recent disturbing trends in the direction many societies are moving, we can evolve societies that nurture their members much more than they do now. I will provide an overview of the progress that behavioral science has made in identifying the basic conditions human beings need to thrive and will provide a brief overview of family and school interventions that have been shown to prevent the development of the majority of psychological and behavioral problems that affect wellbeing. Moreover, encouraging evidence indicates that these interventions may prevent the inflammatory processes that contribute to cardiovascular disease. At the same time, many macro conditions continue to influence human development. I will describe the recent evolution of advocacy for free market economics, which has undermined communitarian values and promoted public policies that increase poverty and economic inequality. Behavioral scientists can also help to counter these trends. I will describe some of the efforts that are underway to do that.

Closing Session DAY TWO END (End of organised symposia)

(Social meeting in Tavistock bar from 6:30)

**POSTER PRESENTATIONS: DAY 1****Effects of facilitation procedures in the emergence of equivalence-equivalence relations in young adults**

MADELEINE MARCELINO, Ana Arantes, & Nassim Elias (LAHMIEI Autism Institute at Federal University of São Carlos)

Responding to equivalence-equivalence (EqEq) relations is a central concept for functional analytical model of analogical reasoning. Previous research has shown that establishing equivalence classes is not always sufficient for emergence of EqEq relations. We aimed to assess the effects of equivalence class formation in the emergence of EqEq relations in young adults. A matching-to-sample (MTS) procedure was used to establish three threemember classes and to test EqEq relations emergence. Participants who did not responded to EqEq relations were exposed to facilitation procedures with geometric pictures or equal/different signs as comparison stimuli. A verbal rule was given to participants that did not responded to EqEq relations after facilitation procedures. Results show that some participants responded by analogy before facilitation procedures, some only after this procedure and almost all reached criterion after receiving a verbal rule. Some participants responded to analogy tests under control of only some aspects of a stimulus pair.

**Tizard Centre: Postgraduate Programmes in Applied Behaviour Analysis & Positive Behaviour Support**

CIARA PADDEN, Peter McGill, Mecca Chiesa, Peter Baker (Tizard Centre, University of Kent)

The Tizard Centre, University of Kent specialises in teaching, research and consultancy relating to autism and other intellectual/developmental disabilities (IDD). In 2013, the Centre was recognised with the prestigious Queen's Anniversary award for Higher Education in recognition of 'outstanding contribution to improving the lives of people with disabilities and their families'. The Centre has been offering postgraduate programmes in applied behaviour analysis (ABA) since 2012, while the postgraduate offer was expanded in 2016 to include programmes in positive behaviour support (PBS). Both are approved course sequences with the Behavior Analyst Certification Board® (BACB), and draw national and international students who seek to apply the theory and practice of ABA/PBS within the IDD field. This poster will provide information on the structure of the Tizard Centre's ABA and PBS programmes, and outline different pathways students can take through these programmes. In addition, details on applications and admissions processes will be provided.

**A Comparison of Differential Reinforcement and Noncontingent Reinforcement on the Duration and Variation of Tooth Brushing in Children**

LUKE STOCKLEY, Megan Gardner, & Richard May (University of South Wales)

In England and Scotland, tooth decay is the most common reason for children between the ages of 5 and 9 to be admitted to hospital in order to undergo general anaesthesia (Faculty of Dental Surgery, 2015). A recent randomised controlled trial reported that providing noncontingent access to a video during brushing periods, increased the duration of independent brushing of young children relative to a 'no-video' control group (Archila et al., 2015). The present study sought to extend this research by evaluating the effect of making access to videos contingent upon particular brushing patterns. An ABACA design was employed to evaluate the effects of contingent vs noncontingent access to a preferred video, on brushing duration and brushing location. For two of

the three participants, contingent access to video feedback was shown to be superior in promoting a more thorough tooth brushing routine.

### **Using equivalence based instruction and group responding to teach from the Irish science curriculum.**

RONDA BARRON (Dublin City University), Sinéad Smyth (Dublin City University), & Julian Leslie (University of Ulster)

The present study was novel in the use of 1) equivalence based instruction (with matching-to-sample) to teach elements of the Irish primary school science curriculum and 2) group contingencies to achieve this. Pre-experimental category awareness was tested using a paper and pencil test. Three four-member equivalence classes were trained through a matching-to-sample procedure presented via Powerpoint presentation. Individual student responses were collected using a computerised “clicker”, and group the software program generated group scores. Participants were tested through the same means for trained relations and the emergence of derived symmetry and transitivity relations and the re-administration of a similar pencil and paper category task. The results demonstrated the group passed all training and testing phases meeting the criteria for equivalence. Significant differences were also found between pre- and post-intervention knowledge levels.

### **Using Behavioural Skills to Train Novice Therapists on Mand Training**

GEORGIA CHRYSOULA TSIKOURA, Aimee Giles, Veronica Dunning (University of South Wales)

A mand can be defined as the verbal response of a child in expressing their preference. One of the potential causes of the pronounced negative behaviour in children with autism. Therefore, it is reasonable for interventionists to focus on the development of a strong mand repertoire in children with autism. Mand training has been shown to be successful in increasing mands. The intervention has successfully been implemented by staff with no specific training. Due to the importance of treatment integrity when implementing an intervention, an effective training programme should be used. The current study aimed to extend the research on mand training and novice therapists took part in the study. A rate of mands and treatment integrity baseline was taken before BST was implemented. Treatment integrity and rate of mands (independent and prompted) were measured through post training sessions. The novice therapists were trained using a procedure of instructions, modelling and rehearsal until they reached 90% treatment integrity for two consecutive sessions during BST. During post-training this stayed around 90% for one of the participants, whereas the other one dropped below the 90%. After each post- training session, feedback was given for the performance of the participant. Results indicated that BST was successful in increasing treatment integrity for both participants, although one of the participants needed extra sessions in post- training to maintain the level of around 90% integrity. The most common errors that participants made were not providing an opportunity for the child to request independently or to introduce appropriate prompt level, asking the question “What do you want?” to the child and not keeping control of the toys. All these errors decreased following training. The mand intervention was successful in increasing mands. Possible areas for future research on mand training and BST are presented.

**Teaching mental calculation**

ROSSANA SOMALVICO & Lorenza Chiozzi (Independent consultants)

Conceptualizing thinking as a form of behaviour can lead to the use of techniques for analysing and modifying it (Mechner, 2013). Solving mental addition and solving mental subtraction could be conceptualized as two different decision trees that include different specific chained thinking behaviours. Modelling was used as a teaching procedure of the two different decision trees: solving additions and subtractions. Modelling included overt algorithms (specific questions and instructions) used for going to the next step of the calculation. A multiple baseline across behaviours was used for evaluating the use of the teaching procedure to teach mental calculation in three girls attending a four grade class. The data suggest that the treatment worked; children learned first to solve mental additions and then mental subtractions.

**A Comparison of Two Conditional Discrimination Procedures for Teaching Children with Autism**

BRITTANY M. DISANTI (Oslo and Akershus University College), Svein Eikeseth (Oslo and Akershus University College), Sigmund Eldevik (Oslo and Akershus University College), Jenna M. Conrad (The Achievement Center), & Kortnie L. Cotter (The Achievement Center)

This study compared two different conditional discrimination procedures for teaching receptive labeling to 4 boys with autism spectrum disorder. Participants ranged in age from 4-years to 10-years old. All participants were exposed to two sessions a day of the Structured Mix before Counterbalanced Random Rotation procedure and Counterbalanced Random Rotation procedure. The Structured Mix procedure followed seven-steps involving mass trialing and intermixing of stimuli before Random Rotation. The Random Rotation procedure involved training all stimuli randomly at the start. Primary communication for all participants was through an Augmentative and Alternative Communication device or Picture Exchange Communication System. The receptive targets trained across all participants included nouns. Two participants acquired the receptive labels in the Structured Mix condition, one participant acquired the receptive labels in the Random Rotation condition, and two participants did not acquire the receptive labels in either of the two conditions.

**Class-wide use of SAFMEDS to improve mastery of A-level students' psychology terminology**

KATE GEARY, Stacey Hunter, & J. Carl Hughes (CIEREI, Bangor University)

Although psychology is a popular choice for "A" level students the numbers achieving an A grade was only 13.2% in 2016. SAFMEDS has ample evidence to show the effectiveness of increasing basic skills in a one-to-one and small group basis. However, recent research has looked at expanding the use of SAFMEDS to mainstream class-wide environments with positive outcomes. We investigated whether incorporating SAFMEDS (Say All Fast Minute Every Day Shuffled) class-wide into an A-level psychology lesson could improve student's knowledge of the technical jargon in the subject. Training was provided for the teacher and students prior to the intervention. The students completed SAFMEDS for 10 minutes at the end of each psychology lesson, and the class teacher managed the procedure. To the authors knowledge this is the first known research to assess SAFMEDS class-wide with A-level psychology students. The preliminary results show an increase in students' knowledge of technical vocabulary and this has maintained in the typical classroom setting.

**POSTER PRESENTATIONS: DAY 2****School-based behavioural intervention on a compulsive liar child**

ANA ARANTES & Thais Pilon Ferro (LAHMIEI Autism Institute at Federal University of São Carlos)

Some behaviours such as stealing and lying are difficult to deal with directly but can be managed and/or modified through manipulation of same class responses. This work presents a behavioural intervention on a 12 years old boy referred to special education services by the school staff for lying constantly and for being engaged in theft episodes. A Functional Behaviour Analysis (FBA) was conducted to identify the lying behaviour function within specific school context. Both descriptive assessment and experimental manipulation of environmental variables were used. Lying behaviour was observed under attention conditions. We programmed a differential reinforcement of incompatible behaviour (DRI) intervention combined with extinction of same class problem-behaviours. The reinforced behaviour was any verbal report that matched events in the environment during contexts of game play and academic tasks. Results recorded throughout sessions showed a constant decrease in the problem-behaviour and increase in engagement during classes and homework.

**Persistent barriers to implementing Positive Behaviour Support: three commonly encountered themes**

EMMA CASBON, Kath McLennan, Gillian Morgan, Dave O'Regan, Mike Nicholson, Claire Welch (Positive Behaviour Support Service, Halton Borough Council)

The Positive Behaviour Support Service (Halton Borough Council) conducts behavioural assessments, designs intervention plans and supports their implementation in many varied settings. Factors affecting consistent implementation are often encountered and overcome. However, some persistent barriers can halt intervention, affect consistent implementation and prolong the occurrence of challenging behaviour over time. Three themes are presented, describing potential issues with specialist residential service provision, lack of alternative housing for people with complex needs and challenges in working through some third parties to effect behaviour change. Long-term impact of this support for the young man and his family are discussed.

**A comparison of discrete trial teaching and fluency training to teach flag labels to individuals with an autism spectrum disorder (ASD)**

BOBBIE-JAY HASSELBY & Emily Tyler (Bangor University)

Discrete trial teaching (DTT) and fluency training (FT) are two approaches used within applied behaviour analysis (ABA). DTT aims to break down and simplify instructions, allowing the individual to be exposed to greater learning opportunities. FT involves teaching an individual to perform a behaviour to rate and accuracy. The current research aimed to answer the following questions: 1) Is FT or DTT more effective in terms of acquisition? 2) which intervention will result in greater retention of the skill? Three participants, aged between 12 and 14, with diagnoses of ASD participated in this study. An adapted alternating treatment design was used to teach flags of the world. The results demonstrated that both teaching approaches were effective in teaching flag labels, however the overall effectiveness was subject to individual differences.

## **An Overview of Autism and Applied Behavior Analysis in the Gulf Cooperation Council in the Middle East**

SARAH NORTHROP (ABA Consultant), Michelle Kelly, Ingy Alireza, Heather Busch, Mohammad Al-Attrash, Susan Ainsleigh & Nipa Bhuptani

Despite the fact that autism is on the rise, there is paucity in the literature examining the treatment of autism in the Middle East and specifically the Gulf Cooperation Council (GCC). The current review investigates the past, present, and future status of interventions for autism based on Applied Behavior Analysis (ABA) in the six countries of the GCC, namely the Kingdom of Bahrain, the State of Kuwait, the Sultanate of Oman, the State of Qatar, the Kingdom of Saudi Arabia, and the United Arab Emirates. The aims of this paper were to provide a brief overview of autism and ABA clinical services and educational opportunities and to investigate the relevant research published from each of the six states of the GCC.

## **Behavioral approaches to working with people with comorbid dementia and intellectual disabilities: A review of the literature**

ZOE R. LUCOCK, Rebecca A. Sharp & Robert Jones

Behaviour analysis has made significant contributions in the development of evidence-based interventions for people with intellectual and developmental disabilities (IDD) and there is a growing evidence base for behavioural gerontology; interventions for older adults with and without dementia. As there is an increased number of adults with IDD living into old age, and a significantly increased prevalence of comorbid dementia diagnosed in people with IDD, a review of the behavioural contributions with this population is warranted. We searched Web of Science and PsycInfo for non-pharmacological journal articles for which the population was people with comorbid IDD and dementia. We found that of the 45 studies included, there were few behavioural studies, and those that were behavioural were published in non-behaviour analytic journals. Of the non-behavioural papers, the majority relied on non-direct measures such as staff report and interviews. The implications of this for future research directions are discussed.

## **Masters Programme in Applied Behaviour Analysis at Bangor University**

REBECCA A. SHARP, J. Carl Hughes, Marguerite L. Hoerger, Alexander Toogood, Elin Walker-Jones & Emily Tyler (Bangor University)

In 2003, we developed the first Masters course in Applied Behaviour Analysis in Europe. The course is designed and taught by Board Certified Behavior Analysts (BCBA) and has been approved by the Behavior Analysis Certification Board (BACB) as providing content eligibility for students to sit the full BCBA exam. In line with the British University system, the course is offered at three levels: Post-graduate Certificate, Post-graduate Diploma, and Masters. In the design and running of the course we have attempted to use behavioural principles in the instructional materials, learning environments, and in the assessment of students learning. We utilise computer based instructional packages, direct instruction, and, Precision Teaching approaches, such as SAFMEDS and Standard Celeration Charting. The course can be taken in one year or on a part-time basis (either two or three years in duration). Each year we enrol approximately 60-70 students from a wide range of backgrounds: early autism intervention projects, challenging behaviour units, social services, special education, and new graduates. Our main aim is to make a significant contribution to training competent behaviour analysts in Europe.

**Learning to survive a zombie apocalypse: An application of gamification to undergraduate teaching**

REBECCA A. SHARP, Stacey H. Hunter, Kate R. Isherwood, Rhiannon A. Willmot, Zoe R. Lucock, Kaydee Owen, Jessica Coimbra, & John A. Parkinson (Bangor University)

‘Gamification’ is when non-game activities are designed to include game mechanics. Interestingly, many gamification elements are derived from core behavioural concepts due to their efficacy in promoting motivation and behaviour. There is an increasing body of research that shows gamification can help people in areas of their lives such as increasing exercise and teaching job skills, however there is little on the application to gamification in tertiary education. We ‘gamified’ an undergraduate module using a dystopian future viral infection as a narrative theme. We conceptualised the gamification as a component intervention of multiple behavioural concepts such as conditioned reinforcers (i.e., game points), points, and rule-governed behaviour. Additionally, the use of actors present in lectures, themed materials, videos, and scenarios facilitated storytelling, resulting in a novel, salient, and immersive experience for students. We measured attendance, engagement with class materials between lectures, and performance on in-class quizzes and formal assessments, and compared these to other ‘control’ modules. Attendance was high across the semester (range 74.5% to 90.1% across lectures) when compared to control modules, and a very high proportion of the class engaged with materials between lectures. We demonstrated a relationship between engagement with materials and attendance to exam performance, demonstrating the utility of analysing individual students’ data instead of group data. We discuss our findings with particular consideration of contingencies affecting academic behaviours, and discuss the utility of gamification in tertiary education for a behavioural perspective.

**Workshop 1: HALF DAY WORKSHOP: 9.30-1.00pm**

**Ethics and Professional Conduct** - Dr Elin Walker Jones, BCBA-D & Dr Sandy Toogood BCBA-D (Bangor University)

PRICE: £60 FULL REGISTRANT / BCBA; £30 – STUDENT / BCABA (Please Note this charge is NOT covered in Conference Registration)

BCBA CEUs: 4 (Ethics)

*Background*

Ethics is pervasive, at the heart of everything we do. The effectiveness of behaviour analytic approaches in changing behaviours of social significance has been demonstrated unequivocally, however, questions as to when, how and where it is appropriate to intervene are increasingly the focus of attention within the behaviour analytic community. It is no longer a case of can we, but should we, and if so, who says we should. In view of changing priorities, the BACB has produced a new Ethics code which will be operational as from January 1st 2016. In addition, in order to recertify, BCBA's are all required to complete 4 hours of CEUs in Ethics and Professional Conduct every three years.

This workshop will briefly review current BACB ethics and codes of conduct, identify the implications of the new code, and examine the differences between the new and the old. Codes of conduct attempt to prescribe ethical conduct for a profession or group. They do not, however, fully address every ethical dilemma a clinician may face, nor do they adequately facilitate reflective ethical practice or support rational principled decision-making in specific cases and on specific issues, for example, on the use of punishment contingencies. This workshop will explore the extent to which the Ethical Grid (Seedhouse, 2009), developed to help clinicians reason the ethics of health care, has utility in behaviour analysis.

*Learning Objectives*

- A. Describe the main components of the new BACB Ethics code.
- B. List the differences between the current codes and the new code.
- C. Use core concepts embedded in ethical thinking in discussion.
- D. Estimate the value of the Ethical Grid (Seedhouse, 2009) to reason complex clinical ethical issues.

*Activities:*

- A. The session will be interactive.
- B. There will be an introductory slide presentation on the BACB codes of conduct and the Ethical Grid (Seedhouse, 2009).
- C. There will be case-based discussion.

The workshop will be of interest to anyone wishing to complete their Ethics CEUs and / or become familiar with the new BACB Ethics code.

**Workshop 2 & 3: FULL DAY (9am-4.30pm) or HALF DAY WORKSHOP (1.30pm – 4.30pm)****BACB Supervisor Training Workshop - Rebecca Sharp BCBA-D (Bangor University)**

PRICE: £90 FULL DAY, £45 HALF DAY (Please Note this charge is NOT covered in Conference Registration)

BCBA CEUs: 8 (full) / 3 (half) (Supervision)

*Background*

As per the Behavior Analyst Certification Board's requirements (in effect from December 2014), all Board Certified Behavior Analysts (BCBAs) who provide supervision to BCBA candidates, Board Certified Assistant Behavior Analysts (BCaBAs), and Registered Behavioral Technicians (RBTs) must complete an 8-hr workshop on supervision practices. In addition to the 8-hr training course, BCBAs who wish to supervise applied experience will also need to complete an online module provided by the BACB. Additionally, supervisors are required to obtain at least three supervision-based CEUs each recertification cycle.

This workshop will use a combination of seminars, interteaching, and discussion groups to describe, define, and discuss effective supervision. BCBAs who have already completed the 8-hr workshop but wish to obtain three supervision-based CEUs for their ongoing professional development can book on for a half day. We will be covering novel content that aligns with the BACB Supervisor Training Curriculum Outline, making the workshop useful for both new supervisors and supervisors seeking ongoing development. The course is offered by Bangor University in collaboration with EABG. Lunch is not provided, but there are many nearby cafés and restaurants.

This training program is based on the BACB Supervisor Training Curriculum Outline but is offered independent of the BACB.

The workshop will cover the entire BACB Supervisor Training Curriculum outline, which includes:

9.00 - 9.50 a.m.	Purpose of Supervision <sup>1</sup>
9.50 - 10.40 a.m.	Important Features of Supervision <sup>2</sup>
10.50 - 12.30 p.m.	Evaluating the Effects of Supervision <sup>5</sup>
12.30 - 1.30 p.m.	Lunch
1.30 - 2.35 p.m.	Delivering Performance Feedback <sup>4</sup>
2.45 - 3.35 p.m.	Behavioural Skills Training <sup>3</sup>
3.45 - 4.30 p.m.	Ongoing Professional Development <sup>6</sup>

*Learning Outcomes:*

- A. Discuss different types of supervision critically.<sup>1</sup>
- B. Discuss why we engage in supervision and identify what behaviours we supervise for different supervisee populations.<sup>1</sup>
- C. Have the basic information to complete the BACB module on supervision.<sup>1</sup>
- D. Identify potential ethical issues associated with supervision.<sup>1</sup>
- E. Identify the components of effective supervision.<sup>2</sup>

- F. Identify the components of a supervisory contract.<sup>2</sup>
- G. Describe the components of behavioural skills training.<sup>3</sup>
- H. Demonstrate the components of behavioural skills training.<sup>3</sup>
- I. Describe the components of providing corrective feedback.<sup>4</sup>
- J. Identify a range of media through which feedback may be provided in supervision.<sup>4</sup>
- K. Describe measurement of directly observable effects of supervision.<sup>5</sup>
- L. Describe social validation of supervision with all stakeholders.<sup>5</sup>
- M. Describe the changes to the BACB required continuing education credits effective January 2015. <sup>6</sup>
- N. Describe a supervisor's professional development obligations in relation to both themselves and their supervisees.<sup>6</sup>
- O. Identify possible methods of engaging in ongoing professional development as a supervisor.<sup>6</sup>
- P. Identify barriers to the possible methods of obtaining ongoing professional development and possible solutions.<sup>6</sup>

**Workshop 4: Full DAY WORKSHOP (9:00 – 5:00)**

**Introduction to Precision Teaching and Standard Celeration Charting and using TAGteach® in combination with Precision Teaching** - Dr Mike Beverley, Bethan Mair Williams, BCBA & Speech and Language therapist & Kaydee Owen (Bangor University)

PRICE: £90 FULL REGISTRANT / BCBA; £45 – STUDENT / BCABA / £70 - for members of the *Royal College of Speech and Language Therapy* clinical excellence network for s/lts interested in ABA (Please Note this charge is NOT covered in Conference Registration)

BCBA CEUs: 6

*Background*

The Standard Celeration Chart (SCC), Precision Teaching and the principles of fluency-based instruction will be introduced in this seminar. The importance of using a clear data tracking system to ensure quality in the teaching and/or therapy process will be emphasized. Implications of focusing on fluency rather than accuracy only will be discussed. The use of Precision Teaching and the SCC as data collection and decision-making tools that can be introduced to any educational or therapeutic programme and any setting will be demonstrated and practiced.

In the afternoon, a basic introduction to TAGteach® (Teaching with Acoustical Guidance) will take place and delegates will learn how to use this in combination with Precision Teaching.

*Learning Objectives:*

- A. List and describe the key principles of Precision Teaching
- B. Chart performance using the Standard Celeration Chart (SCC)
- C. Create free operant learning environments
- D. List and describe the barriers that place ceilings on learning
- E. Describe a learning channel analysis
- F. Identify and describe learning pictures and how they signal the need for instructional changes
- G. Use basic acoustical guidance in teaching/therapeutic situations

*Activities:*

- A. A combination of slides and hands-on practice will be utilised.
- B. Participants will engage in interactive exchanges with the presenters and each other.
- C. Participants will actively engage in fluency building activities.
- D. Participants will chart their own learning.
- E. Participants will learn and practice the basic principles of PT and TAGteach® .

*Audience:* All those who are interested in applying behavioural principles to education and therapy across all settings. Also, those seeking an introduction, or refresher, on the use of Precision Teaching and the SCC. Participants are encouraged to bring materials that they use, or wish to use in teaching/therapy in order for us to work collaboratively to fit them into a Precision Teaching model.

NOTES: