

26th Annual International Conference on Comparative Cognition



Sponsored by the
Comparative Cognition Society
April 10th to 13th, 2019
Radisson Hotel
Melbourne Beach, Florida

President	Steve Fountain
Conference Organizers	Kent Bodily, Lauren Guillette
Secretary	Ken Leising
Treasurer	Mike Brown
Program Committee	Lauren Guillette (Chair), Kent Bodily, Jonathon Crystal, Jeffrey Katz, Suzanne MacDonald, W. David Stahlman
Team CO3	Erin Baum, Katherine Dyer, Vincent Edwards, Claire Jackman, Jeremy Jasmer, Jessica Sharp, Tanya Shoot, Caroline Strang
Awards Committee	David Brodbeck (Chair), Bob Cook, Marisa Hoeschele, Olga Lazareva, Reggie Gazes, Chris Sturdy
Member-at-Large	Noam Miller
Past Presidents	Olga Lazareva, Debbie Kelly, Mike Brown, Bob Cook, Jonathon Crystal, Jeffrey Katz, Suzanne MacDonald, Marcia Spetch, Ed Wasserman, Ron Weisman, Tom Zentall

CO3 - 2019 Program Summary		
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<i>Thursday</i>		
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Master Lecture - Stephen Lea	6:05	10
Banquet	7:30	10
<i>Saturday</i>		
Business Meeting of the Comparative Cognition Society	12:00	10
Group Photo Shoot	1:10	10
Symposium IV - Cephalopod Cognition: Foundations and Prospects	1:30	10
Associative Processes	3:30	10
Cognitive Processes	4:24	11
Problem-Solving and Welfare	4:52	11
Closing Remarks (Steve Fountain)	5:06	11
Poster Session II	8:30 - 11:00	11

PROGRAM NOTE: All times are P.M. unless otherwise noted. Five minute talks are designated by a talk number with a grey background. Five minute talks are followed by two minutes for discussion. Ten minute talks are followed by four minutes for discussion. Symposium talks are 15 minutes, including discussion.

Wednesday Afternoon

3:30 PM Welcome Reception and Check-In

7:00 PM Opening Remarks (Steve Fountain)

7:05 PM Canine Cognition I (Chair: Lauren Guillette)

1 7:05 PM **Social learning as a function of demonstrator species in domestic dogs (*Canis lupus familiaris*)**
Heidi Lyn (University of South Alabama) & Beatrice Chenkin (University of Southern Mississippi)

2 7:19 PM **Estimating the Heritability of Cognitive Traits Across Dog Breeds**
Gitanjali E. Gnanadesikan, Evan L. MacLean (University of Arizona), & Brian Hare (Duke University)

3 7:26 PM **Rapid assessment of short-term spatial memory in pet dogs using adaptive staircase procedures**
Joshua Van Bourg, Rachel Gilchrist, & Clive Wynne (Arizona State University)

4 7:33 PM **Domestic dog understanding of physical containment, covering, and occlusion events.**
Julia Espinosa & Daphna Buchsbaum (University of Toronto)

5 7:40 PM **Gambling in dogs: decision-making between safe and risky choices**
Ka Ho (Gordon) Lo & William A. Roberts (Western University)

6 7:47 PM **Lending a Helping Paw: Variables in Canine Empathy**
Julia Manor (Ripon College)

7 8:01 PM **Early emerging cognition in 9-week-old puppies**
Emily Bray, Gitanjali Gnanadesikan, Daniel Horschler, & Evan MacLean (University of Arizona)

8:15 PM *Break*

8:20 PM Canine Cognition II (Chair: Lauren Guillette)

8 8:20 PM **The effects of physical luminance on colour discrimination in dogs: A cautionary tale**
Sarah-Elizabeth Byosiene (La Trobe University/Hunter College), Philippe A Chouinard, Tiffani J Howell, & Pauleen C Bennett (La Trobe University)

9 8:27 PM **Awake fMRI of dogs reveals mechanisms for processing 2D representations of 3D objects**
Ashley Prichard, Raveena Chhibber, Kate Athanassiades, Veronica Chiu, Jon King, & Gregory S. Berns (Emory University)

10 8:34 PM **Cognitive flexibility in cats and dogs**
Amy Desjardins & Sylvain Fiset (Université de Moncton in Edmundston)

- 11** 8:41 PM **Examining social evaluation in domestic dogs**
Zachary Silver (Yale University), Ellen Furlong (Illinois Wesleyan University), & Laurie Santos (Yale University)
- 12** 8:48 PM **Heritability of Cognitive Traits in a Pedigreed Dog Population**
Evan MacLean, Emily Bray, Gitanjali Gnanadesikan, & Daniel Horschler (University of Arizona)
- 13** 9:02 PM **Physical cognition in dogs of land and sea: *Canis familiaris* and *Zalophus californianus***
Maria Zapetis (University of Southern Mississippi / National Marine Mammal Foundation), Megan Broadway (University of Louisiana Monroe), Jason Mulsow (National Marine Mammal Foundation), & Heidi Lyn (University of South Alabama)
- 9:09 PM **Discrimination Learning (Chair: Lauren Guillette)**
- 14** 9:09 PM **Development of a Visual Discrimination Procedure for Archer Fish**
Michael Brown (Villanova University), Alexander Brown (Lafayette College), Adam Davila (Auburn University), Bridget Austin, Kelly Gabriel, & Loren Paz-Gonzalez (Villanova University)
- 15** 9:16 PM **Goldfish (*Carassius auratus*) discriminate between 2D color representations of familiar 3D objects rotated in the picture and depth planes**
Caroline DeLong, Evan Morrison, Jessica Wegman, Trisha Rachfal (Rochester Institute of Technology), & Kenneth Tyler Wilcox (University of Notre Dame)
- 9:30 PM *Break*
- 9:35 PM **Communication I (Chair: Lauren Guillette)**
- 16** 9:35 PM **Referential communication in black-capped chickadee (*Poecile atricapillus*) mobbing calls**
Jenna V. Congdon (University of Alberta), Allison H. Hahn (St. Norbert College), Kimberley A. Campbell, Erin N. Scully, Shannon K. Mischler, Carolina Montenegro, William D. Service, & Christopher B. Sturdy (University of Alberta)
- 17** 9:42 PM **A model for referential communication learning**
Shereen Chang (University of Pennsylvania)
- 18** 9:49 PM **Behavioural responses to female song playback in black-capped chickadees (*Poecile atricapillus*)**
Carolina Montenegro, William D. Service, Kimberley A. Campbell, Erin N. Scully, Shannon K. Mischler, Jenna V. Congdon, Christopher B. Sturdy (Neuroscience and Mental Health Institute & University of Alberta)
- 19** 9:56 PM **Looking beyond silence as a way to segment animal vocalizations: A comparison with humans**
Marisa Hoeschele (Austrian Academy of Sciences), & Dan C. Mann (University of Vienna)
- 20** 10:03 PM **The Influence of Personality Traits on Pectoral Fin Contact Exchanges in Bottlenose Dolphins (*Tursiops truncatus*)**
Riley Macgregor (The University of Southern Mississippi), Kathleen Dudzinski (Dolphin Communication Project), Kelsey Moreno (Tel Aviv University), & Teri Bolton (Roatan Institute for Marine Sciences)
- 10:10 PM **Meta-cognition and Comparative Psychology (Chair: Lauren Guillette)**
- 21** 10:10 PM **Joint Intentionality in Chimpanzees and Bonobos**
Dennis Papadopoulos (York University)

- 22** 10:17 PM **The Invisible Field of Comparative Psychology**
Megan Broadway (University of Louisiana Monroe), Jennie Christopher, & Tabatha Lewis (University of South Alabama)

Thursday Afternoon

- 12:00 PM **Ron Weisman Outstanding Student Presentation Competition: Paper (Chair: Dave Brodbeck)**
- 23** 12:00 PM **Asian elephants use water as a tool to reach a floating reward**
Lisa P. Barrett & Sarah Benson-Amram (Program in Ecology and Department of Zoology Physiology at the University of Wyoming)
- 24** 12:07 PM **Human Auditory Discrimination of Bottlenose Dolphin Signature Whistles Masked by Noise: Investigating Perceptual Strategies for Anthropogenic Noise Pollution**
Evan Morrison & Caroline DeLong (Rochester Institute of Technology)
- 25** 12:14 PM **The Chambered Nautilus changes its tentacle behavior in response to conspecific scent**
Naomi Lewandowski (The Graduate Center and Brooklyn College - City University of New York), Chelsea Quaies, Ling Yang, Wajeh Syed, Chaya Fastow, Mahwish Ashfaq, & Jennifer Basil (Brooklyn College - City University of New York)
- 26** 12:21 PM **Do non-human primates really represent others' ignorance? A test of the awareness relations hypothesis**
Daniel Horschler (University of Arizona), Laurie Santos (Yale University), & Evan MacLean (University of Arizona)
- 27** 12:28 PM **The Importance of Social Group Composition for the Development of Socio-Sexual Behavior in Beluga Whales (*Delphinapterus leucas*) Under Human Care**
Malin K. Lilley (The University of Southern Mississippi and Texas AM University- San Antonio) & Heather M. Hill (St. Mary's University)
- 12:35 PM **Social Learning (Chair: Lauren Guillette)**
- 28** 12:35 PM **Monkeys learn causal sequences from their own experience, but may not benefit from seeing a human demonstrator**
Elisa Felsche, Christoph Voelter, Amanda Seed (University of St. Andrews), & Daphna Buchsbaum (Presenting Author) (University of Toronto)
- 29** 12:49 PM **Testing models of collective decision-making in fish**
Noam Miller & Kevin Kadak (Wilfrid Laurier University)
- 1:03 PM **Attention (Chair: Lauren Guillette)**
- 30** 1:03 PM **Cuing attentional shifts during a visual search of hierarchical stimuli by pigeons**
Suzanne L. Gray, Muhammad A. J. Qadri, & Robert G. Cook (Tufts University)
- 31** 1:10 PM **Temporal dynamics in pigeon pecking behavior**
Muhammad A. Qadri & Robert G. Cook (Tufts University)

- 1:17 PM *Break*
- 1:22 PM **Symposium I - Meaning of Memory Systems in Comparative Cognition (Chair: Rob Hampton)**
- 32** 1:22 PM **Dissociation of memory systems and what I wish we knew about the evolution of memory**
Robert Hampton (Emory University)
- 33** 1:37 PM **Double dissociation of familiarity and working memory in rhesus monkeys (*Macaca mulatta*)**
Ryan J. Brady & Robert R. Hampton (Emory University)
- 34** 1:44 PM **Process dissociation of memory systems in a caching and a non-caching bird species**
Emily Kathryn Brown (Emory University), Caroline G. Strang (Western University), David F. Sherry (Emory University), & Robert R. Hampton (Western University)
- 35** 1:59 PM **One-trial and habit memory in Black-capped Chickadees (*Poecile atricapillus*) and Dark-eyed Juncos (*Junco hyemalis*)**
Caroline G. Strang (Western University), Emily K. Brown (Emory University), David F. Sherry (Western University), & Robert R. Hampton (Emory University)
- 36** 2:14 PM **Dissociable Learning Processes in Categorization**
J. David Smith (Georgia State University)
- 37** 2:29 PM **Lagged Reinforcement: A Dissociative Methodology for Fostering Animals' Explicit Cognition**
Brooke N. Jackson, Barbara A. Church, & J. David Smith (Georgia State University)
- 38** 2:36 PM **Effects of social housing on cognitive decline due to aging: reference and working memory**
Victoria L. Templer (Providence College), Taylor B. Wise (Brown University), & Victoria R. Heimer-McGinn (Providence College)
- 39** 2:51 PM **Cognitive effects of social housing: dissociating acquisition of task-set and spatial memory**
Taylor B. Wise (Brown University), Victoria R. Heimer-McGinn (Roger Williams University), & Victoria L. Templer (Providence College)
- 40** 2:58 PM **Dissociating episodic memory from memory trace strength in rats**
Danielle E. Panoz-Brown & Jonathon D. Crystal (Indiana University)
- 3:05 PM *Snack Break*
- 3:35 PM **Symposium II - New Trends in Fish Cognition (Chair: Maria Elena Miletto Petrazzini)**
- 41** 3:35 PM **World in motion: Movement discrimination in grey bamboo sharks (*Chiloscyllium griseum*) and Malawi Cichlids (*Pseudotropheus* sp.)**
Vera Schluessel (Institute of Zoology)
- 42** 3:50 PM **Visual illusions as a tool to investigate how fish see the world**
Christian Agrillo & Maria Santacà (University of Padova (Italy))
- 43** 4:05 PM **What can fish tell us about non-symbolic numerical abilities?**
Maria Elena Miletto Petrazzini (Queen Mary University of London.)

- Using zebrafish forward genetic behavioural analysis to identify genes and pathways affecting aspects of executive function**
 Alistair J. Brock, Judit García-González (Queen Mary University of London), Matthew O. Parker (University of Portsmouth), Ari Sudwatts (Queen Mary University of London), Muy-Teck Teh (Barts and The London School of Medicine and Dentistry), Elisabeth M. Busch-Nentwich (Wellcome Trust Sanger Institute), Adrian R. Martineau (Barts and The London School of Medicine and Dentistry), Jaakko Kaprio, Teemu Palviainen (University of Helsinki), Valerie Kuan (University College London), Robert T. Walton (Barts and The London School of Medicine and Dentistry), & Caroline H. Brennan (Queen Mary University of London.)
- 44** 4:20 PM
- 4:35 PM *Break*
- 4:40 PM **Communication I (Chair: Lauren Guillette)**
- 45** 4:40 PM **Categorization of predators by wingspan and body length in black-capped chickadees**
 Christopher B. Sturdy, Jenna V. Congdon (University of Alberta), Allison H. Hahn (St. Norbert College), Kimberley A. Campbell, Erin N. Scully, Daniel A. Yip, & Erin M. Bayne (University of Alberta)
- 46** 4:54 PM **Emotional communication transcends species: Human perception of rhesus macaque vocalizations**
 Jay W. Schwartz, Mark Wilson, & Mar Sanchez (Emory University)
- 47** 5:01 PM **Do black-capped chickadees (*Poecile atricapillus*) discriminate between male- and female-produced chick-a-dee calls?**
 Kimberley A. Campbell, Jenna V. Congdon, Erin N. Scully, Allison H. Hahn (University of Alberta), & Christopher B. Sturdy (St. Norbert College; and Department of Psychology)
- 48** 5:08 PM **Female and male mice differ in rates of hearing loss for simple and complex acoustic signals in silence and noise.**
 Anastasiya Kobrina & Micheal Dent (University at Buffalo SUNY)
- 5:15 PM **Memory and Geometry (Chair: Lauren Guillette)**
- 49** 5:15 PM **Do boundaries affect distance estimation in rats?**
 Z. Kade Bell (Oakland University), Bradley R. Sturz (Georgia Southern University), & Martha Escobar (Oakland University)
- 50** 5:22 PM **Pigeons (*Columba livia*) learn two interleaved response sequences in a Serial Response Time task.**
 Walter T. Herbranson (Whitman College)
- 8:30 PM **Poster Session I (8:30 - 11:00)**
 Poster Presenters: Please set up your posters between 8:00 – 8:30

Friday Morning – Manatee Room 10:30 AM

CO3 Mentoring Program: Meet the Experts (Chair: Noam Miller)

Have you ever wanted to ask questions of established researchers at CO3, but couldn't find the right time or place? In an effort to encourage undergraduate and graduate students to get to know established researchers in the field of comparative cognition, an informal meet and greet will be held in the Manatee room. One faculty mentor will be seated at each of tables. Students are encouraged to come and go from table to table to get to know different mentors. You are encouraged to ask questions about faculty life, funding challenges, research projects, and graduate/career opportunities. A poster identifying each mentor and relevant academic information will be displayed at the entrance to the Manatee room. This session will end promptly at 11:30

Friday Afternoon

- 12:00 PM **Cognitive Processes I (Chair: Lauren Guillette)**
- 51** 12:00 PM **The link between personality and cognition: A meta-analysis**
Lauren M. Guillette (University of Alberta and University of St Andrews) & Liam R. Dougherty (University of Liverpool)
- 52** 12:14 PM **How should we interpret inconsistent relationships between cognitive performance and fitness measures?**
Joah Madden, Mark Whiteside, Jayden van Horik, Ellis Langley, Christine Beardsworth, & Pip Laker (University of Exeter)
- 53** 12:28 PM **Spatial skills do not solely predict an ability to make transitive inference**
Olga Lazareva, Haley Dikkers, Nora Balboa, Courtney Kalender, Riddhi Soni, Laura Claydon, & Abigail Nordman (Drake University)
- 54** 12:42 PM **Threshold-based Egg Rejection Decisions in Hosts of Avian Brood Parasites**
Mark E. Hauber (University of Illinois at Urbana-Champaign)
- 55** 12:56 PM **Nonhuman Animal Cognitive Gadgetry**
Brandon Tinklenberg (York University)
- 56** 1:03 PM **Nocturnally migrating songbirds and the Earth's magnetic field: What activates Cluster N?**
Madeleine I.R. Brodbeck (The University of Western Ontario), Verner P. Bingman (Bowling Green State University), Songyi Yuan, & Scott A. MacDougall-Shackleton (The University of Western Ontario)
- 1:10 PM *Break*
- 1:26 PM **Symposium III - Arthropods Negotiating Space (Chair: Ken Chang)**
- 57** 1:26 PM **A spider-eating predator's capacity to decide when to take a detour**
Fiona Cross & Robert Jackson (International Centre of Insect Physiology and Ecology (Kenya))

- 58** 1:41 PM **Celestial Cue Use in the Socially Foraging Desert Harvester Ant, *Veromessor pergandei***
Cody A. Freas (The University of Alberta), Jenna Congdon, Nicola J.R. Plowes (University of Alberta), & Marcia L. Spetch (Mesa Community College)
- 59** 1:56 PM **Sisyphus in the desert: what desert ants do when their usual route leads nowhere**
Antoine Wystrach, Sebastian Schwarz (Université Paul Sabatier), Paul Graham (University of Sussex), & Ken Cheng (Macquarie University Sydney)
- 60** 2:11 PM **Laboratory Studies of Spatial Learning in Fiddler Crabs (*Uca pugilator*)**
Frank W. Grasso, Richard Troise, Ezra Isaacs, Ahuva Buchbinder, Jennifer Basil, & Stephen G. Volz (BCR Laboratory Brooklyn College CUNY and the LIBE Laboratory Brooklyn College CUNY)
- 2:26 PM *Snack Break*
- 3:00 PM **In Honour of the Contributions of Stephen Lea I (Chair: Anna Wilkinson)**
- 61** 3:00 PM **The imitation game**
Ludwig Huber & Kaja Salobir (Messerli Research Institute)
- 62** 3:15 PM **Discrimination of relative numerosity and assessment of the SNARC effect in mice**
Kazuhiro Goto & Miku Kimura (Sagami Women's University)
- 63** 3:30 PM **Information as a resource.**
Alex Kacelnik & Andrés Ojeda (University of Oxford)
- 64** 3:45 PM **Lateralized eye use during information acquisition**
Anna Wilkinson (University of Lincoln), Anna Frohnwieser (University of Cambridge), John C. Murray (University of Hull), Ludwig Huber (Messerli Research Institute), Anna Kis (Hungarian Academy of Sciences), & Thomas W. Pike (University of Lincoln)
- 4:00 PM *Break*
- 4:05 PM **In Honour of the Contributions of Stephen Lea II (Chair: Anna Wilkinson)**
- 65** 4:05 PM **Learning to hunt: Using an artificial paradigm to investigate what makes an efficient predator**
Catriona M. E. Ryan (University of Exeter)
- 66** 4:20 PM **Measuring response inhibition with a continuous inhibitory-control task**
Christina Meier (University of Manitoba), Stephen Lea, & Ian McLaren (University of Exeter)
- 67** 4:35 PM **Distribution of attention to perfect predictors, imperfect predictors, and irrelevant stimuli in pigeon category learning**
Edward Wasserman & Leyre Castro (University of Iowa)
- Laterality and learning in wild grey squirrels (*Sciurus carolinensis*): a trade-off?**

68 4:50 PM *Lisa Leaver, Matilda Yeo, Christopher Miller, & Tim Fawcett (University of Exeter)*

6:00 PM Introduction - Anna Wilkinson

6:05 PM Master Lecture - Stephen Lea

7:30 PM Banquet

Saturday Afternoon

12:00 PM Business Meeting of the Comparative Cognition Society

1:10 PM Group Photo Shoot

1:30 PM **Symposium IV - Cephalopod Cognition: Foundations and Prospects (Chair: Frank Grasso)**

69 1:30 PM **Do octopuses have a mind and if so, what is in it?**
Jennifer Mather (University of Lethbridge)

70 1:45 PM **Field studies are crucial to understand cephalopod cognition**
Roger T. Hanlon (Marine Biological Laboratory)

71 2:00 PM **Living Fossil Memories**
J. Basil, M. Ashfaq, N. Lewandowski, & G.J. Barord (City University of NY. Graduate Center and Brooklyn College)

72 2:15 PM **Just how smart is a cephalopod? A hierarchical approach for quantifying complex intelligence.**
Alexandra K. Schnell, Piero Amodio, Markus Boeckle, & Nicola S. Clayton (University of Cambridge)

73 2:30 PM **Evolutionary conservation and convergence in the organization of complex cephalopod learning and memory (L&M) networks**
Benny Hochner, Ana Turchetti Mia, Naama Stern-Mentch, Flavie Bidel (Silberman Institute of Life Sciences Hebrew University (Israel)), Nir Neshet, & Tal Shomrat (Ruppin Academic Center School of Marine Sciences (Israel))

74 2:45 PM **Polarization vision in cephalopods- what is it good for?**
Nadav Shashar, Roger T. Hanlon, & Anne-Sophie Darmaillacq (Eilat Campus)

3:00 PM *Snack Break*

- 3:30 PM **Associative Processes (Chair: Lauren Guillette)**
- 75** 3:30 PM **Integrating Information About Reward Identity and Time**
Andrew Delamater (Brooklyn College - CUNY), Eric Garr (Graduate Center of CUNY), & Norman Tu (Brooklyn College - CUNY)
- 76** 3:44 PM **Select- and Reject-control in Learning Rich Associative Networks**
Victor Navarro & Edward Wasserman (The University of Iowa)
- 77** 3:51 PM **Emotion Labeling with Visual Stimuli: The Effects of Physiological Responses on Conditioning**
Cheyenne Elliott, Lauren Cleland, Mackenzie Jordan, Karen Borowski, Kenneth Leising (Texas Christian University), & David Stahlman (University of Mary Washington)
- 78** 3:58 PM **The relationship between latent inhibition, spontaneous eyeblink rates, and creativity**
W. David Stahlman, Brighton Payne, & Hilary E. Stebbins (University of Mary Washington)
- 4:12 PM *Break*
- 4:24 PM **Cognitive Processes (Chair: Lauren Guillette)**
- 79** 4:24 PM **Flexible spatial representation of magnitude in humans, apes, and birds**
Reggie Paxton Gazes (Bucknell University)
- 80** 4:38 PM **Cognition in the Paridae**
Anders Brodin (Lund University)
- 4:52 PM **Problem-Solving and Welfare (Chair: Lauren Guillette)**
- 81** 4:52 PM **The effects of offering cognitive testing on the welfare of a group of zoo-housed Japanese macaques (*Macaca fuscata*)**
Sarah L. Jacobson (The Graduate Center of the City University of New York), Anne C. Kwiatt, Stephen R. Ross (Lester E. Fisher Center for the Study and Conservation of Apes Lincoln Park Zoo), & Katherine A. Cronin (Animal Welfare Science Program Lincoln Park Zoo)
- 82** 4:59 PM **Socialization, Age, and Problem-solving in Domestic Cats (*Felis catus*)**
Preston Foerder & Mary Howard (The University of Tennessee at Chattanooga)
- 5:06 PM **Closing Remarks (Steve Fountain)**
- 8:30 PM **Poster Session II (8:30 - 11:00)**
 Poster Presenters: Please set up your posters between 8:00 – 8:30

Posters

Poster Session I – Thursday Evening

- P1 Exploring Metacognitive Movements in Orangutans**
Erin E. Stromberg (Smithsonian's National Zoo), Michael J. Beran (Georgia State University), & Audrey E. Parrish (The Citadel)
- P2 Use of Features and Geometry by Tiger Salamanders (*Ambystoma tigrinum*)**
Shannon M. A. Kunder, & Mitchell Phillips (Hood College)
- P3 Neurotoxic lesions to rats' posterior parietal cortex lead to social recognition deficits**
Taylor B. Wise (Brown University), Judith N. Dayaw, Katrina I. Dayaw, & Victoria L. Templer (Providence College)
- P4 The role of the posterior parietal cortex in memory for temporal order**
Annie Dankert, Robert Vera, Taylor B. Wise, Victoria R. Heimer-McGinn, & Victoria L. Templer (Providence College)
- P5 Same/Different Abstract Concept Learning in Archerfish**
Adam Davila (Auburn University), Joanna Keane, & Michael Brown (Villanova University)
- P6 Perception of Variation in Song Motifs by Birds and Humans**
Adam R. Fishbein, Nora H. Prior, William J. Idsardi, Gregory F. Ball, & Robert J. Dooling (University of Maryland College Park)
- P7 Training-set expansion and novel-environment tests of human reorientation.**
Alex Bern, Steven Nichols, & Kent D. Bodily (Georgia Southern University)
- P8 Habituation and Appetitive Conditioning in Cockroaches (*Gromphadorhina portentosa* and *Eublaberus posticus*)**
Ann Taylor Adams & Christopher A. Varnon (Converse College)
- P9 Nosing Around: Olfactory Enrichment in Heritage Breed Pigs in a Nonindustrial Farm Setting**
Anna Litchfield, Jessica Eleazer, Hannah Buggs, Daniana Worster (Georgia College and State University), Rebecca A. Showalter (Georgia Military College), & Stephanie E. Jett (Georgia College and State University)
- P10 Insightful Otters: Problem Solving via Tool Use in River Otters**
Audrey E. Parrish & Shona G. Sulzbach (The Citadel)
- P11 Boundary Extension in Humans (*Homo sapiens*), Rhesus Monkeys (*Macaca mulatta*), and Capuchin Monkeys (*Cebus apella*)**
Brielle T. James & Michael J. Beran (Georgia State University)
- P12 Do North American River Otters (*Lontra canadensis*) Have a Global or Local Processing Strategy?**
Ryan Pluck (Rochester Institute of Technology), Catina Wright (Seneca Park Zoo), Evan Morrison, Jessica Wegman, Trisha Rachfal, Rhiannon Jimenez, & Caroline DeLong (Rochester Institute of Technology)
- P13 Pair foraging degrades socially transmitted food preferences**
Chelsey Dampousse, Diano Marrone, & Noam Miller (Wilfrid Laurier University)
- P14 Neophilic behavior in wild raccoons (*Procyon lotor*) and other woodland species**
Christina M. Sluka, John K. Kruschke, Matthew V. Morrison (Indiana University), Colin Allen (University of Pittsburgh), & Jonathon D. Crystal (Indiana University)

- P15** **Toward a Robust Automated Image-Processing-Based Methodology for Tracking Octopuses in Video**
Ian Strieter (CUNY Graduate Center) & Frank Grasso (Brooklyn College)
- P16** **Greater Effort Results in Better Choice Accuracy in the Midsession Reversal Task by Pigeons**
Thomas Zentall & Dalton House (University of Kentucky)
- P17** **Effects of Decreased Reinforcement on Pigeons Performance on Midsession Reversal Task**
Daniel Peng, Danielle M. Andrews, & Thomas R. Zentall (University Of Kentucky)
- P18** **Investigating Conditioning as a Method to Decrease Veterinary Visit Anxiety in Canines**
Danielle LaBonte & Nicole Dorey (University of Florida)
- P19** **The Role of Laterality in Beluga and Bottlenose Dolphin Visual Discrimination**
Deirdre Yeater (Sacred Heart University), Emma Halter (Northeastern University), & Heather Hill (St Mary's University)
- P20** **Pigeons show no evidence for dimensional rule formation**
Ellen O'Donoghue & Edward Wasserman (University of Iowa)
- P21** **The role of laterality handedness on performance during a tool-use task in Asian small-clawed otters (*Aonyx cinereus*)**
Erin E. Frick (Georgia Southern University)
- P22** **African elephant's (*Loxodonta africana*) performance on a cooperative task**
Kristina Przystawik (ZooTampa at Lowry Park), Lauren Highfill, Kaitlyn Willgohs, & Joy Vincent (Eckerd College)
- P23** **Do pinnipeds exhibit a gravity bias?: Investigations in the California sea lion (*Zalophus californianus*)**
Kristy Lindemann-Biolsi, Afia Azaah (St. Francis College/Center for the Study of Pinniped Ecology Cognition), Nicole Izzo-McDonald, & Candyce Paparo (Center for the Study of Pinniped Ecology Cognition/ Long Island Aquarium and Exhibition Center)
- P24** **Behavioral Ethograms of Pinnipeds in Human Care**
Dareen Generoso, Amanda Neal, Kristy Lindemann-Biolsi (St. Francis College/ Center for the Study of Pinniped Ecology Cognition), Kevin L. Woo (SUNY Empire State College/ Center for the Study of Pinniped Ecology Cognition), & Candyce Paparo (Long Island Aquarium/Center for the Study of Pinniped Ecology Cognition)
- P25** **An Assessment of Spatial and Non-Spatial Learning and Memory in Male and Female Adult Long-Evans Rats Following Adolescent Nicotine Exposure**
Gage Gladysz, Evan Youker, Greg Butcher, & Laura Pickens (Thiel College)
- P26** **Increasing the Impact of Conservation Messages: The Value of Including Information About Animal Cognition**
Lauren Highfill, Mark Davis (Eckerd College), & Radhika Makecha (University of Eastern Kentucky)
- P27** **Training Awake Canine fMRI**
Lily Strassberg, Adam Davila, Sarah Krichbaum, Gopikrishna Deshpande, Paul Waggoner, & Jeffrey Katz (Auburn University)
- P28** **Domestic dogs understanding of the accuracy of human social cues**
Madeline Pelgrim, Julia Espinosa (University of Toronto), Emma Tecwyn (Birmingham City University), Sarah Marton (University of Toronto), Angie Johnston (Yale University), & Daphna Buchsbaum (University of Toronto)

- P29** **Memory effects in Rats based on Novel Object Task after change in Enrichment**
Maggie Oimoen, Katherine King, Laurissa Johnson, Kristine Kovack-Lesh, & Julia Meyers-Manor (Ripon College)
- P30** **Instructed matching strategies: Learning symbols to guide decision making**
Maisy Bowden, Brooke Jackson (Georgia State University), Carmen Shaw (Emory University), Barbara Church (Language Research Center), & J. David Smith (Georgia State University)
- P31** **Left-Cradling Bias in Chimpanzees**
Maria Botero (Sam Houston State University) & Suzanne MacDonald (York University)
- P32** **Effects of Perceived Audiences on Discrimination Learning in Pigeons (Columbia Livia)**
Peyton M. Mueller & Matthew S. Murphy (Coastal Carolina University)
- P33** **Odor Span Task in Purpose-Bred Detection Dogs**
Sarah Krichbaum, Bart Rogers, Emma Cox, Lily Strassberg, Paul Waggoner, & Jeffrey Katz (Auburn University)
- P34** **Evidence That Urban Anthropogenic Noise Impacts Vocal Communication Monk Parakeet (*Myiopsitta Monachus*) Populations In Brooklyn, NY, And Barcelona, Spain**
Tatyana Desire-Brisard (BioMimetic and Cognitive Robotics Lab) & Frank W. Grasso (Brooklyn College)
- P35** **Exploring problem-solving and innovation in two species of carnivores: African lions and snow leopards**
Victoria O'Connor, Sheila Chase (The City University of New York: Hunter College), Patrick Thomas (WCS: Vice President General Curator Bronx Zoo Associate Director), & Natalia Borrego (The American University of Cairo)
- P36** **How do monkeys behave in probabilistic categorization tasks?**
Will Whitham & David A. Washburn (Georgia State University)

Poster Session II - Saturday Evening

- P37** **Temporal modulation transfer functions (TMTF) in CBA/CaJ mice (*Mus musculus*)**
Huaizhen Cai, Faiza Hafeez, & Micheal L Dent (SUNY at Buffalo)
- P38** **Sex differences and scopolamine effects in rat serial pattern learning and retention**
Claire C. Jackman, Katherine H. Dyer, Jessica L. Sharp, & Stephen B. Fountain (Kent State University)
- P39** **Procrastination in the pigeon: Conditioned reinforcement may contribute to human procrastination**
Ines Elena Martin, Thomas R. Zentall, Jacob P. Case, & Danielle M. Andrews (University of Kentucky)
- P40** **Testing the Animate Monitoring Hypothesis in Macaques and Humans**
Jennifer M. Johnson & David A. Washburn (Georgia State University)
- P41** **Interference Differentially Impairs Retention in Serial Pattern Learning**
Jessica L. Sharp, Katherine H. Dyer, Claire C. Jackman, & Stephen B. Fountain (Kent State University)
- P42** **A Preliminary Investigation of Categorization and Visual Object Constancy in North American River Otters (*Lontra canadensis*)**
Jessica Wegman (Rochester Institute of Technology), Catina Wright (Seneca Park Zoo), Evan Morrison, Trisha Rachfal, Rhiannon Jimenez, & Caroline DeLong (Rochester Institute of Technology)

- P43 Will Terminating Training Trials After the First Response Produce an Effect of Stimulus-Response Compatibility During a Spatial Occasion Setting Procedure With Humans and Pigeons?**
Joshua Wolf (Carroll University), Cheyenne Elliot, & Kenneth Leising (Texas Christian University)
- P44 Conserv(ED): Zoo Education in a Modern Society**
Joy Vincent & Lauren Highfill (Eckerd College)
- P45 Beware of Strangers: Dogs' Empathetic Responses to Strange Humans and Strange Dogs**
Mica Rivera, Katie King, Melissa Micale, & Julia Manor (Ripon College)
- Behavioral Measurements of Hearing Before and After Noise Exposure in Laboratory Mice**
Kali Burke (University at Buffalo SUNY), Laurel A. Screven (Johns Hopkins University School of Medicine), Anastasiya Kobrina (University at Buffalo SUNY), Katrina M. Schrode (Johns Hopkins University School of Medicine), Hannah Thorne, William A. Smith-Peters, Faiza Hafeez, Payton E. Charlton (University at Buffalo SUNY), Amanda M. Lauer (Johns Hopkins University School of Medicine), & Micheal L. Dent (University at Buffalo SUNY)
- P46 Effective Motivation of Discoid Cockroaches (*Blaberus discoidalis*)**
Kara Watts, Isadora Salatiel, & Darby Proctor (Florida Institute of Technology)
- Differential Acquisition of Incrementing Matching- and Non-Matching to Sample Tasks in Rats**
P48 *Thomas J. Wagner, Nicole R. Westrick, Genevieve C. Guidone, Jonathan D. Shaw, Kelly A. Lowe, Bobbie F. Wolff, Connor Hebert, Angel M. Bennett, Ashley Campbell, Chandler Hicks, Kate Bruce, & Mark Galizio (University of North Carolina Wilmington)*
- Variables Affecting Performance on the Rodent Odor Span Task**
P49 *MacKenzie Wantje, Nicole Westrick, Genny Guidone, Kelly Lowe, Angel Bennett, Elyssia Calvillo, Nick Blackburn, Kathryn Farias, Dominick Giordano, Mark Galizio, & Kate Bruce (University of North Carolina Wilmington)*
- The Behavioral Effects of Environmental Enrichment and Age in a Large Sample of Captive Tigers (*Panthera tigris*)**
P50 *Kate M. Chapman & Chase Holiman (University of Arkansas)*
- Serial Pattern Acquisition and Effects of Central Cholinergic Challenge in a Touchscreen Task for Rats**
P51 *Katherine H. Dyer, Claire C. Jackman, Jessica L. Sharp, & Stephen B. Fountain (Kent State University)*
- Human choice corresponds to reinforcer probability in a concurrent-chains procedure**
P52 *Erin Baum, Jeremy Jasmer, Vincent Edwards, Darren Miles, Austin Smith, Robert Southern, Jessica Stagner, & Kent D. Bodily (Georgia Southern University)*
- A Comparative Test of Analogical Reasoning**
P53 *Kevin Leonard, Parisa Sepehri, Breanna Cheri, & Debbie M. Kelly (University of Manitoba)*
- Do Domestic Dogs (*Canis familiaris*) Perceive the Solitaire Illusion?**
P54 *Krista Macpherson & William A. Roberts (Western University)*
- The Assessment of Cognitive Bias in Two Species of Nonhuman Primates Using a Computerized Task**
P55 *Kristin French & Michael Beran (Georgia State University)*

Did I launch that?; A new methodology for examining self-agency nonverbally

- P56** *Markie N. Adamczyk, Brooke N. Jackson, Carmen N. Shaw, Barbara A. Church, & J. David Smith (Georgia State University)*
- P57** **Sex differences in spatial memory following early moderate prenatal exposure to alcohol: A pilot study**
Jacob Dowell, Zebulun Bell, Eriel Datuin, & Martha Escobar (Oakland University)
- P58** **Transitive Inference in Pigeons May Result from Differential Inhibition to the Test Stimuli**
Megan Halloran, Thomas R Zentall, Daniel Peng, & Luke Miles (University of Kentucky)
- P59** **Building a Rating Scale for Monkey Perceptual and Conceptual Classification Tasks**
Molly Flessert & Michael J. Beran (Georgia State University)
- P60** **Individual differences in sociability and boldness in Eastern Garter Snakes**
Morgan Skinner & Noam Miller (Wilfrid Laurier University)
- P61** **A Novel Method to Study Learning in Wild and Captive Bumble Bees: The Defensive Leg-lift Response (DLR)**
Noelle Vallely, Claudia Coffin, & Christopher A Varnon (Converse College)
- P62** **Conditional temporal discrimination in pigeons**
Kelsey M. Pogatetz, Danielle Beckley, Olga F. Lazareva (Drake University), Martin J. Acerbo (Iowa State University), & Verner P. Bingman (Bowling Green State University)
- P63** **Selective attention in stepwise discrimination of compound visual stimuli by pigeons.**
Olga V. Vyazovska (V.N. Karazin Kharkiv National University), Victor M. Navarro, & Edward A. Wasserman (The University of Iowa)
- P64** **Investigation of risk-taking behavior in capuchin monkeys (*Cebus [Sapajus] apella*) using a modified balloon analogue risk task**
Olivia B. Tomeo, Michael J. Beran, & Sarah F. Brosnan (Georgia State University)
- P65** **The Effects of Anthropogenic Noise on Attention in *Tursiops truncatus***
Paige Stevens & Jason Bruck (Oklahoma State University)
- P66** **Can rhesus monkeys learn to use symbols to label faces, tasks and foods?**
Paola Soares (Federal Rural University of Amazonia), Theodore Evans (Georgia Institute of Technology), Will Whitham, Michael Beran, & David Washburn (Georgia State University)
- P67** **Differing levels of anthropogenic noise affects discrimination of conspecific fee-bee songs by black-capped chickadees (*Poecile atricapillus*)**
Shannon K. Mischler, Kimberley A. Campbell, Jenna V. Congdon, Carolina Montenegro, Erin N. Scully, William D. Service (University of Alberta), Allison H. Hahn (St. Norbert College), Dan J. Mennill (University of Windsor), Ken A. Otter (University of Northern British Columbia), & Christopher B. Sturdy (University of Alberta)
- P68** **Spontaneous Numerical Ability in Horses**
Tammy McKenzie (Brandon University)
- P69** **Understanding avian incubation with a computer algorithm**
Tanya T. Shoot (Western University London Ontario Canada), Sophie C. Edwards (University of St. Andrews (Scotland)), R. Jeff Martin (Western University London Ontario Canada), Susan D. Healy (University of St. Andrews (Scotland)), David F. Sherry, & Mark J. Daley (Western University (Canada))
- Effects of Delay Type on Human Choice in a Concurrent-Chains Procedure**

P70 *Erin Baum, Vincent M. Edwards., Jeremy A. Jasmer, Darren L. T. Miles, Austin L. Smith, Robert A. Southern, Jessica P. Stagner, Kent D. Bodily. (Georgia Southern University)*

P71 **Sensory-specific satiety, exercise, and the variability of maze navigation in rats**
Wilber Galindo, Zafrullah Malik, Samantha Tiedeman, Emily Webberson, & W. David Stahlman (University of Mary Washington)

P72 **Performance of rhesus monkeys (*Macaca mulatta*) in a source memory for context paradigm**
Wenying Zhu, Ryan J. Brady, Robert R. Hampton (Emory University & Yerkes National Primate Research Center)

P73 **Operant Conditioning changes ZENK expression to Heterospecific Stimuli in Zebra Finches**
Leslie Phillmore, Will Brien, Nafisah Ali, Tovah Kashetsky (Dalhousie University), & Christine Tsang (Huron University College)