BA (Room) George A. Bartholomew Award Lecture

18:30 BA. Gillooly, J.; *The George A. Bartholomew Award Lecture*: Linking Biological Currencies in Ecology and Evolution

1 (Room Diamond) Feeding Behavior: Predation and Predator Evasion

Chair: J. Walker

08:00 1.1 *(DNB)* FERRER, R.P., ZIMMER, R.K.; When prey becomes predator: an ontogenetic shift in the role of olfaction.

08:20 1.2 *(DAB)* GRANT, Jacqualine B.; Ontogeny of defensive behavior and adaptive coloration in larvae of the panic moth, *Saucrobotys futilalis*

08:40 1.3 BASSETT, D.K., MONTGOMERY, J.C.; Ecological implications of different search strategies in nocturnal teleost predators

09:00 1.4 *(DVM)* WALKER, JA, GHALAMBOR, CK, GRISET, OL, MCKENNEY, D, REZNICK, DN; Do Faster Starts Increase the Probability of Evading Predators?

09:20 1.5 *(DVM)* GIBB, A. C., LIU, C., SWANSON, B. O.; Pre-hatching escape behavior in the rainbow trout

09:40 1.6 *(DIZ)* DAVIS, E.C.; No differences in mucus-trail following was detected in *Euglandina rosea* predation on local versus non-local gastropods

2 (Room Diamond) Feeding Behavior: Foraging Behavior

Chair: J. Walker

10:20 2.1 GRAYSON, D. L., HARRISON, J. F., FEWELL, J. H.; Foraging Effort and Metabolism in European and African Honey Bees

10:40 2.2 *(DAB)* BREELAND, T. B.*, STRAUSS, R. E.; School and Shoal Distributions in a Freshwater Catfish Species, *Corydoras Paleatus* (Callichthyidae)

11:00 2.3 *(DEE)* KROCHMAL, A.R.; Theres no such thing as a free lunch: on the adaptive value of scavenging in snakes

11:20 2.4 *(DCPB)* SHEEHY III, C. M., LILLYWHITE, H. B.; Foraging Behaviors of Insular Cottonmouth Snakes

11:40 2.5 ENGESZER, RE, ALBERICI DA BARBIANO, L, RYAN, MJ, PARICHY, DM; An analysis of shoaling preference in the zebrafish, *Danio rerio*

3 (Room Sapphire) Effects of Metabolism on Performance I: High Altitude and Temperature Effects on Metabolism of Endotherms

Chair: M. Chappell

08:00 3.1 *(DCPB)* RUSSELL, GA, CHAPPELL, MA, HAMMOND, KA; Effects of high altitude development and

11:40 4.5 WESTERMAN, E.L., HARRIS, L.G.; Environmentally caused changes in asexual reproduction rates in two invasive sea squirts: *Botryllus schlosseri* and *Botrylloides violaceus*

5 (Room Emerald) Regulatory Biology: Aggression

Chair: W. Hopkins

08:00 5.1 GILL, S.A., ALFSON, E.D., HAU, M.; The myth of the passive sex: hormonal control of female aggression in a year-round territorial bird

08:20 5.2 JAWOR, Jodie, RICHARDSON, Jennifer, KETTERSON, Ellen; Do hormones other than testosterone influence intrasexual aggression in female dark-eyed juncos (*Junco hyemalis*)?

08:40 5.3 *(DCE)* LANDYS, M.M., GOYMANN, W., SOMA, K.K., SLAGSVOLD, T.; Dehydroepiandrosterone (DHEA) and territorial aggression in the European nuthatch

09:00 5.4 SCOTTI, M.L., DEMAS, G.E.; Seasonal aggression in female Siberian hamsters (*Phodopus sungorus*)

6 (Room Emerald) Education, Policy, and Outreach

Chair: D. Kelly

09:20 6.1 *(DVM)* KELLY, D. A.; Using Games to Reinforce Facts and Concepts in the Biological Sciences

09:40 6.2 *(DVM)* KENNEDY, Natalia K., WORDEN, Kelly J., RUSSELL, Arlene A., FREKING, Fred F.; The GK-12 Program at the University of California, Los Angeles: Making Science Exciting for Students in Urban Schools

10:20 6.3 *(DIZ)* TANKERSLEY, R.A., WINDSOR, J.G., HANSELMAN, J.A.; InSTEP: Enhancing Science Education Through Graduate Student-Teacher Partnerships

10:40 6.4 *(DEE)* TIMMERMAN, BE, STRICKLAND, DC; Can peer review improve freshman lab reports and does experience with peer review improve students scientific reasoning skills?

7 (Room Emerald) Excretion and Acid Base

Chair: M. Gosell

11:00 7.1 *(DCPB)* GROSELL, M., TAYLOR, J.R., GENTZ, J.; Marine teleost osmoregulation involves highly acidic and hyperosmotic fluid absorption by the intestine

11:20 7.2 *(DCPB)* TAYLOR, J. R. , WHITTAMORE, J. M. , WILSON, R. W. , GROSELL, M. ; Postprandial acid-base balance in freshwater and seawater-acclimated European flounder

cold acclimation on summit metabolism and organ mass in the deer mouse, *Peromyscus maniculatus*

08:20 3.2 *(DCPB)* CHAPPELL, M.A.*, RUSSELL, G.A., HAMMOND, K.A.; BMR is not repeatable over extended periods in deer mice

08:40 3.3 *(DCPB)* HAYES, JP, SEARS, MW, BANTA, MR, O'CONNOR, CS; Out in the cold: Physiological performance affects behavior of deer mice

09:00 3.4 SZAFRANSKA, Paulina A., ZUB, Karol, KONARZEWSKI, Marek, SPEAKMAN, John R.; A positive association between resting and field metabolic rates in weasels

09:20 3.5 *(DCPB)* LIKNES, E.T., GUGLIELMO, C.G., SWANSON, D.L.; Fuel Storage And Mobilization Strategies Associated With Seasonal Acclimatization Of Resident Passerines

09:40 3.6 *(DCPB)* WOODS, H.A.; Causes and consequences of temperature-oxygen interactions in metabolism

4 (Room Sapphire) Growth and Form

Chair: K. Angielczyk

10:20 4.1 *(DEE)* ROBBINS, T.R., WARNER, D.A.; Fluctuations in the incubation environment: Does the pattern or magnitude influence egg survival and hatchling phenotypes in a lizard?

10:40 4.2 *(DEE)* BUCKLEY, Christine R., ADOLPH, Steven C., IRSCHICK, Duncan J.; Persistence of incubation effects on the phenotypes of hatchling western fence lizards, *Sceloporus occidentalis*

11:00 4.3 *(DVM)* ANGIELCZYK, K.D., PARHAM, J.F.; Geometric Morphometric Analysis of Plastron Shape in the Western Pond Turtle (*Emys marmorata*): Implications for Conservation and Paleontology

11:20 4.4 SCHMIDT, K. , STARCK, J.M.; Developmental plasticity vs. phylotypic constraints during early embryogenesis of zebra fish, *Danio rerio*

8 (Room Scotland A) Larval Ecology

Co-chairs: R. Strathmann & J. Allen

08:20 8.1 *(DIZ)* RHYNE, A.L.*, JOHNSON, K.J., LIN, J.; Ontogenetic shift of spectral sensitivity in the larval phototaxis of two caridean shrimp, *Lysmata wurdemanni* and *L. boggessi*

08:40 8.2 *(DIZ)* STRATHMANN, R. R. , HYSERT, A. , FOLEY, R.; Food Limited Growth, Plasticity in Loss and Gain of Metamorphic Competence, and Recruitment of the Cyphonautes Larva of a Bryozoan

09:00 8.3 *(DIZ)* ALLEN, Jonathan D, MCALISTER, Justin S; Testing rates of planktonic versus benthic predation in the field

09:20 8.4 ROBERTSON, Bruce; A framework for understanding ecological traps and an evaluation of existing evidence

09:40 8.5 *(DIZ)* LÓPEZ-DUARTE, P.C., TANKERSLEY, R.A.; Endogenous Swimming Rhythms of Fiddler Crab Zoeae from Different Tidal Regimes

10:20 8.6 MAHON, B.C., NEIGEL, J.E.; A real-time PCR assay for detection and quantification of crustacean larvae in plankton samples

10:40 8.7 *(DIZ)* RICE, A., BLUMENSHINE, S., TSUKIMURA, B.; The Influence of Environmental Parameters on the Invasive Chinese Mitten Crab, *Eriocheir sinensis*, Zoeae Recruitment Dynamics in San Francisco Bay, CA

11:00 8.8 *(DIZ)* PERNET, B.; Feeding by larvae of two different developmental modes in the annelid *Streblospio benedicti*

11:20 8.9 *(DIZ)* MCALISTER, J/S; Environmental heterogeneity and the evolution of plasticity in Panamanian echinoid larvae

11:40 8.10 *(DEE)* OYARZUN, F.X., HALANYCH, K., SWALLA, B.; Molecular Phylogeography and Reproductivion of the Poecilogonous Polychaetes "*"Boccardia proboscidea"*" and "*"B. wellingtonensis"*" (Polychaeta: Spionidae): Two worms and Two hemispheres

9 (Room Scotland C) Development: Regulation of Development

Chair: S. Secor

08:00 9.1 *(DCPB)* OLSON, Christopher R., VLECK, Carol M., VLECK, David; Temperature and metabolic rate: embryonic birds depart from an Arrhenius relationship

08:20 9.2 *(DCPB)* SECOR, Stephen M.; Heart position in snakes, ontogenetic shifts and correlation with other organs
08:40 9.3 *(DCPB)* SOTHERLAND, P.R., KILLPACK, T.L., SELBO, B.G., DZIALOWSKI, E.M.; A change of heart in developing birds at the onset of endothermy
09:00 9.4 *(DIZ)* THOMPSON, J.T., SZCZEPANSKI, J.A., BRODY, J.H., CRESCENTI, L.M.; Ontogeny of isometric force production by the circular mantle muscles of loliginid squids and cuttlefishes.
09:20 9.5 *(DCPB)* MENZE, M.A., HAND, S.C.; Lessons in Apoptosis from an Invertebrate Extremophile, Embryos of *Artemia franciscana*

10 (Room Scotland C) Regulatory Biology: Stress I
Chair: C. L. Buck

10:00 10.1 WHITMAN, B.A., BREUNER, C.W., DUFTY, A.M; Investigator Handling, Stress, and Nestlings: Should We be Concerned?
10:20 10.2 *(DCE)* HEIDINGER, Britt/J, NISBET, Ian/CT, KETTERSON, Ellen/D; Attenuation of the stress response may mediate an increase in reproductive performance with age in the common tern *Sterna hirundo*
10:40 10.3 WILLIAMS, C.T., KITAYSKY, A.S., BUCK, C.L.; Adrenocortical activity in tufted puffin nestlings varies with growth rates and fledging behavior
11:00 10.4 *(DCE)* DEMPSEY, T.D., ESMAILKA, L.R., HAGOOD, J.G., KITAYSKY, A.S.; Perception of food availability affects the adrenocortical stress response of Northern Shovelers
11:20 10.5 BREWER, J.H.*, O'REILLY, K.M., BUCK, C.L.; Interannual variation in adrenal responsiveness of black-legged kittiwake chicks: An indicator of forage availability?

11 (Room Ireland A) Complementary Session to Biomechanics Symposium: Locomotion
Chair: M. Hyde

08:00 11.1 PARRA, Laura G., HYDE, Martha L.; Characterization of Bipedal Locomotion While Feeding in Kangaroo rats in the Natural Habitat
08:20 11.2 *(DVM)* HYDE, Martha L., PARRA, Laura G.; Theoretical Aspects of Bipedal Locomotion in Kangaroo Rats: Comparison of Field and Laboratory Locomotion with Respect to Neural Control Mechanisms
08:40 11.3 *(DIZ)* UYENO, T.A., KIER, W.M.; The muscle articulation in polychaetes and cephalopods: joints made of multifunction muscle
09:00 11.4 *(DCPB)* REVZEN, S., KODITSCHEK, D.E., FULL, R.J.; Testing Feedforward Control Models In Rapid Running Insects Using Large Perturbations
09:20 11.5 *(DCPB)* DUDEK, DM, DASTOOR, S, FULL,
08:40 13.3 *(DVM)* CARLSON, Kristian J.; Modelling arboreal locomotion: the effect of limb abduction on substrate reaction forces during lemurid quadrupedal locomotion.
09:00 13.4 *(DVM)* KENNEDY, Natalia K, FARTASH, Arian, VAN VALKENBURGH, Blaire ; Adaptations of the cervical spine to prey capture in canines
09:20 13.5 *(DVM)* MORENO, C.A., BIEWENER, A.A; Mechanics and kinematics of 90° turns in goats
09:40 13.6 *(DVM)* LEE, David V.; Elasticity in the joints and whole legs of goats vs. dogs: trading economy for precision?
10:20 13.7 *(DVM)* PONTZER, H.; Linking Locomotor Energetics to Limb Design in Terrestrial Animals.
10:40 13.8 *(DVM)* HANNA, JB, GRIFFIN, TM; Climbing energetics in primates: effects of body size
11:00 13.9 *(DVM)* BUTCHER, MT, CHASE, PB, HERMANSON, JW, BERTRAM, JE, CLARK, AN, SYME, DA; Work and power characteristics of skinned fibers from the deep and superficial digital flexor muscles in the forelimbs of horses
11:20 13.10 *(DVM)* GILLIS, Gary B.; Strain and Activation in the Thigh Muscles of Guinea Pigs During Level, Incline and Decline Locomotion
11:40 13.11 *(DCPB)* ROBERTS, T.J., GABALDON, A.M.; Does rate of force production increase with running speed in individual muscles?

14 (Room Ireland C) Comparative Morphology I
Chair: M. McHenry

08:00 14.1 ELZEY, S.P.; Sexual Dental Dimorphism in Four Species of Skates From The Western Gulf Of Maine
08:20 14.2 *(DVM)* KAJIURA, Stephen M, FORNI, Jesica B, SUMMERS, Adam P, TYMINSKI, John P, WILLIAMS, Audrey T; Sexual dimorphism in elasmobranch fishes
08:40 14.3 *(DDCB)* BOND, C; Comparative Time-Lapse Studies of Two Different Sponge Designs
09:00 14.4 *(DVM)* KLEY, NJ; Form and function of the hyolingual apparatus in blindsnakes (Serpentes: Scolecophidia)
09:20 14.5 *(DVM)* RIVERA, G; Morphological variation in a species of freshwater turtle (*Pseudemys concinna*) inhabiting different flow regimes
09:40 14.6 *(DVM)* LANDRY, S..O.; Venous Drainage in Short- and Long-faced Mammals
10:20 14.7 *(DVM)* CORNETT, A.D.; Ecomorphology of Shark Electroreceptors
10:40 14.8 *(DVM)* MCHENRY, MJ, VAN NETTEN, SM; The mechanical design of the superficial neuromast in zebrafish
11:00 14.9 *(DVM)* JORDAN, L.K.; Ecomorphology of

RJ; RAPID RECOVERY FROM AN IMPULSE PERTURBATION TO A LEG IN RUNNING INSECTS
09:40 11.6 *(DCPB)* GOLDMAN, Daniel I., CHEN , Tao C., FULL, Robert J.; A Template for Rapid Vertical Climbing

12 (Room Ireland A) Complementary Session to Biomechanics Symposium: Flight and Navigation
Chair: T. Daniel

10:20 12.1 *(DAB)* SPRAYBERRY, J. D. H., DANIEL, T.; Control of left-right steering in *Manduca sexta*
10:40 12.2 *(DCPB)* WARK, B.J., SANE, S.P., HOROWITZ, J., DANIEL, T.; Dynamics of hawkmoth antennae: finite element analysis of antennal mechanics.
11:00 12.3 *(DCPB)* MYHRVOLD, C., SANE, S., DANIEL, T.; The flexible halteres of the cranefly *Holorusia rubiginosa*
11:20 12.4 *(DVM)* HORISAWA, S., DUDLEY, R.; Three-Dimensional Wing Kinematics of Erratic Flight in Free-Flying Butterflies
11:40 12.5 *(DCPB)* SPONBERG, S., SPENCE, A., FULL, R.J.; Testing Neural Control Models for Antenna-based Tactile Navigation in Cockroaches

13 (Room Ireland B) Mammal Locomotion
Co-chairs: J. Bertram & D. Lee

08:00 13.1 *(DVM)* CARRIER, D/R; Lucys diminutive legs.
08:20 13.2 *(DVM)* WALTER, RM, CARRIER, DR; Effects of fore-aft body mass distribution on acceleration

Stingray Mechanosensory and Electrosensory Systems (Elasmobranchii: Batoidea)
11:20 14.10 *(DVM)* FERRY-GRAHAM, L.A., GIBB, A.C.; Do teleost fishes with different mechanisms of premaxillary protrusion produce functionally similar behaviors?
11:40 14.11 *(DVM)* ADRIAENS, D, GEERINCKX, T, HUYSENTRUYT, F, SCHAEFER, SA, HERREL, A; Evolution of trophic specialisations in Neotropical catfishes: more than a mouthful

15 (Room Great Hall East) Life History Evolution I
Co-chairs: J. Kingsolver & A. Welch (10:20 am)

08:00 15.1 *(DEE)* DAVIDOWITZ, G., ROFF, D.A., NIJHOUT, H.F.; The physiological regulation of simultaneously selected life history traits.
08:20 15.2 *(DEE)* KINGSOLVER, J.G., MASSIE, K.R., RAGLAND, G.J., SMITH, M.H.; Breaking the temperature-size rule: Rapid population divergence in thermal reaction norms
08:40 15.3 *(DCE)* BOWDEN, R.M., JANZEN, F.J.; Growth and Reproduction During a Transitional Life History Stage
09:00 15.4 *(DEE)* COX, Robert, BARRETT, Michele, ZILBERMAN, Viktoriya, JOHN-ALDER, Henry; Effects of sex and castration on growth of Yarrows Spiny Lizards (*Sceloporus jarrovii*) are reduced or absent in laboratory common-garden experiments

09:20 15.5 *(DVM)* HEULIN, B., STEWART, J.R., SURGET-GROBA, Y., BELLAUD, P., JOUAN, F., LANCIEN, G.; Histology and histochemistry of the uterine glands and eggshell of the reproductively bimodal lizard, *Lacerta vivipara*
09:40 15.6 *(DEE)* MILLER, Christine W., EMLEN, Douglas J.; Maternal effects shift the allometry of a sexually selected trait in the heliconia bug
10:20 15.7 KINDSVATER, HK, BONSALL, MB, MANGEL, M; Physical and Ecological Correlates of Longevity in Pacific Rockfishes (*Sebastes*)
10:40 15.8 BOBACK, S.M., GUYER, C.; A test of reproductive power in snakes
11:00 15.9 *(DAB)* WELCH, A.M.; Heritability of lipid reserves in gray tree frog metamorphs
11:20 15.10 WALGUARNERY, J.W.; Nonrandom patterns of sex determination in *Anolis* lizards
11:40 15.11 FERRIS, M. T., BURCH, C. L.; Host range evolution of the bacteriophage &Phi 6: Are trade-offs required?

16 (Room Diamond) Development: Metamorphosis
Chair: K. B. Johnson

13:00 16.1 *(DVM)* HANDRIGAN, G.R., HAAS, A., WASSERSUG, R.J.; Bony-tailed tadpoles: The form, function, and fate of supernumerary caudal vertebrae in anurans
13:20 16.2 KERNEY, Ryan; An unexpected role for the skeletal regulator *Runx2* in anuran development
13:40 16.3 *(DEDB)* INFANTE, C.R.; Deiodinases and the control of metamorphosis in the carnivorous larvae of the anuran *Lepidobatrachus laevis*
14:00 16.4 RUGGIERO, R.P, VON KALM, L.; Genetic analysis of the intersection between ecdysone and intracellular signaling during *Drosophila* leg and wing morphogenesis
14:20 16.5 DAVIS, R. L., STEINMAN, M. , JOHNSON, K. B.; The Responses of Marine Invertebrate Larvae to Predator Chemical Cues in the Laboratory
14:40 16.6 DEAL, K. J., JOHNSON, K. B.; The Effects of Food Level and Trophic Copper on the Development and Metamorphosis of *Lytechinus variegatus* Larvae

17 (Room Sapphire) Marine Phylogeography
Chair: J. Zardus

13:00 17.1 *(DIZ)* HART, M.W., SUNDAY, J., KEEVER, C.C.; Dispersal and climate history in sea star population genetic structure
13:20 17.2 BELCHER, R.L., HALANYCH, K.M.; Phylogeography of ophiuroids from South American and Antarctic waters using mtDNA
13:20 19.2 *(DIZ)* BERKE, S.K., WOODIN, S.A.; Do energy-mortality tradeoffs drive sexual dimorphism in a crabs decoration? (*Oregonia gracilis*, Brachyura: Majidae)
13:40 19.3 *(DIZ)* COLLIN, R; Sex Ratio and Patterns of Sex Change in Calyptraeid Gastropods
14:00 19.4 *(DEE)* MCGOVERN, TM; Self-fertilization in the brooding sea anemone *Aulactinia incubans*
14:20 19.5 *(DIZ)* MCFADDEN, C.S., RETTIG, P.M., BECKMAN, E.J.; Molecular Evidence for Hybridization Between Two Alcyoniid Soft Coral Species With Contrasting Life Histories
14:40 19.6 *(DIZ)* KEEVER, C.C., HART, M.W.; Evolution of reproductive mode in asterinid sea stars

20 (Room Scotland C) Regulatory Biology: Stress II
Chair: D. Folk

13:00 20.1 *(DAB)* MACDOUGALL-SHACKLETON, SA, MACDONALD, IF, KEMPSTER, B, ZANETTE, L; Nutritional stress, brain development and song repertoires in song sparrows
13:20 20.2 *(DCE)* HORTON, B.M., LONG, J.A., HOLBERTON, R.L.; A possible role of corticosterone in mediating transitions from migration to breeding in male White-throated Sparrows (*Zonotrichia albicollis*).
13:40 20.3 *(DCE)* WADA, H., HAHN, T.P., BREUNER, C.W.; Ontogenetic pattern of intracellular corticosteroid receptors in white-crowned sparrow nestling brain
14:00 20.4 *(DCE)* WALKER, B.G., MATT, K.S.; Baseline and stress induced corticosterone levels in female and male Siberian hamsters depends on pairing type and parental status
14:20 20.5 *(DCPB)* FOLK, Donna G., GILCHRIST, George W.; Heat-Shock Response and Locomotory Performance in *Drosophila* Populations Selected for Divergent Knockdown Temperatures

21 (Room Ireland A) Chemical Ecology
Co-chairs: C. Derby & E. Sotka

13:00 21.1 LEHMAN, E.M.; Tetrodotoxin as a maternally-endowed defense against egg predation in the rough-skinned newt, *Taricha granulosa*
13:20 21.2 *(DNB)* DERBY, C.D., KICKLIGHTER, C.E., SHABANI, S., JOHNSON, P.M., KO, K.-C., KAMIO, M.; Chemical defenses of sea hares: novel and adaptive strategies for escape and defense via inking
13:40 21.3 *(DEE)* HUTCHINSON, Deborah A., SCHROEDER, Frank C., SAVITZKY, Alan H., MORI, Akira, MEINWALD, Jerrold, BURGHARDT, Gordon M.; Dietary Toxin Sequestration in Two Populations of a Toad-Eating Snake, *Rhabdophis tigrinus*
14:00 21.4 *(DIZ)* HUANG, Y.M., MCCLINTOCK, J.B.,

13:40 17.3 LEE, T., Ó FOIGHIL, D.; Placing the Floridian Marine Genetic Disjunction into a Regional Evolutionary Context Using the Scorched Mussel, *Brachidontes exustus*, Species Complex
14:00 17.4 *(DIZ)* MEYER, Christopher P., KOHN, Alan J.; Disparate evolutionary trajectories in two hyperdiverse tropical marine gastropod genera
14:20 17.5 *(DIZ)* ZARDUS, J.D., ETTER, R.J., CHASE, M.R., REX., M.A., BOYLE, E.E.; Genetic Divergence with Depth and Distance in a Deep-Sea Bivalve, *Deminucula atacellana*
14:40 17.6 WARREN, D.L., YOUNG, C., IGLESIAS, T.; Reevaluating Claims of Ecological Speciation in *Halichoeres bivittatus*

18 (Room Emerald) Evolution of Limbs
Chair: M. Davis

13:40 18.1 ANGELINI, David R., JOCKUSCH, Elizabeth L.; Developmental mechanisms underlying divergent morphology in the antennae of *Tribolium* flour beetles (Coleoptera)
14:00 18.2 ROLIAN, C; Comparative growth plate kinetics in rodents: insights into the evolution and development of limb length allometry.
14:20 18.3 *(DEDB)* DAVIS, M.C., DAHN, R.D., SHUBIN, N.H.; Gene expression and function in the paired fins of basal actinopterygians
14:40 18.4 DAHN, Randall D., DAVIS, Marcus C., SHUBIN, Neil H.; Conserved *Shh* function and regulation in gnathostome appendage patterning

19 (Room Scotland A) Life History Evolution II
Chair: C. McFadden

13:00 19.1 BASOLO, A.L.; The Effect of Predation on the Evolution of Genetically Linked Life History Traits

AMSLER, C.D., PETERS, K.J., BAKER, B.J.; Feeding rates of common Antarctic gammarid amphipods on ecologically important sympatric macroalgae
14:20 21.5 PETERS, K.J., AMSLER, C.D., MCCLINTOCK, J.B., BAKER, B.J.; Palatability and chemical defenses of Antarctic Peninsula sponges
14:40 21.6 SOTKA, E.E.; The evolution of herbivore offense in the sea: tropical versus temperate herbivores in feeding tolerance for chemically-rich seaweeds

22 (Room Ireland B) Behavioral Ecology
Chair: S. Schoech

13:00 22.1 *(DCE)* SCHOECH, S.J., HAHN, T.P.; Timing of reproduction and food supplementation: Are high latitude species less responsive than low latitude species to non-photic cues?
13:20 22.2 *(DEE)* WARNE, R, LIGHTFOOT, D, WOLF, BO; Lizard life history strategies and population dynamics under a regime of pulsed resources
13:40 22.3 ALDREDGE, R.A., BOWMAN, R., BOUGHTON, R.K., SCHOECH, S.J., BRIDGE, E.; Increased ambient temperatures in an urban landscape affect hatching success of the threatened Florida scrub-jay *Aphelocoma coerulescens*
14:00 22.4 *(DEE)* HUYGHE, K., VANHOOYDONCK, B., HERREL, A., VAN DAMME, R.; Ecological and behavioural correlates of colour polymorphism in a lacertid lizard, *Podarcis melisellensis*
14:20 22.5 *(DCPB)* WOLCOTT, DL, WOLCOTT, TG, HINES, AH, MEDICI, DA; Migration of female blue crabs from mating areas to spawning grounds.
14:40 22.6 *(DAB)* MARTIN III, Arthur/L, MOORE, Paul/A; The effects of shelter occupation on crayfish agonistic interactions

23 (Room Ireland C) Metabolism and Performance II
Chair: C. R.. Tracy

13:00 23.1 DOWNS, C.J.*, HAYES, J.P., TRACY, C.R.; Temperature, Sampling Bias, and Scaling of BMR in Endotherms

13:20 23.2 JOST, JA, HELMUTH, BST; Thermal tolerance of *Geukensia demissa*: The effect of daily maximum temperatures on growth and mortality
13:40 23.3 *(DVM)* HERREL, A., JAMES, R.S., VAN DAMME, R.; Muscle physiology constrains behaviour in lizards: physiological basis for the fight vs. flight paradigm.
14:00 23.4 *(DCPB)* MCCLEARY, R. J. R. , LILLYWHITE, H. B., MCCUE, M. D. ; Foraging and Water Requirement in Terrestrial Cottonmouth Snakes
14:20 23.5 *(DCPB)* BLANK, J.M., FARWELL, C.J., MORRISSETTE, J.M., SCHALLERT, R.J., BLOCK, B.A.; Effects of temperature on metabolic rates of Pacific bluefin tuna, *Thunnus orientalis*
14:40 23.6 SEPULVEDA , C. A., GRAHAM , J.B., BERNAL, D.; Swimming performance studies of the mako shark, *Isurus oxyrinchus*

24 (Room Great Hall West) Complementary to Zebrafish Symposium: Morphology
Chair: T. A. Franz-Odendaal

13:00 24.1 *(DSEB)* SANTINI, F; Was the fish specific genome duplication the cause of the high diversity of teleost fishes?
13:20 24.2 *(DEDB)* BIRD, NC, HERNANDEZ, LC; Origin of complex structures: Zebrafish as the new model organism for investigating morphological innovation
13:40 24.3 ALBERTSON, R. Craig, STREELMAN, J. Todd, KOCHER, Thomas D., YELICK, Pamela C.; Integration and Evolution of the Teleost Mandible: The Molecular Basis of Alternate Feeding Strategies
14:00 24.4 *(DVM)* FRANZ-ODENDAAL, T.A.; Growth, development, constraint and variation of the skeletal elements within the teleost eye
14:20 24.5 *(DNB)* CROLL, RP, ROBERTSON, GN, MCGEE, CAS, SMITH, FM; Development of the swimbladder and its innervation in the zebrafish (*Danio rerio)*
14:40 24.6 *(DVM) LIAO, James C., FETCHO, Joseph R.;* ***Identification of sensory spinal interneurons by using optical, genetic, and electrophysiological techniques in larval zebrafish***