

## CURRICULUM VITAE Jan, 2018

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**Date of Birth** November 5, 1965

### **EDUCATION**

1994 ***Doctor of Philosophy, Neurosciences***  
University of California, San Diego  
1992 ***Master of Science, Neurosciences***  
University of California, San Diego  
1989 ***Bachelor of Science, Zoology***  
University of Maryland, College Park

### **EMPLOYMENT HISTORY**

May, 2011 ***Stevenson Professor of Biological Sciences***  
Vanderbilt University  
January, 2006 ***Associate Professor***  
Vanderbilt University, Department of Biological Sciences  
September 1, 2000 ***Assistant Professor***  
Vanderbilt University, Department of Biological Sciences  
1998 - 2000 ***Research Assistant Professor***  
Vanderbilt University, Department of Psychology  
1995 - 1997 ***Post-Doctoral Fellow***  
Vanderbilt University, Department of Psychology, Sponsor: Jon H. Kaas,  
1988-1990 ***Research Assistant***  
National Zoological Park, Washington D. C.

### **AWARDS & HONORS**

2016 **The Jeffrey Nordhaus Award for Excellence in Undergraduate Teaching**  
2014 **Guggenheim Fellowship**  
2013 **Ellen Gregg Ingalls Award for Excellence in Classroom Teaching**  
2013 **Pradel Award in Neuroscience, National Academy of Sciences**  
2009 **Coauthor - 2009 Cozzarelli Prize Paper, PNAS**  
2006 **MacArthur Award**  
2006 **Chancellor's Award for Research, Vanderbilt University**  
2005 **C. J. Herrick Award in Neuroanatomy**  
2003 **National Science Foundation Career Award**  
2001 **Searle Scholar Award**  
1998 **International Society of Neuroethologists Young Investigator Award**  
1998 **Capranica Foundation Award in Neuroethology**  
1997 **John F. Kennedy Center Young Scientist Award**

## ARTICLES IN REFEREED JOURNALS

- 99) **Catania KC** (2018) All in the Family – Touch Verses Olfaction in Moles. The Anatomical Record. In Press.
- 98) **Catania KC** (2017) Power Transfer to a Human during an Electric Eel’s Shocking Leap. *Current Biology*. 27:2887-2891.e2. doi: 10.1016/j.cub.2017.08.034
- 97) **Catania KC** (2017) Behavioral pieces of neuroethological puzzles. *Journal of Comparative Physiology A*. 203:677-689. doi: 10.1007/s00359-016-1143-7.
- 96) **Catania KC** (2017) Electrical Potential of Leaping Eels. *Brain, Behavior and Evolution*. 89:262-273. doi: 10.1159/000475743.
- 95) Sinclair, A. W., Glickman, S., **Catania, K.**, Shinohara, A., Baskin, L., & Cunha, G. R. (2017). Comparative Morphology of the Penis and Clitoris in Four Species of Moles (Talpidae). *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, 328(3), 275-294. doi: 10.1002/jez.b.22732.
- 94) **Catania KC** (2016) Leaping eels electrify threats supporting Humboldt’s account of a battle with horses. *Proceedings of the National Academy of Sciences*. 113 (25) 6979-6984
- 93) Sawyer EK and **Catania KC**. (2016) Somatosensory organ topography across the star of a star-nosed mole (*Condylura cristata*). *Journal of Comparative Neurology*. *J Comp Neurol*. 524:917-929.
- 92) **Catania KC** (2015) Electric eels concentrate their electric field to induce involuntary fatigue in struggling prey. *Current Biology*. 25:2889-2898.
- 91) **Catania KC** (2015) Electric Eels Use High-Voltage to Track Fast Moving Prey. *Nature Communications*. 6:8638 doi:10.1038/ncomms9638
- 90) **Catania KC** (2015) An optimized biological TASER: Electric eels remotely induce or arrest movement in nearby prey. *Brain, Behavior, and Evolution*. 86:38-47.
- 89) Suzana Herculano-Houzel, **Catania, K**, Manger, PR and Kaas JH (2015) Mammalian brains are made of these: A dataset on the numbers and densities of neuronal and non-neuronal cells in the brain of glires, primates, scandentia, eulipotyphlans, afrotherians and artiodactyls, and their relationship with body mass. *Brain Behavior and Evolution*. 86:145-163
- 88) Marzban H, Hoy N, Buchok M, **Catania KC**, Hawkes R. (2015) Compartmentation of the Cerebellar Cortex: Adaptation to Lifestyle in the Star-Nosed Mole *Condylura cristata*. *Cerebellum*. *Cerebellum*. 14(2):106-118.
- 87) **Catania K** (2014) The shocking predatory strike of the electric eel. *Science* 346:1231-1234.
- 86) Leitch DB, Sarko DK, **Catania KC** (2014) Brain mass and cranial nerve size in shrews and moles. *Scientific Reports* 4:6241.
- 85) Ribeiro PF, Manger PR, **Catania KC**, Kaas JH, Herculano-Houzel S. (2014) Greater addition of neurons to the olfactory bulb than to the cerebral cortex of eulipotyphlans but not rodents, afrotherians or primates. *Frontiers in Neuroanatomy* 8:23. doi: 10.3389
- 84) Sawyer EK, Leitch DB, **Catania KC** (2014) Organization of the spinal trigeminal nucleus in Star-Nosed Moles. *Journal of Comparative Neurology*. 522:3335-3350.
- 83) Sarko DK, Leitch DB, **Catania KC** (2013) Cutaneous and periodontal inputs to the cerebellum of the naked mole-rat (*Heterocephalus glaber*). *Frontiers in Neuroanatomy*. 7:39
- 82) **Catania KC**, Catania EH, Sawyer EK, Leitch DB (2013) Barrelettes without Barrels in the American Water Shrew. *PLoS ONE* 8(6): e65975. doi:10.1371/journal.pone.0065975
- 81) **Catania KC** (2013) Stereo and Serial Sniffing Guide Navigation to an Odor Source in a Mammal. *Nature Communications*. 4:1441. doi: 10.1038/ncomms2444.
- 80) Gerhold KA, Pellegrino M, Tsunozaki M, Morita T, Leitch DB, Tsuruda PR, Brem RB, **Catania KC**, and Bautista DM. (2013) The Star-Nosed Mole Reveals Clues to the Molecular Basis of Mammalian Touch. *PLoS One*. 8(1):e55001. doi: 10.1371

- 79) **Catania KC** (2013) The Neurobiology and Behavior of the American Water Shrew (*Sorex palustris*) *Journal of Comparative Physiology* 199(6):545-54.
- 78) Leitch DB and **Catania KC** (2012) Structure, Innervation, and Response Properties of Integumentary Sensory Organs in Crocodylians. *Journal of Experimental Biology*. 215: 4217-4230
- 77) Gillis AJ, Modrell MS, Northcutt RG, Catania KC, Luer CA, and Baker CV (2012) Electrosensory ampullary organs are derived from lateral line placodes in cartilaginous fishes. *Development*. 139:3142-3146.
- 76) **Catania KC** (2012) The evolution of brains and behavior for optimal foraging: a tale of two predators. *Proceedings of the National Academy of Sciences*. Suppl 1:10701-8
- 75) **Catania KC**. (2012) Tactile sensing in specialized predators - from behavior to the brain. *Current Opinion in Neurobiology*. 22:251-258.
- 74) Koyabu D, Endo H, Mitgutsch C, Suwa G, **Catania KC**, Zollikofer C, Oda S, Koyasu K, Ando M and, Sánchez-Villagra MR (2011) Heterochrony and developmental modularity of cranial osteogenesis in lipotyphlan mammals. *Evodevo*. 2:21.
- 73) Herculano-Houzel S, Ribeiro P, Campos L, da Silva AV, Torres LB, **Catania KC**, and Kaas, JH (2011) Updated Neuronal Scaling Rules for the Brains of Glires (Rodents/Lagomorphs). *Brain Behavior and Evolution*. 78:302-314.
- 72) Leitch, DB, Gauthier D, Sarko DK, and **Catania KC** (2011) Chemoarchitecture of Layer 4 Isocortex in the American Water Shrew (*S. palustris*). *Brain, Behavior, and Evolution*. 78:261-271.
- 71) **Catania KC**, Leitch DB, Gauthier D (2011) A Star in the Brainstem Reveals the First Step of Cortical Magnification. *PLoS One*. 6(7):e22406.
- 70) **Catania KC** (2011) The Sense of Touch in the Star-Nosed Mole – From Mechanoreceptors to the Brain. *Proceedings of the Royal Society B: Biological Sciences*. 366:3016-3025.
- 69) **Catania KC** (2011) The brain and behavior of the tentacled snake. *Annals of the New York Academy of Sciences* 1225:83-89.
- 68) Marzban H, Hoy N, Aavani T, Sarko DK, **Catania KC**, Hawkes R. (2011) Compartmentation of the Cerebellar Cortex in the Naked Mole-Rat (*Heterocephalus glaber*). *Cerebellum*. 10(3):435-48.
- 67) Sarko DK, Leitch DB, Girard, I, Sikes RS, **Catania KC** (2011) Organization of somatosensory cortex in the northern grasshopper mouse (*Onychomys leucogaster*), a predatory rodent. *Journal of Comparative Neurology*. 519:64-74
- 66) Campbell KC, Storz, JF, Signore AV, Moriyama H, **Catania KC**, Payson AP, Bonaventura J, Stetefeld J, Weber, RE. (2010) Molecular basis of a novel adaptation to hypoxic-hypercapnia in a strictly fossorial mole. *BMC Evolutionary Biology*. 10:214.
- 65) **Catania KC** (2010) Born knowing – tentacled snakes innately predict prey behavior. *PLoS ONE* 5(6): e10953.
- 64) **Catania KC**, Leitch DB, Gauthier, D (2010) Function of the Appendages in Tentacled Snakes (*Erpeton tentaculatus*). *Journal of Experimental Biology*. 213:359-367.
- 63) Seluanov A, Hine C, Azpurua J, Feigenson M, Bozzella M, Mao Z, **Catania KC**, Gorbunova V. (2009) Hypersensitivity to contact inhibition provides a clue to cancer resistance of naked mole-rat. *Proceedings of the National Academy of Sciences*. 106:19352-19357.
- 62) **Catania KC** (2009) Underwater Sniffing Guides Olfactory Localization in Semi-Aquatic Mammals. *Annals of the New York Academy of Sciences*. 1170:407-12.
- 61) **Catania KC** (2009) Tentacled snakes turn C-starts to their advantage and predict future prey behavior. *Proceedings of the National Academy of Sciences*. 106:11183-7.
- 60) Sarko DK, **Catania KC**, Leitch DB, Kaas JH, Herculano-Houzel S (2009) Cellular scaling rules of insectivore brains. *Frontiers in Neuroanatomy*. 3:8 Epub 2009 Jun 29.

- 59) Dengler-Crish CM and **Catania KC** (2009) Cessation of reproduction-related spine elongation after multiple breeding cycles in female naked mole-rats. *Anatomical Record*. 292:131-137.
- 58) **Catania KC** (2008) Worm Grunting, Fiddling, and Charming – Humans unknowingly mimic a predator to harvest bait. *PLoS ONE*. 3:e3472.
- 57) Seluanov A, Hine C, Bozzella M, Hall A, Sasahara TH, Ribeiro AA, **Catania KC**, Presgraves DC, Gorbunova V (2008) Distinct tumor suppressor mechanisms evolve in rodent species that differ in size and lifespan. *Aging Cell*. 7:813-823.
- 56) Henry EC, Sarko DK, **Catania KC** (2008) Central Projections of Trigeminal Afferents Innervating the face in Naked Mole-Rats (*Heterocephalus glaber*). *Anatomical Record* 291:988-998.
- 55) **Catania KC** Hare J and Campbell K (2008) Water shrews detect movement, shape, and smell to find prey underwater. *Proceedings of the National Academy of Sciences*. 105:571-576.
- 54) Dengler-Crish CM and **Catania KC** (2007) Phenotypic Plasticity in Female Naked Mole-Rats After Removal from Reproductive Suppression *Journal of Experimental Biology*. 210:4351-4358.
- 53) Marasco PD, Tsuruda PR, Bautista DM, and **Catania KC** (2007) Fine structure of Eimer's organ in the coast mole (*Scapanus orarius*). *Anatomical Record* 290:437-448.
- 52) Marasco PD, **Catania KC** (2007) Response properties of primary afferents supplying Eimer's organ. *Journal of Experimental Biology* 210:765-780
- 51) Henry EC, Dengler-Crish CM, **Catania KC** (2007) Growing out of a caste--reproduction and the making of the queen mole-rat. *Journal of Experimental Biology* 210:261-268.
- 50) Seluanov A, Chen Z, Hine C, Sasahara TH, Ribeiro AA, **Catania KC**, Presgraves DC, Gorbunova V (2007) Telomerase activity coevolves with body mass not lifespan. *Aging Cell* 6:45-52.
- 49) **Catania KC** (2006) Olfaction: underwater 'sniffing' by semi-aquatic mammals. *Nature*. 2006 444:1024-1025.
- 48) Marasco PD, Tsuruda PR, Bautista DM, Julius D, **Catania KC** (2006) Neuroanatomical evidence for segregation of nerve fibers conveying light touch and pain sensation in Eimer's organ of the mole. *Proceedings of the National Academy USA* 103:9339-9344.
- 47) **Catania KC** Henry EC (2006) Touching on somatosensory specializations in mammals. *Current Opinion in Neurobiology* 16:467-473.
- 46) Dengler-Crish CM, Crish SD, O'Riain MJ, **Catania KC** (2006) Organization of the somatosensory cortex in elephant shrews (*E. edwardii*). *Anatomical Record* 288:859-866.
- 45) Henry EC and **Catania KC** (2006) Cortical, callosal, and thalamic connections from primary somatosensory cortex in the naked mole-rat (*Heterocephalus glaber*), with special emphasis on the connectivity of the incisor representation. *Anatomical Record* 288:626-645.
- 44) Crish, SD, Dengler-Crish, CM, and **Catania KC** (2006) The central visual system of the naked mole-rat (*Heterocephalus glaber*). *Anatomical Record*. 288:205-212.
- 43) Henry, EC, Remple, MS, O'Riain MJ, and **Catania KC** (2006) The Organization of Somatosensory Cortical Areas in the Naked Mole-Rat (*Heterocephalus glaber*). *Journal of Comparative Neurology*. 495:434-452.

- 42) **Catania KC** (2005) Star-Nosed Moles. *Current Biology*. 15:R863-864
- 41) **Catania KC** (2005) The evolution of sensory specializations in Insectivores. *Anatomical Record*. 287:1038-1050.
- 40) Henry EC and **Catania KC** (2005) Plasticity of the cortical dentition representation after tooth extraction in naked mole-rats. *Journal of Comparative Neurology* 485:64-74.
- 39) **Catania KC** and Remple FE (2005) Asymptotic prey profitability drives star-nosed moles to the foraging speed limit. *Nature*. 433:519-522.
- 38) **Catania KC** (2004) Correlates and possible mechanisms of neocortical enlargement and diversification in mammals. *International Journal of Comparative Psychology*. 17: 71-91.
- 37) Mills SL and **Catania KC** (2004) Identification of retinal neurons in a regressive rodent eye (the naked mole-rat). *Visual Neuroscience*. 21:107-117.
- 36) **Catania KC** and Remple FE (2004) Tactile foveation in the star-nosed mole. *Brain Behavior and Evolution*. 63:1-12.
- 35) Crish, S.D. C.M. Comer, P.D. Marasco and **K.C. Catania** (2003) Somatosensation in the superior colliculus of the star-nosed mole. *Journal of Comparative Neurology*. 29:415-25.
- 34) Remple, M. S., E. C. Henry and **K. C. Catania** (2003) The organization of somatosensory cortex in the laboratory rat (*Rattus norvegicus*) – evidence for two lateral areas joined at the representation of the teeth. *Journal of Comparative Neurology* 467: 105-118.
- 33) Rubenstein, N.M., G. R. Cunha, Y.Z. Wang, K.L. Campbell, A.J. Conley, **K.C. Catania**, S.E. Glickman and N.J. Place (2003) Variation in ovarian morphology in four species of New World moles with a peniform clitoris. *Reproduction*. 126:713-9.
- 32) **Catania, K.C.** (2002) Barrels, stripes, and fingerprints in the brain - implications for theories of cortical organization. *Journal of Neurocytology*. 31:347-58.
- 31) **Catania, K. C.** and M.S. Remple (2002) Somatosensory cortex dominated by the representation of teeth in the naked mole-rat brain. *Proceedings of the National Academy of Sciences U S A*. 99:5692-5697.
- 30) Sachdev, R.N.S. and **K.C. Catania** (2002) Receptive Fields and Response Properties of Neurons in the Star-Nosed Mole's Somatosensory Fovea. *Journal of Neurophysiology*. 87: 2602-2611.
- 29) Kaas, J.H. and **K.C. Catania** (2002) How do features of sensory representations develop? *Bioessays* 24: 334-343.
- 28) Sachdev, R.N.S. and **K.C. Catania** (2002) Effects of stimulus duration on the response properties in the somatosensory cortex of the star-nosed mole. *Somatosensory and Motor Research*. 19:272-278.
- 27) **Catania, K.C.** (2001) Early development of a somatosensory fovea: a head start in the cortical space race? *Nature Neuroscience* 4:353-354.
- 26) **Catania, K.C.** and J.H. Kaas (2001) Areal and callosal connections in the somatosensory cortex of the star-nosed mole. *Somatosensory and Motor Research*. 18:303 – 311.
- 25) Jain, N., Qi H. X., **K.C. Catania** and J.H. Kaas (2001) Anatomical correlates of the face and oral cavity representation in somatosensory area 3b of monkeys. *Journal of Comparative Neurology*. 429: 455-468.
- 24) **Catania, K.C.** (2000) Cortical organization in moles: Evidence of new areas and a specialized S2. *Somatosensory and Motor Research*. 17:335-347.
- 23) **Catania, K.C.** (2000) Mechanosensory organs of moles, shrew-moles, and desmans: A survey of the family Talpidae with comments on the function and evolution of Eimer's organ. *Brain Behavior and Evolution*. 56: 146-174.
- 22) **Catania, K.C.**, N. Jain, J.G. Franca, E. Volchan and J.H. Kaas (2000) The organization of somatosensory cortex in the short-tailed opossum (*Monodelphis domestica*). *Somatosensory and Motor Research*. 17: 39-51.
- 21) **Catania, K.C.**, C.E. Collins, and J.H. Kaas (2000) Cortical organization in the East African

- Hedgehog (*Atelerix albiventris*). *Journal of Comparative Neurology*. 421: 256-274.
- 20) **Catania, K.C.** (2000) Cortical organization in Insectivora: The parallel evolution of sensory cortex and the brain. *Brain Behavior and Evolution*. 55:311-321.
  - 19) Franca, J.G., E. Volchan, N. Jain, **K.C. Catania**, R.L. Oliveira, F.F. Hess, M. Jablonka, C.E. Rocha-Miranda, and J.H. Kaas (2000) Distribution of NADPH-diaphorase cells in visual and somatosensory cortex in four mammalian species. *Brain Research*. 864: 163-175.
  - 18) Northcutt, R.G., L.A. Barlow, C. B. Braun and **K.C. Catania** (2000) Distribution and innervation of taste buds in the axolotl. *Brain, Behavior and Evolution*. 56: 123-145.
  - 17) **Catania, K.C.** (1999) A nose that looks like a hand and acts like an eye: The unusual mechanosensory system of the star-nosed mole. *Journal of Comparative Physiology*. 185:367-372.
  - 16) **Catania, K.C.**, D.C. Lyon, O.B. Mock and J.H. Kaas (1999) Cortical organization in shrews: evidence from five species. *Journal of Comparative Neurology*. 410:55-72.
  - 15) **Catania, K.C.**, R.G. Northcutt, and J.H. Kaas. (1999) The development of a biological novelty: A different way to make appendages as revealed in the snout of the star-nosed mole (*Condylura cristata*). *Journal of Experimental Biology*. 202:2719-2726.
  - 14) Jain, N., **K.C. Catania** and J.H. Kaas (1998) A histologically visible representation of the fingers and palm in primate area 3b and its immutability following long-term deafferentations. *Cerebral Cortex*. 8:227-236.
  - 13) **Catania, K.C.** and J.H. Kaas (1997) The organization of somatosensory cortex and distribution of corticospinal neurons in the eastern mole (*Scalopus aquaticus*). *Journal of Comparative Neurology*. 378:337-353
  - 12) **Catania, K.C.** and J.H. Kaas (1997) The mole nose instructs the brain. *Somatosensory and Motor Research*. 14:56-58
  - 11) **Catania, K.C.** and J.H. Kaas (1997) Somatosensory fovea in the star-nosed mole: Behavioral use of the star in relation to innervation patterns and cortical representation. *Journal of Comparative Neurology*. 387:215-233.
  - 10) Jain, N., **K.C. Catania** and J.H. Kaas (1997) Deactivation and reactivation of somatosensory cortex after dorsal spinal cord injury. *Nature*. 386:495-498
  - 9) **Catania, K.C.** (1996) Ultrastructure of the Eimer's organ of the star-nosed mole. *Journal of Comparative Neurology*. 365:343-354
  - 8) **Catania, K.C.** and J. H. Kaas (1996) The unusual nose and brain of the star-nosed mole. *BioScience*. 46:578-586
  - 7) **Catania, K.C.** (1995) Magnified cortex in star-nosed moles. *Nature*. 375: 453-454
  - 6) **Catania, K.C.** (1995) The structure and innervation of the sensory organs on the snout of the star-nosed mole. *Journal of Comparative Neurology*. 351: 536-548
  - 5) **Catania, K.C.** (1995) A comparison of the Eimer's organs of three North American moles: the star-nosed mole (*Condylura cristata*) the hairy-tailed mole (*Parascalops breweri*) and the eastern mole (*Scalopus aquaticus*). *Journal of Comparative Neurology*. 354: 150-160
  - 4) **Catania, K.C.** and J.H. Kaas (1995) The organization of the somatosensory cortex of the star-nosed mole. *Journal of Comparative Neurology*. 351: 549-567
  - 3) Northcutt, R.G., **K.C. Catania**, and B.B. Criley (1994) Development of lateral line organs in the axolotl. *Journal of Comparative Neurology*. 340:480-514
  - 2) **Catania, K.C.**, R.G. Northcutt, J.H. Kaas, and P.D. Beck (1993) Nose stars and brain stripes. *Nature*. 364:493
  - 1) Williams, J.R., **K.C. Catania**, and C.S. Carter (1992) Development of partner preferences in female prairie voles (*Microtus ochrogaster*): the role of social and sexual experience. *Hormones and Behavior*. 26:339-349.

## OTHER PAPERS

- Catania KC** (2012) A Nose for Touch. *The Scientist*. Vol. 26, No. 9
- Catania KC** (2011) Natural Born Killer. *Scientific American*. April 2011 304:84-87
- Catania KC** (2010) Worm Charmers. *Scientific American*. March 2010 302:56-59
- Catania KC** (2008) No Taming the Shrew. *Natural History Magazine*, 117:56-60.
- Catania KC** (2008) Sensory System Specializations. *The New Encyclopedia of Neuroscience*.
- Catania K.C.** (2002) The Nose Takes a Staring Role. *Scientific American*. July: 54-60.
- Catania K.C.** (2000) A star is born. *Natural History Magazine*. 109: 66-69.

## BOOK CHAPTERS

- Catania KC**, Catania EH (2015) Comparative Studies of Somatosensory Systems and Active Sensing. in Patrik Krieger and Alexander Groh, eds. *Sensorimotor Integration on the Whisker System*. New York: Springer, pp 7-28
- Catania KC** (2007) Epigenetic Responses to a Changing Periphery. In *Evolution of Nervous Systems*. Volume 1 – Theories, Development, Invertebrates. G Stiedter and JLR Rubenstein (eds) Elsevier. Pp. 143-151.
- Catania KC** (2007) Organization of a Miniature Neocortex – What Shrew Brains Suggest about Mammalian Neocortex. In *Evolution of Nervous Systems*. Volume 3- Mammals. JH Kaas and LA Krubitzer (eds) Elsevier. Pp. 137-141.
- Catania KC** (2007) The Evolution of the Somatosensory System, Clues from Specialized Species. In *Evolution of Nervous Systems*. Volume 3- Mammals. JH Kaas and LA Krubitzer (eds) Elsevier. Pp. 189-206.
- Park TJ **Catania KC** Samaan D and Comer CM (2007) Adaptive Neural Organization of Naked Mole-Rat Somatosensation (and those Similarly Challenged). In *Subterranean Rodents: News from Underground*. Begal S Burda H and Schleich CE (eds) Springer pp. 175-196.

## BOOK REVIEWS

- Catania KC** (2003) A whirlwind tour of the nervous system. Review of *Brain Architecture*, by Larry Swanson. *Nature Neuroscience* 6(5) 443.
- Catania KC** (2012) Curiouser and Curiouser, A review of *Curious Behavior*, by Robert Provine. *The Scientist Magazine*. August 23, 2012.

## EXTERNAL RESEARCH GRANTS AND AWARDS

### National Science Foundation Award

Model Systems in Neuroethology  
6/1/15-5/31/20

### John Simon Guggenheim Fellowship (2014-2015)

### Pradel Research Award in Neuroscience – National Academy of Sciences (2013)

### National Science Foundation Award

Mammalian Models in Neuroethology  
03/01/09-02/28/15

### MacArthur Award

The John D. and Catherine T. MacArthur Foundation 01/01/2007-01/01/2012

### RO1 National Institutes of Health

The Organization and Plasticity of Cortical Areas Representing the Dentition.  
02/15/2006-1/31/10

### National Science Foundation Award

New Approaches for Investigating Brain-Body Scaling and the Evolution of Mammalian Brains.  
06/05/2005 to 07/05/2008

### National Science Foundation SGER Award

Nature, Nurture, and Cortical Maps 07/05/2005 to 07/05/2007

### National Science Foundation Career Award

Mammalian models for teaching and research in neuroethology.  
05/15/2003 to 4/30/2008

### National Institutes of Health R21 Award

Cortical representational plasticity of oral structures  
8/1/2002 to 7/31/2005

### Searle Scholars Award

Specialized touch systems as models for the exploration of mammalian brain organization and sensory processing. 07/01/2001-06/30/2005

### National Institutes of Health RO1 Award

Development and organization of mammalian somatosensory cortex.  
07/01/98 – 06/30/03

Individual National Research Service Award (F32) 1995-1998

## INTERNAL RESEARCH GRANTS RECEIVED

### Vanderbilt Discovery Grant

Mechanosensation and Brain Organization in the Nile Crocodile  
2010-2012

## INVITED PRESENTATIONS AND SEMINARS

### 2018

May 19 Keynote Speaker, Vision Sciences Meeting, St. Pete Beach Fl.

### 2017

April 22-25 American Association of Anatomists, Extreme Anatomy Symposium, Chicago, IL

April 13 **Roeder Memorial Lecture**, Tufts University

March 31 University of Mississippi, Department of Biology

March 9 The Rockefeller University, Neuroscience Seminar Series, New York, NY,



Feb 27 NIH Neuroscience Seminar Series, National Institutes of Health, Bethesda, MD  
Feb 23 Virginia Tech, Ecology, Evolution, and Behavior seminar series  
Jan 19 University of Kentucky, Department of Biology

**2016**  
Nov 11 JB Johnston Club, Comparative Neuroscience, Chicago.  
April 21 Wayne State University, School of Medicine  
March 30 **Presidential Symposium Speaker**, 2016 International Society for Neuroethology Meeting, Montevideo, Uruguay  
March 17 Florida State University, Program in Neuroscience  
March 1 **Lytton J Musselman Natural History Lecture**, Old Dominion University  
Feb. 17 University of Oklahoma, Department of Biology  
Feb. 11 Case Western Reserve University, Department of Biology

**2015**  
Oct 16 JB Johnston Club, Comparative Neuroscience, Chicago.  
April 30 Cornell University, Department of Neurobiology and Behavior  
April 25 Annual Meeting Association of University Anesthesiologist, Vanderbilt University  
April 1 **Plenary Speaker** 2015 Annual Meeting of the Association of Southeastern Biologists (ASB) Chattanooga, TN.  
March 26 Yale University, Department of Cellular and Molecular Physiology  
March 19 Norden Outreach Lecture. Vanderbilt Health One Hundred Oaks.

**2014**  
Nov. 13 Karger Speaker, JB Johnston Club, Comparative Neuroscience, Wash. D.C.  
April 14 West Virginia University, Biology Department Seminar Series  
March 2 Tufts University School of Medicine, Neuroscience Seminar Series  
Feb. 18 University of Florida, Department of Biology

**2013**  
Sept 29 **Keynote Speaker** University of Alabama and Middle Tennessee State University joint biological sciences symposium.  
June 1 Public Presentation – Amazing Animals in Sizerville Wetlands. Sizerville State Park, Pennsylvania  
May 21 Harvard Medical School, Program in Neuroscience  
April 28 **Plenary Speaker** Howard Hughes Janelia Farm Research Institute, Neural Basis of Vibrissa-Based Tactile Sensation Conference  
March 6 Howard Hughes Janelia Farm Research Institute, Dynamics of Prey Capture and Escape  
Feb 20 Purdue University, Department of Biological Sciences  
Feb 8 Univ. of Maryland College Park, Neuroscience and Cognitive Science Program

**2012**  
March 30 Indiana University, Bloomington, Department of Biology.  
March 22 Stanford University, Neuroscience Program  
March 20 University of California, San Diego. Department of Neurosciences.  
March 12 Duke University, Department of Biology and Neurogenetics  
March 6 **The Annual Mayer Endowed Public Lecture**, Wellesley College, MA  
Feb 23 University of California, Davis. Center for Neuroscience  
Feb 9 Washington D.C. George Washington Institute for Neuroscience  
Jan 21 **National Academy of Sciences Sackler Colloquium**, Beckman Center of the National Academy of Sciences, Irvine, CA

**2011**  
Nov. 11 J.B. Johnston Club, Washington D.C.

Nov. 4                   MARC Program Seminar, Tennessee State University.  
September 7           Wake Forest University, Department of Biology  
May 19                   **Keynote Speaker**, Vanderbilt Molecular Physiology and Biophysics Department  
Retreat.  
March 24<sup>th</sup>             Wesleyan University, Department of Biology  
Jan 31-Feb 2<sup>nd</sup>        The Kavli Royal Society Centre for the Advancement of Science, Chicheley Hall,  
North Buckinghamshire, UK “Active Touch Symposium”  
Jan 24<sup>th</sup>                The Nashville Rotary Club. Wildhorse Saloon.

**2010**  
September 22         Harvard University, Department of Organismic and Evolutionary Biology  
June 26                Welker Honorary Symposium, Washington D.C.  
May 19                 Seewiesen Germany, Max Planck Sensory Ecology Group,  
April 19                University of Washington, Seattle  
April 16                University of Nevada, Reno  
March 27               ITAG Herpetology Meeting, Fort Worth Texas  
March 25-26          University of Texas, Austin Texas  
March 16               University of North Carolina, Chapel Hill  
March 3                 Austin Peay, Clarksville, TN

**2009**  
December 8th         Scientist-in-the-Classroom Partnership, Martin Prof. Dev. Center, Nashville, TN  
September 25         University of Massachusetts Amherst, **Sinauer Endowed Lecture**, Dept. Biology  
June 11                 ZooAtlanta Herpetology Department  
May 28                 **Keynote Speaker**, Rocky Mountain Regional Neuroscience Meeting, Univ. of CO,  
Denver  
March 27               University of Zurich-Irchel, **Celebration of Darwin Lecture**, 2009  
March 5                 Cornell University, Department of Neurobiology and Behavior Seminar  
February 18           Howard Hughes Janelia Farm Research Institute, Systems Neuroscience  
February 5             University of Memphis, Department of Biology Seminar

**2008**  
November 14          Annual J. B. Johnston Meeting, Washington D.C.  
August 13             **Plenary Speaker**. International Society of Behavioral Ecology. Cornell  
University.  
July 23                 **Invited Special Lecture**. International Symposium on Olfaction and  
Taste. San Francisco, CA  
July 8-10               **Scholar In Residence**: Neural Systems and Behavior MBL, Woods Hole, MA.  
April 16                Sigma Xi Annual Banquet, Nashville, TN  
Jan 29                  Department of Biology, MTSU, Tennessee

**2007**  
July 27                 Invited Symposium Speaker. International Society for Neuroethology  
Meeting, Vancouver, BC  
May 10                 Faculty Seminar for Commencement Activities, Vanderbilt University  
March 6                 Division of Biological Sciences University of Missouri  
March 1                 Departments of Anatomy and Neurobiology at NEOUCOM  
January 29             The University of Arizona ARL Division of Neurobiology  
January 1               Baylor College of Medicine Neuroscience seminar series

**2006**  
October 13             Annual J. B. Johnston Meeting, San Diego, CA.  
October 14             Invited Panel Participation and Presentation “Animals In Research Panel”  
Annual Society for Neuroscience Meeting. Atlanta Georgia.

August 15 Invited Seminar – Annual Animal Behavior Society Meeting, Snowbird Utah.  
 May 28th, 2006 Nashville, TN Regional Chapter of the American Association of Laboratory Animal Science. Challenges and Rewards of Studying Unusual Species  
 May 8th, 2006 University of Virginia Seminar - Workshop in Sensory Biology and Engineering

## **2005**

January 24, 2005 Invited Symposium Speaker, Winter Conference on Brain Research  
 March 1, 2005 University of Utah, Neuroscience Seminar Series  
 April 5, 2005 **C.J. Herrick Award Banquet and Talk**, American Association of Anatomists, San Diego  
 April 28, 2005 Princeton University, Neuroscience Seminar Series  
 May 10, 2005 **Distinguished Speaker in Brain and Behavior**, Georgia State  
 May 24, 2005 John's Hopkins University, Neuroscience Seminar Series  
 August 9, 2005 Gordon Conference on Neuroethology, Oxford, England  
 September 9, 2005 Western Kentucky University, Biology Seminar Series  
 October 6, 2005 University of Connecticut, Ecology and Evolutionary Biology Seminar Series.

## **2004**

October 24, 2004 Society for Neurosciences, **NSF Invited Presentation**, "*How to address the broader impacts component of a grant proposal*"  
 March 11, 2004 Biology Seminar Series, Hunter College, New York  
 March 25, 2004 **Lubinsky Memorial Lecture**, University of Manitoba.  
 April 20, 2004 Searle Scholars Meeting, Model Systems in Neuroethology

## **2002**

February 12, 2002 Department of Physiology and Biophysics Seminar, University of Iowa.  
 February 22, 2002 MARC Program Seminar, Tennessee State University.

## **2001**

January 19, 2001 Biology Seminar Series, University of Virginia, Charlottesville  
 May 29, 2001 Helmholtz Club, University of California, Irvine.  
 Sept. 21, 2001 **J. P. Scott Lecturer**, Distinguished Speaker Series, Bowling Green State  
 Nov. 31, 2001 International Japan-USA Conference in Neuroethology

## **2000**

October 20, 2000 Neuroscience Seminar Series, University of Maryland, College Park.  
 November 17, 2000 Neuroscience Seminar Series, University of Illinois, Chicago.

## **1999**

October 23, 1999 11th Annual Karger Workshop at J.B. Johnston Club, Miami.

## **1998**

January 2, 1998 Julia B. Platt Club, Boston, MA.  
 August 25, 1998 **Award Acceptance Talk**, International Society for Neuroethology.  
 September 31, 1998 Neuroscience Seminar, Michigan State University.  
 October 1, 1998 Evolutionary Biology and Behavior Seminar, Michigan State

## **1995**

November 11, 1995 15th Annual J. B. Johnston Meeting, San Diego, CA.

## Selected Addition Activities.

### Teaching

Fall 2000; Spring 2002-2006

BSCI 253 Laboratory in Neurobiology

Spring 2007  
Fall 2001-2004; 2006-2014  
Spring 2012  
Fall 2012-2014

BSCI 286 Course Coordinator  
BSCI 254 Neurobiology of Behavior  
BSCI 275 Seminar in Neuroethology  
BSCI 275 Seminar in Neuroethology

Selected Recent Committees

Provost Search Committee, Vanderbilt University, 2014  
Vanderbilt Executive Committee for Strategic Planning, 2014  
Co-Organizer, Karger Workshop for Evolutionary Neuroscience 2014  
2013 Chair, Awards Selection Committee – Capranica Prize in Neuroethology.  
Chair, Program Committee, J.B. Johnston Society for Comparative Neurobiology 2011  
Program Committee Member J.B. Johnston Society for Comparative Neurobiology 2009- 2010  
Panel Participation “Animals In Research Panel” Society for Neuroscience Meeting 2006  
2005 Contributor NSF Congressional Report on Funded Activities.  
Organizing Committee: 2003 International Congress of Neuroethology  
Awards Selection Committee 2006-2008 C. J. Herrick Award Committee