

## Michael E. Burns, M.Sc., Ph.D.

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### Research Interests

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- Comparative anatomy and histology of the integument and dermal skeleton in tetrapods
- Evolutionary morphology, systematics, ontogeny, and allometry of armored dinosaurs
- Bone histology and physiology
- Paleobiogeography of the Late Cretaceous of North America and Asia

### Academic Employment

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- 2015 Assistant Professor, Department of Biology, Jacksonville State University (Department Heads: Ted Klimasewski, Tim Lindblom)  
*Courses taught (semesters taught in parentheses):* BY 101, Introductory Biology I (3 semesters); BY 263, Human Anatomy and Physiology I (1 semester); BY 320, Comparative Vertebrate Anatomy (3 semesters), BY 370, Introduction to Research in Biology (1 semester).
- 2007 – 2015 Teaching Assistant, Department of Biological Sciences, University of Alberta  
*Courses taught (semesters taught and course director(s) in parentheses):* BIOL 108, Introduction to Biological Diversity (3 semesters; Louise Mcbain; Dr. Dawn MacRitchie); BIOL 335, Principles of Systematics (5 semesters; Dr. Felix Sperling, Dr. Mark V.H. Wilson); PALEO 418, Paleontology of the Lower Vertebrates (1 semester; Dr. Mark V.H. Wilson); ZOO 241, Animal Physiology I: Homeostasis (3 semesters; Dr. Keith Tierney, Dr. Calvin Wong); ZOO 224, Vertebrate Diversity (1 semester, Dr. Braden Barr); ZOO 325, Comparative Anatomy (1 semester, Dr. Braden Barr).
- 2005 – 2007 Teaching Assistant, Department of Geology, Dickinson College  
*Courses taught (semesters taught and course director in parentheses):* GEOL 101, History of Life (2 semesters; Dr. Marcus M. Key Jr.)

### Other Relevant Employment

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- 2015 Ad Hoc Field Assistant, Aeon Paleontological Consulting Ltd, Sherwood Park, Alberta (Supervisor: Michael Riley).
- 2009 – 2015 Fossil Preparator and Laboratory Supervisor, Laboratory for Vertebrate Palaeontology, Department of Biological Sciences, University of Alberta (Supervisor: Dr. Philip J Currie).
- 2014 Ad Hoc Field Assistant, Nautilus Paleontology, Inc., Calgary, Alberta (Supervisor: Dr. Miriam Reichel).
- 2010 Palaeontology Education Liaison, Grande Prairie Regional College, Grande Prairie, Alberta (Supervisor: Katalin Ormay).

### Education

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- 2010 – 2015 University of Alberta, Edmonton, Alberta, Canada  
Ph.D. Biological Sciences  
*Thesis Title:* Intraspecific variation in the armoured dinosaurs (Ornithischia: Ankylosauria).  
*Supervisor:* Dr. Philip J Currie
- 2007 – 2010 University of Alberta, Edmonton, Alberta, Canada  
M.Sc. Biological Sciences

- Thesis Title:* External and internal structure of ankylosaur (Dinosauria; Ornithischia) osteoderms.  
*Supervisor:* Dr. Philip J Currie  
 2003 – 2007 Dickinson College, Carlisle, Pennsylvania, USA  
 B.S. Magna Cum Laude with Honors in Geology; Minor in Biology  
*Thesis Title:* The taxonomic utility of ankylosaur (Dinosauria, Ornithischia) osteoderms:  
*Glyptodontopelta mimus* Ford, 2000—a test case.  
*Advisors:* Dr. Marcus M. Key Jr. and Dr. Robert M. Sullivan

### Grants and Fellowships

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- 2016 Faculty Research Grant, Jacksonville State University. *Bone histology associated with vertebral fusion in mosasaurs (Squamata: Mosasauridae): functional and developmental implications.* \$2092.00
- 2015 University Travel and Self-improvement Grant, Jacksonville State University. *Intraspecific Variation in Late Cretaceous Nodosaurids (Ankylosauria: Dinosauria).* \$600.00.
- 2015 Roger Soderstrom Scholarship, Alberta Historical Resources Foundation and Alberta Lottery Fund. *Growth and Developmental Impacts on Dinosaurian Systematics.* \$5,000.00.
- 2014 Graduate Scholarship in Vertebrate Palaeontology, Faculty of Graduate Studies and Research, University of Alberta. \$2,350.00.
- 2014 Dinosaur Research Institute Student Grant. \$2,015.86. *Internal and external cranial anatomy of Late Cretaceous nodosaurid ankylosaurs and a revised taxonomy for the clade.*
- 2013 Travel Support for Graduate Students, Department of Biological Sciences, University of Alberta. \$300.
- 2013 Dinosaur Research Institute Student Grant. \$1,000. *Quantitative analyses of cranial characters in Edmontonia and Panoplosaurus (Ankylosauria: Nodosauridae) and taxonomic implications for the clade.*
- 2012 Rene Vandervelde Travel Grant for the SVP Annual Meeting, Dinosaur Research Institute. \$1,250.
- 2012 Dinosaur Research Institute Student Grant. \$2,240. *Growth, allometry, and intraspecific variation in the North American Ankylosauridae (Ornithischia: Ankylosauria).*
- 2012 Professional Development Grant, Graduate Students' Association, University of Alberta \$500. *Research Collaboration with the Hayashibara Museum of Natural Sciences.*
- 2012 Jurassic Foundation Research Grant. \$1,500. *Growth, development, and population dynamics in a population of Pinacosaurus grangeri from the Late Cretaceous Djadokhta Formation at Alag Teeg, Mongolia.*
- 2011 Dinosaur Research Institute Student Grant. \$3,000. *Growth and developmental impacts on ankylosaurian (Dinosauria: Ornithischia) systematics.*
- 2010 Rene Vandervelde Travel Grant for the SVP Annual Meeting, Dinosaur Research Institute. \$1,250.
- 2009 Dinosaur Research Institute Student Grant. \$3,000. *A descriptive and systematic revision of the Ankylosauria (Dinosauria: Ornithischia).*
- 2008 J. Gordon Kaplan Graduate Student Award, The Faculty of Graduate Studies and Research, University of Alberta. \$600.
- 2008 Travel Support for Graduate Students, Department of Biological Sciences, University of Alberta. \$300.
- 2008 Jurassic Foundation Research Grant. \$1,800. *External and internal structure of ankylosaurid (Dinosauria: Ornithischia: Ankylosauridae) osteoderms.*
- 2007 Society of Vertebrate Paleontology Student Travel Grant. \$300.
- 2006 The Henry Hanson Research Prize in Geology, Dickinson College. \$2,000. *On the taxonomic utility of ankylosaur osteoderms and a review of the genus Glyptodontopelta Ford, 2000.*
- 2006 Raven's Claw Scholarship, Dickinson College. \$5,200.
- 2003-2007 Benjamin Rush Scholarship, Dickinson College. \$52,000 (\$13,000 per year)
- 2003 Fred Laise Scholarship, Dickinson College. \$1,800.
- 2003 William L. Dunleavy Scholarship, Scranton Local APWU. \$500.

## Peer-reviewed Publications

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- In Press Xing, LD, RT McCrea, MG Lockley, TQ Lu, **ME Burns**, GZ Peng, JP Zhang. 2016. A possible ankylosaurian (Thyreophora) trackway from the Lower Cretaceous Jiaguan Formation of Emei, southwest China: paleoecological implications. *New Mexico Museum of Natural History and Science Bulletin*.
- 2016 Funston, GF, PJ Currie, and **ME Burns**. New elmsaur specimens from Alberta, Canada, and their relationship to the Mongolian *Elmsaurus rarus*. *Acta Paleontologica Polonica* 61: 159–173.
- 2016 Xing, LD, MG Lockley, JP Zhang, H Klein, T Wang, SB Kümmell, and **ME Burns**. A theropod-sauropod track assemblage from the Upper Jurassic Shedian Formation at Shuangbai, Yunnan Province, China reflecting different sizes of trackmakers: review and new observations. *Palaeoworld* 25: 84–94.
- 2015 Xing, L, A Parkinson, H Ran, C Pirrone, E Roberts, J Zhang, **ME Burns**, T Wang, and J Choiniere. The earliest fossil evidence of bone boring by terrestrial invertebrates, examples from China and South Africa. *Historical Biology* DOI: 10.1080/08912963.2015.1111884.
- 2015 Xing, L, J Zhang, H Klein, A Mayor, Y. Chen, H. Dai, **ME Burns**, J. Gao, Y. Tang, and S. Dong. Dinosaur tracks, myths and buildings: The Jin Ji (Golden Chicken) stones from Zizhou area, northern Shaanxi, China. *Ichnos* 22:227–234.
- 2015 Xing, LD, MG Lockley MF Bonnan, D Marty, H Klein, Y Liu, J Zhang, H Kuang, **ME Burns**, and N. Li. Late Jurassic–Early Cretaceous trackways of small-sized sauropods from China: New discoveries, ichnotaxonomy and sauropod manus morphology. *Cretaceous Research* 56: 470–481.
- 2015 Xing, L, J Zhang, MG Lockley, L Alcalá, RT McCrea, LG Buckley, H Klein, **ME Burns**, and Q He. Hints of the early Jehol Biota: important dinosaur footprint assemblages from the Jurassic-Cretaceous Boundary Tuchengzi Formation in Beijing, China. *PLoS ONE* 10: e0122715. doi:10.1371/journal.pone.0122715.
- 2015 Fanti, F, PJ Currie, and **ME Burns**. Taphonomy, age, and paleoecological implication of a new *Pachyrhinosaurus* (Dinosauria: Ceratopsidae) bonebed from the Upper Cretaceous (Campanian) Wapiti Formation of Alberta, Canada. *Canadian Journal of Earth Sciences* 52:250–260.
- 2015 **Burns, ME**, and SG Lucas. Biostratigraphy of ankylosaur osteoderms from New Mexico. *New Mexico Museum of Natural History and Science Bulletin* 67:9–14.
- 2015 Bradley, G, **ME Burns**, and PJ Currie. Missing data estimation in tyrannosaurid dinosaurs: can diameter take the place of circumference? *Cretaceous Research* 55: 200–209.
- 2015 **Burns, ME**, TA Tumanova, and PJ Currie. Postcrania of juvenile *Pinacosaurus grangeri* (Ornithischia: Ankylosauria) from the Upper Cretaceous Alagteeg Formation, Alag Teeg, Mongolia: implications for ontogenetic allometry in ankylosaurs. *Journal of Paleontology* 89: 168–182.
- 2015 Xing, LD, YK Wang, E Snively, JP Zhang, ZM Dong, **ME Burns**, and PJ Currie. Model-based identification of mechanical characteristics of *Sinosaurus* (Theropoda: Coelophysoidea) crest. *Acta Geologica Sinica (English edition)* 89:1–11.
- 2014 Xing, L, A Paulina-Carabajal, PJ Currie, Xing Xu, Jianping Zhang, Tao Wang, **ME Burns**, Tao Wang, and Dong Zhiming. Braincase anatomy of the basal theropod *Sinosaurus* from the Early Jurassic of China. *Acta Geologica Sinica* 88:1653–1664.
- 2014 Xing, LD, GZ Peng, Y Ye, MG Lockley, RT McCrea, PJ Currie, JP Zhang, and **ME Burns**. Large theropod trackway from the Lower Jurassic Zhenzhuchong Formation of Weiyuan County, Sichuan Province, China: Review, new observations and special preservation. *Palaeoworld* 23:285–293.
- 2014 Vandervén, E, **ME Burns**, and PJ Currie. Histologic growth dynamic study of *Edmontosaurus regalis* (Dinosauria: Hadrosauridae) from a bone-bed assemblage of the

- Upper Cretaceous Horseshoe Canyon Formation, Edmonton, Alberta, Canada. *Canadian Journal of Earth Sciences* 51:1023–1033.
- 2014 Baert, M., **ME Burns**, and PJ Currie. Quantitative taphonomic analyses of *Edmontosaurus regalis* (Dinosauria: Hadrosauridae) postcranial elements from the Danek Bonebed, Upper Cretaceous Horseshoe Canyon Formation, Edmonton, Alberta, Canada: Implications for allometric studies of fossil organisms *Canadian Journal of Earth Sciences* 51:1007–1016.
- 2014 Bramble, KA, **ME Burns**, and PJ Currie. Enhancing bonebed mapping with GIS technology using the Danek Bonebed (Upper Cretaceous Horseshoe Canyon Formation, Edmonton, Alberta, Canada) as a case study. *Canadian Journal of Earth Sciences* 51:987–991.
- 2014 **Burns, ME**, C Coy, VM Arbour, PJ Currie, and EB Koppelhus. The Danek *Edmontosaurus* Bonebed: new insights on the systematics, biogeography, and palaeoecology of Late Cretaceous dinosaur communities. *Canadian Journal of Earth Sciences* 51:v–vii.
- 2014 Bell, PR, R Sissons, **ME Burns**, F Fanti, and PJ Currie. New saurolophine material from the upper Campanian-lower Maastrichtian Wapiti Formation, Alberta; pp. 174–190 in Eberth, DA, and DC Evans (eds), *Hadrosaurs*, Indiana University Press.
- 2014 Arbour, VM, **ME Burns**, RM Sullivan, SG Lucas, AK Cantrell, J Fry, and TL Suazo. A new ankylosaurid dinosaur from the Upper Cretaceous (Kirtlandian) of New Mexico with implications for ankylosaurid diversity in the Upper Cretaceous of western North America. *PLoS ONE* 9(9): e108804. doi:10.1371/journal.pone.0108804.
- 2014 **Burns, ME**, and PJ Currie. External and internal structure of ankylosaur (Dinosauria; Ornithischia) osteoderms and their systematic relevance. *Journal of Vertebrate Paleontology* 34:835–851.
- 2014 Xing, L-D, Y-Q Liu, H-W Kuang, H Klein, J-P, Zhang, **ME Burns**, J Chen, M-W Wang, and J Hu. Theropod and possible ornithopod track assemblages from the Jurassic–Cretaceous boundary Houcheng Formation, Shangyi, northern Hebei, China. *Paleoworld* 23:200–208.
- 2014 **Burns, ME**, and MJ Vavrek. Probable ankylosaur ossicles from the middle Cenomanian Dunvegan Formation of northwestern Alberta, Canada. *PLoS ONE* 9(5): e96075. doi:10.1371/journal.pone.0096075.
- 2013 Loewen, MA, **ME Burns**, MA Getty, JI Kirkland, and MK Vickaryous. Review of the Late Cretaceous ankylosaurian dinosaurs from the Grand Staircase region, southern Utah; pp. 445–462 in Titus, AL (ed), *At the Top of the Grand Staircase: The Late Cretaceous of Southern Utah*, Indiana University Press.
- 2013 Arbour, V, **ME Burns**, PR Bell, and PJ Currie. Epidermal and dermal integumentary structures of ankylosaurian dinosaurs. *Journal of Morphology* 275: 39–50.
- 2013 DJ Molinaro, BMJ Collins, **ME Burns**, ES Stafford, and LR Leighton. Do predatory drill holes influence the transport and deposition of gastropod shells? *Lethaia* 46: 508–517.
- 2013 Xing, L-D, EM Roberts, JD Harris, MK Gingras, H Ran, J Zhang, X Xu, **ME Burns**, Z Dong. Novel insect traces on a dinosaur skeleton from the Lower Jurassic Lufeng Formation of China. *Palaeogeography, Palaeoclimatology, Palaeoecology* 388:58–68.
- 2013 **Burns, ME**, MK Vickaryous, and PJ Currie. Histological variability in fossil and recent alligatoroid osteoderms: systematic and functional implications. *Journal of Morphology* 274:676–686.
- 2012 Xing, L, PR Bell, WS Persons, S Ji, T Miyashita, **ME Burns**, Q Ji, and PJ Currie. Abdominal contents from two large Early Cretaceous compsognathids (Dinosauria: Theropoda) demonstrate feeding on confuciusornithids and dromaeosaurids. *PLoS ONE* 7(8): e44012. doi:10.1371/journal.pone.0044012.
- 2011 Xing, L, A Mayor, Y Chen, JD Harris, and **ME Burns**. The Folklore of Dinosaur Trackways in China: Impact on Paleontology. *Ichnos* 18:213–220.
- 2011 **Burns, ME** and RM Sullivan. A new ankylosaurid from the Upper Cretaceous Kirtland Formation, San Juan Basin, with comments on the diversity of ankylosaurids in New Mexico. *New Mexico Museum of Natural History Bulletin* 53:169–178.

- 2011 **Burns, ME** and RM Sullivan. The tail club of *Nodocephalosaurus kirtlandensis* (Dinosauria: Ankylosauridae), with a review of ankylosaurid tail club morphology and homology. *New Mexico Museum of Natural History Bulletin* 53:179–186.
- 2011 Arbour, VM, **ME Burns**, and PJ Currie. A review of pelvic shield morphology in ankylosaurs (Dinosauria: Ornithischia). *Journal of Paleontology* 85:298–302.
- 2011 **Burns, ME.**, PJ Currie, RL Sissons, and VM Arbour. Juvenile specimens of *Pinacosaurus grangeri* Gilmore, 1933 (Ornithischia: Ankylosauria) from the Late Cretaceous of China, with comments on the specific taxonomy of *Pinacosaurus*. *Cretaceous Research* 32:174–186.
- 2009 Arbour, VM., **ME Burns**, and RL Sissons. A redescription of the ankylosaurid dinosaur *Dyoplosaurus acutosquameus* Parks, 1924 (Ornithischia: Ankylosauria) and a revision of the genus. *Journal of Vertebrate Paleontology* 29:1117–1135.
- 2008 **Burns, ME.** Taxonomic utility of ankylosaur (Dinosauria, Ornithischia) osteoderms: *Glyptodontopleta mimus* Ford, 2000—a test case. *Journal of Vertebrate Paleontology* 28:1102–1109.

#### **Selected published Peer-reviewed Abstracts (\* indicates presenter)**

- 2016 **\*Burns, ME**, and JA Ebersole. New Appalachian armored dinosaur material (Nodosauridae, Ankylosauria) from the Maastrichtian Ripley Formation of Alabama. *GSA Abstracts with Programs*.
- 2015 **\*Burns, ME.** Intraspecific Variation in Late Cretaceous Nodosaurids (Ankylosauria: Dinosauria). *Journal of Vertebrate Paleontology, Program and Abstracts, 2015*, 99–100.
- 2015 **\*Kruk, E, ME Burns**, and PJ Currie. A new species of *Pachyrhinosaurus* (Ceratopsidae, Pachyrostra) from the Wapiti Formation (Upper Campanian) of Alberta, Canada. *Journal of Vertebrate Paleontology, Program and Abstracts, 2015*, 158.
- 2014 **\*Burns, ME**, and PJ Currie. Internal cranial anatomy of nodosaurid ankylosaurs (Dinosauria: Ornithischia). *Journal of Vertebrate Paleontology, Programs and Abstracts: 101*.
- 2014 **\*Burns, ME**, VM Arbour, C Coy, EB Koppelhus, and PJ Currie. Undergraduate research and citizen science at the Danek *Edmontosaurus* Bonebed, an urban dinosaur locality. *Journal of Vertebrate Paleontology, Programs and Abstracts: 100*.
- 2014 **\*Kruk, B, ME Burns**, and PJ Currie. Histological and morphological ontogeny of *Pachyrhinosaurus* nasal bosses. *Journal of Vertebrate Paleontology, Programs and Abstracts: 163*.
- 2014 **\*Bradley, G, M Campbell, and ME Burns.** Bringing fossils to life: interactive outreach in the classrooms of Alberta. *Journal of Vertebrate Paleontology, Programs and Abstracts: 96*.
- 2014 **\*Bramble, K., A Torices, ME Burns**, and PJ Currie. Reuniting the ‘headless wonder’ *Corythosaurus excavatus* (Dinosauria: Hadrosauridae) holotype skull with its dentary and postcranium. *Journal of Vertebrate Paleontology, Programs and Abstracts: 96*.
- 2014 **\*Hayashi, S, ME Burns**, Q Zhao, M Watabe, K Carpenter, R Barsbold, G Peng, Y Ye, S Jiang, T Sekiya, and X Xu. Bone histology of thyreophoran osteoderms; Histological differences between stegosaur and ankylosaur osteoderms. *International Symposium on Asian Dinosaurs in Fukui 2014: 34*.
- 2013 **\*Burns, ME**, S Hayashi, PJ Currie and M Watabe. Growth, development, and the problem of ankylosaurian ontogeny. *Journal of Vertebrate Paleontology, Journal of Vertebrate Paleontology, Programs and Abstracts: 97*.
- 2013 **\*Sullivan, RM, VM Arbour, ME Burns**, and SG Lucas. A new ankylosaurid dinosaur (Ornithischia, Ankylosauria) from the Upper Cretaceous Kirtland Formation, San Juan Basin, New Mexico, USA. *Journal of Vertebrate Paleontology, Programs and Abstracts: 222*.

- 2013 \*Kruk, B, **ME Burns**, and PJ Currie. Histological study of cranial elaborations in ceratopsian dinosaurs: functional and developmental implications. *Journal of Vertebrate Paleontology, Programs and Abstracts*: 157.
- 2013 \***Burns, ME**, S Hayashi, PJ Currie, and M Watabe. Different developmental processes of ankylosaur armor. *International Symposium on Paleohistology* 2:38.
- 2013 \*Hayashi, S, M Stein, **ME Burns**, M Watabe, and M Sander. Bone histology of ankylosaur long bones: implications for life history and evolution. *International Symposium on Paleohistology* 2:39.
- 2013 \*Kruk, B, **ME Burns**, and PJ Currie. Histological study of cranial elaborations in ceratopsian dinosaurs: functional and developmental implications. *International Symposium on Paleohistology* 2:52.
- 2013 \***Burns, ME**. New insights into the biology and diversity of the Late Cretaceous armoured dinosaurs. *The End of the Dinosaurs: Changes in the Late Cretaceous Biosphere Symposium*:17.
- 2012 \*Collins, BMJ, DJ Molinaro, **ME Burns**, ES Stafford, and LR Leighton. Do predatory drill holes influence the transport and deposition of gastropod shells? *GSA Abstracts with Programs*: 44.
- 2012 \***Burns, ME** and PJ Currie. Quantitative analyses of cranial characters in *Panoplosaurus* and *Edmontonia* (Ankylosauria: Nodosauridae) and their taxonomic implications for the clade. *Journal of Vertebrate Paleontology, Programs and Abstracts*:71.
- 2012 Hayashi, S, **ME Burns**, M Watabe, K Carpenter. Different developmental patterns between ankylosaur and stegosaur osteoderms: implications for the behavior variations among thyreophoran dinosaurs. *Centenary Meeting of the Paläontologische Gesellschaft Programme, Abstracts, and Field Guides*:71–72.
- 2012 Persons, WS, IV, PR Bell, L Xing, T Miyashita, and **ME Burns**. Gut contents and insights into the paleoecology of two Chinese theropods. *22nd Canadian Paleontology Conference*.
- 2011 \*Bell, PR, F Fanti, RL Sissons, **ME Burns**, and PJ Currie. A possible new hadrosaurine from the Wapiti Formation (Campanian-Maastrichtian), northwestern Alberta. *2011 International Hadrosaur Symposium*.
- 2010 \***Burns, ME**. Using skin to infer phylogeny: quantitative and qualitative analyses of variation in the structure of ankylosaur (Dinosauria: Ornithischia) osteoderms. *Journal of Vertebrate Paleontology, SVP Programs and Abstract Book*:68A.
- 2010 Shychoski, L, E Snively, and \***ME Burns**. Manoeuvred out of a corner: ligament entheses of the arctometatarsus enhanced tyrannosaurid agility. *Journal of Vertebrate Paleontology* 30(Supplement to No. 3):165A.
- 2010 \*Arbour, VM, and \***ME Burns**. My ankylosaur is a big dumb tank! Ankylosaur reconstructions in the scientific literature and popular media. *Alberta Palaeontological Society 14th Annual Symposium*: 3.
- 2010 \***Burns, ME**, and PJ Currie. Juvenile *Pinacosaurus* from Bayan Mandahu (Inner Mongolia, PRC) with a review of ankylosaur systematics and phylogenetics. *Alberta Palaeontological Society 14th Annual Symposium*: 16–17.
- 2009 \***Burns, ME**. Morphology, histology, and structural mechanics of ankylosaur osteoderms: implications for function and systematics. *Journal of Vertebrate Paleontology* 29(Supplement to No. 3):73A.
- 2009 \***Burns, ME**. An armoured dinosaur of the Frenchman Formation: using osteoderms to study ankylosaur geographic and stratigraphic distribution. *Frenchman Formation Terrestrial Ecosystem Conference, Royal Saskatchewan Museum Contribution to Science Number 12*:11–13.
- 2008 \***Burns, ME**. A time-averaged hard and soft tissue histology of Crocodylian osteoderms and implications for the study of dermal armour in the fossil record. *Journal of Vertebrate Paleontology* 28(Supplement to No. 3).

- 2007 \*Burns, ME. Identifying ankylosaur taxa using osteoderm morphology. *Journal of Vertebrate Paleontology* 27(Supplement to No. 3):54A.
- 2005 \*Wyse Jackson, PN, MM Key, Jr., and ME Burns. Bored bryozoans from the Ordovician of Estonia: a biological reinterpretation of the ichnogenus *Sanctum* Erickson and Bouchard, 2003. *Geological Society of America Abstracts with Programs* 37(7):404.

#### Non-technical Publications

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- 2013 Burns, ME, Analysis Instructions. BIOL 335, Principles of Systematics, Lab Manual.15p.
- 2013 Burns, ME, Lab Report Instructions. BIOL 335, Principles of Systematics, Lab Manual. 7p.
- 2011 Burns, ME, Report on Palaeontological Field Activities—Identify Fossil Outcrops. Pipestone Creek Dinosaur Initiative, RADF Project EI0421 Phase 4a:A61–A116.
- 2010 Burns, ME, Palaeontological Sites of the Peace Country. Pipestone Creek Dinosaur Initiative, RADF Project EI0421 Phase 2:A113–A151.
- 2010 Burns, ME, Guide to Fossil Hunting Brochure. Pipestone Creek Dinosaur Initiative, RADF Project EI0421 Phase 2:A57–A58.
- 2010 Burns, ME, Research Proposal: Growth, allometry, and population biology of centrosaurine dinosaurs. RADF Project EI0421 Phase A2:A35.
- 2010 Burns, ME, Assessment of Regional Museums in the Peace Country. Pipestone Creek Dinosaur Initiative, RADF Project EI0421 Phase 2:A5–A34.
- 2009 Burns, ME, Collections and Research. (In part). *The College of Eastern Utah Prehistoric Museum Raptor Review* 16:2.

#### Honors and Awards

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- 2015 Dr. Richard E. Peter Biology Conference, University of Alberta, Second Place, PhD Student Oral Presentation Competition (\$100)
- 2015 Department of Biological Sciences Excellence in Graduate Student Teaching Award, University of Alberta (\$500)
- 2015 Martha Piper Award, Graduate Students' Association, University of Alberta (\$500)
- 2014 Award for Outstanding Mentorship in Undergraduate Research & Creative Activities, Undergraduate Research Initiative, University of Alberta
- 2014 Commendation for Teaching, Department of Biological Sciences, University of Alberta
- 2013 Commendation for Teaching, Department of Biological Sciences, University of Alberta
- 2012 Inspirational Instructor Award, Interdepartmental Science Students' Society, University of Alberta
- 2011 Commendation for Teaching, Department of Biological Sciences, University of Alberta
- 2011 Dr. Richard E. Peter Biology Conference, University of Alberta, First Place, PhD Student Poster Competition (\$100)
- 2010 International Student Award, Graduate Student's Association, University of Alberta (\$500)
- 2009 Commendation for Teaching, Department of Biological Sciences, University of Alberta
- 2008 Commendation for Teaching, Department of Biological Sciences, University of Alberta
- 2007 Honors in Geology, Dickinson College
- 2007 Magna Cum Laude, Latin Honors, Dickinson College

#### Invited Lectures

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- 2016 Alabama Paleontological Society. (*Recent Discoveries and New Insights into the Biology and Diversity of the Armored Dinosaurs*).
- 2015 Royal Tyrrell Museum Field Station, Dinosaur Provincial Park (*The Armoured Dinosaurs of Dinosaur Park*).
- 2015 Jacksonville State University (*Biology of the Armored Dinosaurs*).
- 2014 Dinosaurs in the Fossil Record, PALEO 201, University of Alberta (*Species and Growth in Fossil Vertebrates*)
- 2014 Royal Ontario Museum Palaeohistology Workshop (*Bone Biology and Fossil Long Bone Histology*).

- 2014 Royal Ontario Museum Palaeohistology Workshop (*Metaplasia and Fossil Bone Histology*)
- 2014 Edmonton Life Long Learners Association, University of Alberta (*Dinosaur Growth and Histology*)
- 2014 Palaeontology of the Higher Vertebrates, PALEO 419, University of Alberta (*Basal Theropoda*)
- 2014 Palaeontology of the Higher Vertebrates, PALEO 419, University of Alberta (*Thyreophora*)
- 2014 Alberta Palaeontological Society 18th Annual Symposium (*Growth and histology of the armoured dinosaurs*).
- 2014 Palaeontology of the Higher Vertebrates, PALEO 419, University of Alberta (*Ornithopoda and Hadrosaurines*)
- 2014 Palaeontology of the Higher Vertebrates, PALEO 419, University of Alberta (*Crocodyliformes*).
- 2013 Royal Ontario Museum Palaeohistology Workshop (*Long Bone Histology*).
- 2013 Royal Ontario Museum Palaeohistology Workshop (*Metaplasia Case Study*).
- 2013 Canadian Paleontology Conference (*Revision of the Late Cretaceous Nodosauridae (Dinosauria: Ankylosauria)*).
- 2013 Canadian Paleontology Conference: UALVP 50th Anniversary Symposium (*Advances in archosaur palaeohistology at the University of Alberta Laboratory for Vertebrate Palaeontology*).
- 2013 Edmonton Gem and Mineral Show, Edmonton, Alberta (*Evolution of the Vertebrate Exoskeleton*)
- 2013 Edmonton Gem and Mineral Show, Edmonton, Alberta (*Dinosaur histology and the peculiar development of the armoured dinosaurs*)
- 2013 LogiCON, University of Alberta Faculty of Science, Edmonton, Alberta (*Experimentless science: using prediction and palaeontology to address armoured dinosaur paleobiology*)
- 2013 15<sup>th</sup> Annual PaleoFest Symposium, Burpee Museum of Natural History, Rockford, Illinois (*New Insights into the Biology and Diversity of the Late Cretaceous Armoured Dinosaurs*)
- 2013 Science Week, Concordia University College of Alberta, Edmonton, Alberta (*Biology and Diversity of Ankylosaurs, the Armoured Dinosaurs*)
- 2012 Animal Physiology I: Homeostasis, ZOOL 241, University of Alberta (*Reptilian Cardiovascular and Respiratory Systems*)
- 2012 WISEST Teacher Appreciation Day, University of Alberta (*Dinos in the Dungeon*)
- 2012 Jurassic Forest, Gibbons, Alberta, Canada (*The Evolution of Armour*)
- 2011 Grande Prairie Regional College Palaeontology Evenings (*Evolution of the Vertebrate Exoskeleton*)
- 2010 University of Alberta Systematics and Evolution Seminar Series (*Evolution of the Vertebrate Exoskeleton*)
- 2009 University of Alberta Palaeontological Society Lecture Series IV (*Ankylosaur Armour Morphology*)
- 2008 Edmonton Life Long Learners Association, University of Alberta (*Dinosaurs from the Cretaceous of New Mexico*)
- 2006 Department of Geology Seminar Series, Dickinson College (*Vertebrate Paleontology in the San Juan Basin of New Mexico*)

#### **Named Taxa**

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- Ahshislepelta minor* Burns and Sullivan, 2011 (new genus and species of ankylosaurid dinosaur)
- Ziapelta sanjuanensis* Arbour, Burns, Sullivan, Lucas, Cantrell, Fry, and Suazo, 2014 (new genus and species of ankylosaurid dinosaur)



### Ad hoc Peer-Reviewer

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*Acta Paleontologia Polonica* (Nov. 2012, Jan. 2013)  
*Comptes Rendus Palevol* (Oct. 2014; Jan. 2015)  
*Journal of Morphology* (Apr. 2013, Jun. 2014)  
*New Mexico Museum of Natural History and Science Bulletin* (Mar. 2015)  
*PLoS ONE* (Nov. 2012; Mar. 2013; Sept. 2013)  
*Revistas Mexicanas de Ciencias Geologias* (Feb. 2011)

### Paleontological Fieldwork

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2016 Oldman and Dinosaur Park formations, Alberta, Canada  
2015 Oldman, Dinosaur Park, Horseshoe Canyon, and Bearpaw formations, Alberta, Canada  
2014 Oldman, Dinosaur Park, Horseshoe Canyon, Bearpaw, and Wapiti formations, Alberta, Canada  
2013 Oldman, Dinosaur Park, Horseshoe Canyon, Bearpaw, and Wapiti formations, Alberta, Canada  
2012 Oldman, Dinosaur Park, and Horseshoe Canyon formations, Alberta, Canada  
2011 Oldman, Dinosaur Park, Horseshoe Canyon, and Wapiti, formations, Alberta; Nemegt, Barun Goyot, and Djadokhta formations, Mongolia  
2010 Wapiti and Horseshoe Canyon formations, Alberta, Canada  
2009 Milk River, Horseshoe Canyon, Wapiti, and Scollard formations, Alberta, Canada  
2008 Oldman, Dinosaur Park, Horseshoe Canyon, Wapiti, and Scollard formations, Alberta, Canada  
2007 Kirtland, Fruitland, and Ojo Alamo formations, New Mexico, USA  
2006 Kirtland, Fruitland, and Ojo Alamo formations, New Mexico, USA  
2006 Calvert Cliffs, Virginia, USA

### Service, Media, and Educational Outreach

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2016 Retreat for Biology Department Teaching Assistants. Presenter: "Good Teaching Practice." Little River Canyon Center, Fort Payne, Alabama, USA. August 17.  
2016 Munford Schools Get Outdoors Day. Presenter for demonstration of fossil and recent vertebrate material at Jacksonville State University. Munford High School, Munford, Alabama, USA. May 14.  
2016 JSU Field Schools. Fossil talk and demonstration for local 7th grade students. Mountain Center, Heflin, Alabama, USA. May 4  
2015 Society of Vertebrate Paleontology 75<sup>th</sup> Annual Meeting. Session Moderator: "Technical Session VII." Hayatt Regency Dallas, Dallas, Texas, USA. October 15.  
2015 Presentation for Afternoon Adventure Club, Jacksonville Public Library. September 8.  
2010 – 2015 Administrator, Dino Lab at the University of Alberta Facebook Page  
2014 Geological Society of America 2014 Annual Meeting & Exposition. Session Moderator: "Topics in Paleoecology: Modern Analogues and Ancient Systems I (Paleontological Society)." Vancouver Convention Centre, Vancouver, British Columbia, Canada. October 19.  
2014 Coordinator, Canadian Journal of Earth Sciences Special Volume (*The Danek Edmontosaurus Bonebed: new insights on the systematics, biogeography, and palaeoecology of Late Cretaceous dinosaur communities*).  
2014 Media interview, "Dino Hunt Canada," History Channel Canada, Season 1 Episode 1 "The Horned Dinosaur Mysteries"  
2014 Volunteer, "Care of Magical Creatures," School of Witchcraft and Wizardry: The Science of Magic!, Let's Talk Science, University of Alberta.  
2014 Volunteer, Royal Ontario Museum Palaeohistology Workshop, Toronto, Ontario.

- 2014 Press release with Victoria Arbour (*New dinosaur from New Mexico has relatives in Alberta: UAlberta scientists help create new family tree for armoured dinosaur with northern cousins*).
- 2014 Grade 6 “Dino Tracks” workshop, St. Jerome Science Academy, Scientists & Engineers in the Classroom, Unit D: Evidence and Investigation, Edmonton Science Outreach Network, Edmonton, Alberta
- 2014 Graduate Student Volunteer, University of Alberta Zoology Club (ZooManiacs) Student Mixer, University of Alberta
- 2014 Grade 6 “Dino Tracks” workshop, Katherine Therrien School of Hope, Scientists & Engineers in the Classroom, Unit D: Evidence and Investigation, Edmonton Science Outreach Network, Edmonton, Alberta
- 2014 Volunteer, Water Polo Club Fundraising Event, University of Alberta
- 2013– 2014 Graduate Student Mentor, Gregory Funston, M.Sc. student, Dr. Philip Currie (University of Alberta)
- 2013 The Second International Symposium on Paleohistology. Session Moderator: “Session IV – Ontogeny & Development.” The Museum of the Rockies, Montana State University, Bozeman, Montana, USA. July 19.
- 2013 Paleofest 2013: The End of the Dinosaurs: Changes in the Late Cretaceous Biosphere. Session Moderator. Burpee Museum of Natural History, Rockford, Illinois, USA. March 2.
- 2013 Volunteer, “Care of Magical Creatures,” School of Witchcraft and Wizardry: The Science of Magic!, Let's Talk Science, University of Alberta.
- 2013 Volunteer, Royal Ontario Museum Palaeohistology Workshop, Toronto, Ontario.
- 2013 Cleaning/Children’s Easter Activities, The Crossing’s Day of Caring, McKernan Baptist Church (Ronald McDonald House, Edmonton, Alberta)
- 2013 Advising, middle school student Britney Trieu, Can You Dig It? Work at Home Event, Edmonton Science Olympics (Association of Professional Engineers and Geoscientists of Alberta)
- 2013 Student Representative, Systematics and Evolution Research Interest Group, Candidacy Exam Workshop (Biological Sciences Graduate Student Association, University of Alberta)
- 2013 Media interview, “Alberta’s Doctor of Dinosaurs,” Alberta Primetime
- 2012– 2013 Graduate Student Mentor, Gavin Bradley, M.Sc. student, Dr. Philip Currie (University of Alberta)
- 2012 “Wonderful World of Dinosaurs” presentation, Ms. Kate Stevenson’s 4<sup>th</sup> grade class (Clara Tyner Elementary School, Edmonton).
- 2012 Dino Dig Explorer Day, Young Naturalist Club (Nature Alberta, Edmonton, Alberta)
- 2012 Career Investigation Day (Inner City High School, Edmonton, Alberta)
- 2011– 2012 Organizer, Dinosaur Fossil Preparation Lab Volunteer Program, Laboratory for Vertebrate Palaeontology, Department of Biological Sciences (University of Alberta)
- 2011– 2012 Graduate Student Mentor, Jasmine Croghan, M.Sc. student, Dr. Michael Caldwell (University of Alberta)
- 2011 – 2012 Treasurer, University of Alberta Palaeontological Society
- 2011 Press release with Victoria Arbour and Robin Sissons (*An extinct dinosaur species is reborn*)
- 2011 Undergraduate Biology Job Fair, Research Opportunities in Dinosaur Palaeontology (University of Alberta)
- 2011 Young Scientists Conference, Techniques in Dinosaur Palaeontology Workshop, 2 sessions (University of Alberta)
- 2010 – 2011 Treasurer, Biological Sciences Graduate Student Association
- 2009 – 2010 Department of Biological Sciences Council, Graduate Student Representative
- 2009 – 2010 Vice President, University of Alberta Palaeontological Society
- 2009 Scientific Correspondent for *Clash of the Dinosaurs*, episode “The Defenders”. Discovery Channel television series (14 December 2009)

2008 – 2009      Treasurer, University of Alberta Palaeontological Society  
2008 – 2009      Graduate Student Mentor, Bradley Scott, M.Sc. student, Dr. Mark VH Wilson (University of Alberta)

#### **Membership in Professional and Academic Societies**

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Alberta Palaeontological Society  
Alberta Society of Professional Biologists  
Alpha Lambda Delta Honors Society  
Canadian Society of Vertebrate Paleontology  
The Geological Society of America  
The Palaeontological Association  
Paleontological Society  
Society of Systematic Biologists  
Society of Vertebrate Paleontology

#### **Other Qualifications**

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2015              Title IX Training, Jacksonville State University  
2015              Standard First Aid CPR/AED Level C Recertification, Canadian Red Cross  
2014-present    Registered Palaeontological Consultant, Alberta Historical Resource Consultants  
2013-2014      Metalworking experience (grinding, MIG welding, oxy-fuel cutting) with sculptor Susan Owen Kagan (<http://www.susanowenkagan.com>)  
2011              Defensive Driving Course, Alberta Safety Council Certificate No. 234120  
2009              Standard First Aid – Level A CPR with First Aid in the Wilderness, St. John Ambulance, Class # 1-106232034, Reference # 1-1SU238