

# Alberta

*Palaeontological Society Bulletin*

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DECEMBER 2011



# ALBERTA PALAEOLOGICAL SOCIETY

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The Society was incorporated in 1986, as a non-profit organization formed to:

- Promote the science of palaeontology through study and education.
- Make contributions to the science by:
  - Discovery
  - Collection
  - Description
  - Education of the general public
  - Preservation of material for study and the future
- Provide information and expertise to other collectors.
- Work with professionals at museums and universities to add to the palaeontological collections of the province (preserve Alberta's heritage).

**MEMBERSHIP:** Any person with a sincere interest in palaeontology is eligible to present their application for membership in the Society. (Please enclose membership dues with your request for application.)

**Single membership**      \$20.00 annually  
**Family or Institution**    \$25.00 annually

**THE BULLETIN WILL BE PUBLISHED QUARTERLY:** March, June, December and December. Deadline for submitting material for publication is the 15th of the month prior to publication.

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## Upcoming APS Meetings

Meetings take place at 7:30 P.M. in **Room B108**,  
**Mount Royal University**, 4825 Mount Royal Gate SW, Calgary, Alberta.

**Friday, December 9, 2011**—Christmas Social and Fossil Sharing.

**Friday, January 20, 2012**—Tetsuto Miyashita, University of Alberta.  
*Origin and Early Evolution of Vertebrates.*

**Friday, February 17, 2012**—Dr. Kris Vasudevan, University of Calgary  
*Earthquakes.*

**Saturday and Sunday, March 17 & 18, 2012**—Paleo 2012: APS 16th Annual Symposium ([see Page 10](#)).

**ON THE COVER:** Rugose coral, Carboniferous, Mount Head Formation, Kananaskis area, Alberta. Specimen in APS fossil collection, accession number APS.1985.30, collected and donated by Geoffrey Barrett. Width of view is 35 mm. Photo by Howard Allen.

# Microfossil Sorting Project: Winter 2012

By Mona Marsovsky

Once again, the APS will host microfossil sorting workshops at Mount Royal University. **Dr. Don Brinkman** of the Royal Tyrrell Museum will be providing the fossil matrix and APS members will provide the “search engine” by using the microscopes provided by Mount Royal University to extract tiny fossils from their matrix. The identified fossils will then be used by Don in his ongoing research into the ancient life of that period.

The microfossil sorting seminars are scheduled for the following **Saturdays**:

**January 14, 2012**  
**January 28**  
**February 11**  
**February 25**  
**March 10**

You are welcome to come for as many sessions as you like. No previous experience is required. All sessions will take place from 1:00 P.M. to 3:30 P.M. in Room B213 (upper level) at Mount Royal University on a drop-in basis. If you register in advance (with **Vaclav** or **Mona Marsovsky**, tel: (403) 547-0182, **monahome@telus.net**), we will be able to notify you in case we have to cancel the session unexpectedly. Please bring tweezers or a tiny paint brush, and a pen to label your finds. □

## Rock 'n' Fossil Show, Fall 2011

Submitted by Dan Quinsey

[Condensed from a report written by **Dr. Sandy McCracken** of the Geological Survey of Canada.]

The Rock 'n' Fossil Show on Saturday, October 22 at Signal Hill Public Library was well received by the public. As usual, the setup and breakdown was



**Rock 'n' Fossil Show volunteers** (L-R): Dan Quinsey, Bill Santos, Doug-Yeob Park, Jean-Philippe Gravel, Michelle Solomon, Grant Smith, Kimberley Ball, Sandy McCracken, Alejandra Duk-Rodkin, Godfrey Nolan, Lindsay Kung, Lisel Currie, Terry Poulton. Photo courtesy of Lisa Bowker, Natural Resources Canada.

efficient, and the crowd was a good size.

Volunteers from the Geological Survey of Canada (GSC) included **Sandy McCracken**, **Godfrey Nolan**, **Terry Poulton**, **Alejandra Duk-Rodkin**, **Lisel Currie**, plus former GSC Assistant Director **Grant Smith**. Canada Centre for Mineral and Energy Technology (CANMET) volunteers were **Bill Santos**, **Jean-Philippe Gravel** and **Doug-Yeob Park**. Alberta Palaeontological Society Past President **Dan Quinsey** and University of Calgary students **Lindsay Kung** and **Kimberley Ball** also volunteered.

Natural Resources Canada (Edmonton) representative **Lisa Bowker** spent the whole day with us, keeping the tables filled with promotional materials and taking pictures. Calgary Science Network Coordinator representative **Michelle Solomon** was also present with the usual flyers and posters. Calgary Public Library staff were very cooperative and accommodating.

The library provided seven tables and they did a great job of giving us a lot of room by the fireplace (they moved furniture and bookshelves).

We had visitors from 10:15 A.M. through 3:15 P.M. Approximately 300 people visited our tables. □

# Upcoming Events

January

## Tetsuto Miyashita

University of Alberta Graduate Student

### *Origin and Early Evolution of Vertebrates*

Friday, January 20, 2012, 7:30 p.m.

Mount Royal University, Room B108

**I**t Always Was, and Ever Will Be, a Long Way from *Amphioxus*. Despite centuries of work on vertebrate origins, we still wonder: From what kind of animal did our grand ancestor with backbones arise? A popular song still persists in college biology classes: It's a Long Way from *Amphioxus* (to the tune of It's a Long Way from Tipperary). "It's a long way from

*Amphioxus* to the meanest human cuss... but we all came from there. "It has been a long way indeed, in both evolutionary and historical contexts. Now that *Amphioxus*—the once glorious missing link—turned out not to be the closest relative of vertebrates, and now that sea squirts—odd pumps in the sea—have taken up that role, the search for the origin of vertebrates has gone back to square one.

A little way up the Tree of Life, the order of branching is still contentious. Sitting near the base of the vertebrates is hagfish, often portrayed as the ocean's most disgusting creature. Is a hagfish a vertebrate? It lacks many vertebrate characteristics, including bones, jaws, fully developed inner ears, and paired fins. However, hagfish may just mimic the ancestral conditions by having shed their vertebrate traits over 600 million years as they survived as slimy, eyeless, benthic scavengers. The position of hagfish is important. If hagfish truly retain ancestral conditions, they can help decipher what ancestral vertebrates looked like. If hagfish are instead degenerated vertebrates, their position among vertebrates forces weird evolutionary patterns among early vertebrates.

Between living primitive lineages (hagfish and lampreys) and living jawed vertebrates (sharks, bony fish, etc.) lie a vast diversity and a series of radiations that resulted in enigmatic fossil jawless vertebrates, some of which looked like swimming spatulas. We have little consensus on how these animals were related to one another. How can we break this series of uncertainties? Data have to be mined from where they have not been: anatomy, development, and phylogenetic resolution of hagfish. This endeavor will culminate in a two-century long search for hagfish embryos. Even with these embryos, though, that will only be the beginning of exploration to the vista of early vertebrate evolution: from brainless to brainy, from fleshy to bony, from jawless to jawed.

The road from "*Amphioxus* to the meanest human cuss" could turn out to be much more torturous than ever imagined.

### Biography

Tetsuto Miyashita is a M.Sc. student at the University of Alberta. A book by the prominent Canadian dinosaur paleontologist **Philip Currie**—a Christmas gift from parents when he was ten—sparked his dream of becoming a palaeontologist. He moved to Drumheller, Alberta, at age 16 to volunteer for the Royal Tyrrell Museum of Palaeontology. Subsequently, during four years of undergraduate and two

years of Master's at the University of Alberta, he has been under the caring supervision of Philip Currie, invertebrate zoologist **Rich Palmer**, developmental biologist **Sally Leys**, ichthyologist **Alison Murray**, and marine ecologist **Richard Strathmann**. In their labs, he got his hands on various projects, including anatomy of early vertebrates, systematics of tyrannosaurs, soft tissues in ankylosaurs, biomechanics of marine invertebrate larvae, ecology of intertidal snails, and development of fishes. He has spent the last two field seasons leading a team of students and collecting *Daspletosaurus* from Milk River Natural Area.

## February

### Dr. Kris Vasudevan

University of Calgary, geophysical consultant

### *Earthquakes, Macro to Micro: Characteristics and Recent Advances*

**Friday, February 17, 2012, 7:30 P.M.**

Mount Royal University, Room B108

Earthquakes occur at different depths in regular intervals. They cause extensive damage to life and property, depending upon their magnitude and intensity. In this presentation, I would like to take you, first, through a journey of human perception of earthquakes since the beginning of the documenting and recording of them. Then, I would like to give a sequence of major devastating earthquakes that changed the human history. I would like to present the characteristics of earthquakes that scientists have arrived at based on empirical data.

Earthquakes take place at macro- and micro-scales. Here, I would like to bring to your attention to the documented history of earthquakes (historical seismicity) in Canada. Closer to home, I would like to look at what might be at stake in Alberta. This will take us into the science of microseismicity.

Finally, I conclude this presentation with some recent advances that are being made in the field of earthquake seismology. Also, I would like to point out the status of seismic hazard analysis.

### Biography

Kris Vasudevan has his Ph.D. in geophysics and is retiring at the end of 2011 from the University of Cal-

gary. He will be working as a geophysical consultant in Calgary starting January 2012. His current interests are shallow and deep crustal reflection seismology, earthquake seismology, seismic hazard analysis and geophysical methods as applied to exploration of minerals. He is a great admirer of the Alberta Palaeontological Society and its outreach activities in the community. □

## 2012 Field Trips

By Wayne Braunberger



Wayne Braunberger

Planning is underway for next year's trips. For more information please contact **Wayne Braunberger** at (403) 278-5154 or by email, **fieldtrips@albertapaleo.org**. Information will also be available at the monthly meetings and on the APS website ([www.albertapaleo.org](http://www.albertapaleo.org)). Dates for the trips are listed below. At this time locations have not been finalized.

**2012-1—June 23 & 24**

**2012-2—July 21 & 22**

**2012-3—August 18 & 19**

Contact me by January 1, 2012 if you have any suggestions for field trips. Also, if anyone is interested in assisting with the trips or taking on the Field Trip Coordinator position please contact me or any member of the Board. □

## Correction

In *Field Trip Review: Southeastern Alberta* (*Bulletin*, September 2011, p. 7) **Wayne Braunberger** was mistakenly credited with extracting a stuck vehicle on the Sage Creek grazing reserve. In fact, the hero of the hour was **Guy Santucci**. Apologies to Guy and thanks to Wayne for 'fessing up! □

# Hadrosaur Symposium a Great Success

By Mona Marsovsky and Harold Whittaker

The Royal Tyrrell Museum of Palaeontology (RTMP) and the Royal Ontario Museum (ROM) presented the International Hadrosaur Symposium on September 22–23, 2011 in Drumheller, Alberta. The symposium was held to honour the contributions of **David B. Weishampel** of the Center for Functional Anatomy and Evolution at John Hopkins University in Baltimore, Maryland, to hadrosaur (duck-billed dinosaur) research. About one hundred delegates attended.



**Figure 1.** Guest of Honour Dr. David Weishampel with his bronze hadrosaur skull award. Photo by Sue Sabrowski, © Royal Tyrrell Museum. Reproduced with permission.



**Figure 2.** *Gryposaurus* skull on display at the symposium. Photo by Vaclav Marsovsky.

Thirty-four talks were given during the two-day conference. It was truly an international affair with talks and posters from four continents.

**Khishigjav Tsogtbaatar** of the Mongolian Academy of Science in Ulaanbaatar described a new taxon from the early Late Cretaceous (Cenomanian-Campanian) based on a nearly complete skeleton found in the eastern Gobi Desert.

**Rodolfo Coria** (CONICET-University of Rio Negro and Museo Carmen Funes, Plaza Huincul, Argentina) gave an overview of hadrosaur discoveries in South America and their taxonomic affinities. Rodolfo had to base his work on a few isolated hadrosaur bones from a few sites in western Argentina.

**Pascal Godefroit** (Royal Belgian Institute of Natural Sciences in Brussels, Belgium) described the numerous large hadrosaur skeletons found in four quarries near the Amur River on the Russia-China border (see abstract in the June, 2011 *Bulletin*).

**Angel Alejandro Ramirez-Velasco** (Universidad Nacional Autonoma de Mexico) gave an excellent overview of the hadrosaurs found across Mexico. His colleague **Rene Hernandez-Rivera** described the tracksites and skin impressions found in Mexico.

**Fabio Marco Dalla Vecchia** (Institut Catala de Paleontologia “M. Crusafont” in Sabadell, Spain) described the hadrosaur record of skeletal remains, trackways and eggs of the eastern Tremp Syncline in northern Spain. **Penelope Cruzado-Caballero** (Universidad de Zaragoza, Spain) described the complex assortment of hadrosaurs from the Iberian Peninsula (north western Spain).

**David Evans** (ROM) skillfully delivered **David Norman’s** (University of Cambridge, UK) presentation describing the basal iguanodontians in the Wealden of England.

The United States was well represented with **Rob-**

**ert Sullivan** (State Museum of Pennsylvania in Harrisburg) describing the hadrosaurs of the San Juan basin of New Mexico, **Terry Gates** (Field Museum of Natural History in Chicago) describing the hadrosaurs found in the Wahweap Formation of southern Utah, **Andrew Farke** (Raymond M. Alf Museum of Paleontology in Claremont California) discussing a juvenile lambeosaurine from the Kaiparowits Formation in southern Utah, **Elizabeth Freedman** (Museum of the Rockies in Bozeman) describing a new species of *Brachylophosaurus* from north central Montana and **Jack Horner** (Museum of the Rockies in Bozeman) discussing size and growth of some very large hadrosaur specimens found in Montana.

David Evans (ROM) described a new Canadian lambeosaurine hadrosaurid from the Dinosaur Park Formation at Sandy Point, Alberta while **Derek Larson** (University of Toronto) described a new hadrosaur from the Milk River Formation in southern Alberta. **Lisa Buckley** (University of Alberta) discussed a partially articulated hadrosaur from the Wapiti Formation of northeastern British Columbia.

Other talks described bonebeds, lost quarries, hadrosaur skin, teeth, jaws, brains, body size, growth, chewing, walking, running and swimming abilities..

Eighteen posters, from USA, Canada and even two from Japan, discussed a variety of hadrosaur-related topics including finding old quarries, bone injuries, trackways, forelimb posture, new species, jaw and skull mechanics, new bonebeds, preserving old skeletons and size distribution. In the poster hall, the RTMP displayed several unique and outstanding fossil displays which included a *Gryposaurus* skull (Figure 2), a *Corythosaurus* skull and a hadrosaur mummy with fleshy pad imprint of a hand and foot (Figure 3).

A copy of the abstracts volume which describes the talks and posters has been donated to the APS Library. The RTMP plans to publish a book on hadrosaurs in the near future based on the content presented at the symposium.

The symposium was not just talks and posters. Wednesday evening featured an Ice Breaker reception and behind-the-scenes tours of the RTMP. On Thursday night, all participants enjoyed the Symposium Supper at the Drumheller Trail Golf and Country Club. The organizers presented David Weishampel with a bronze hadrosaur skull.

The field trip to Dinosaur Provincial Park on the day following the conference was sold out.

We loaded the bus early in the morning and were transported to the Park. Upon arrival, **David Eberth**



**Figure 3.** Mummified hadrosaur hand (manus) showing preservation of fleshy pad. Photo by Vaclav Marsovsky.

provided us with geological and stratigraphic information about the Belly River Group, comprising three formations: in ascending order these are the Foremost (170 m thick), Oldman (40 m), and Dinosaur Park (75 m).

We were transported in smaller tour vans to four major stops: Stop 1, *Brachylophosaurus canadensis* (holotype; Quarry 103); Stop 2, Bone Bed 50 Area, comprising a) *Parasaurolophus* (Quarry 206) and taphonomic modes, b) Bone Bed 50 which is a mixed, high-diversity, multitaxic bone bed complex and c) Bone Bed 30 which consist of monogenic ceratopsian bones; Stop 3, *Corythosaurus* display (Quarry 128); and Stop 4, Cathedral area, comprising a) *Prosaurolophus maximus* (Quarry 86) and b) Dinosaur Park/Bearpaw Formation transition.

The weather cooperated to give participants the authentic atmosphere of excavating hadrosaurs in the summer with temperatures of 37°C. At the end of the

day, participants enjoyed a barbecue at the Patricia Hotel and Steak Pit. We returned to Drumheller at 8:00 P.M., a tired but still enthusiastic group.

Thanks to David Eberth of the RTMP, David Evans of ROM and the staff of the RTMP for an excellent job organizing this very enjoyable and enlightening symposium. □

# Life Membership Plaques Presented

Photos by Howard Allen

Some of our Life Membership recipients, whose contributions to the Society were recognized at the March symposium, were present at the November General Meeting to receive their plaques from President **Wayne Braunberger**. Congratulations to the recipients and thanks for their invaluable service to the Society. □



Valerie and Dan Quinsey



June and Geoff Barrett



Keith Mychaluk



# Moose Mountain, Alberta

## Exploring the Natural History of Canyon Creek and Area



By Dan Quinsey

Foreword by Dr. John Cox and Dr. Jeff Pollock

The Upper and Lower Foothill regions of southwest Alberta are home not only to some of the most interesting species in the province, they also contain within them evidence of ancient times.

Aside from the descriptions of flora and fauna, this complex guidebook offers amateur and professional naturalists an opportunity to explore the Carboniferous and Jurassic formations along Canyon Creek, Moose Mountain, where many geological and palaeontological wonders await to be experienced and discovered.

This book is a necessity for naturalists, students of geology or anyone fascinated with the mountains of Alberta.

Contents include: History, Regional Geology, Common Trees and Wildflowers, Common Wildlife, 27 Geological and Palaeontological Points of Interest, Collecting Regulations, Trip Planning, Directions, Glossary and more.

*"This book will be of great assistance to first-time visitors to the region and will encourage them to return for further visits to further explore the geological and biological features of this captivating locale."*

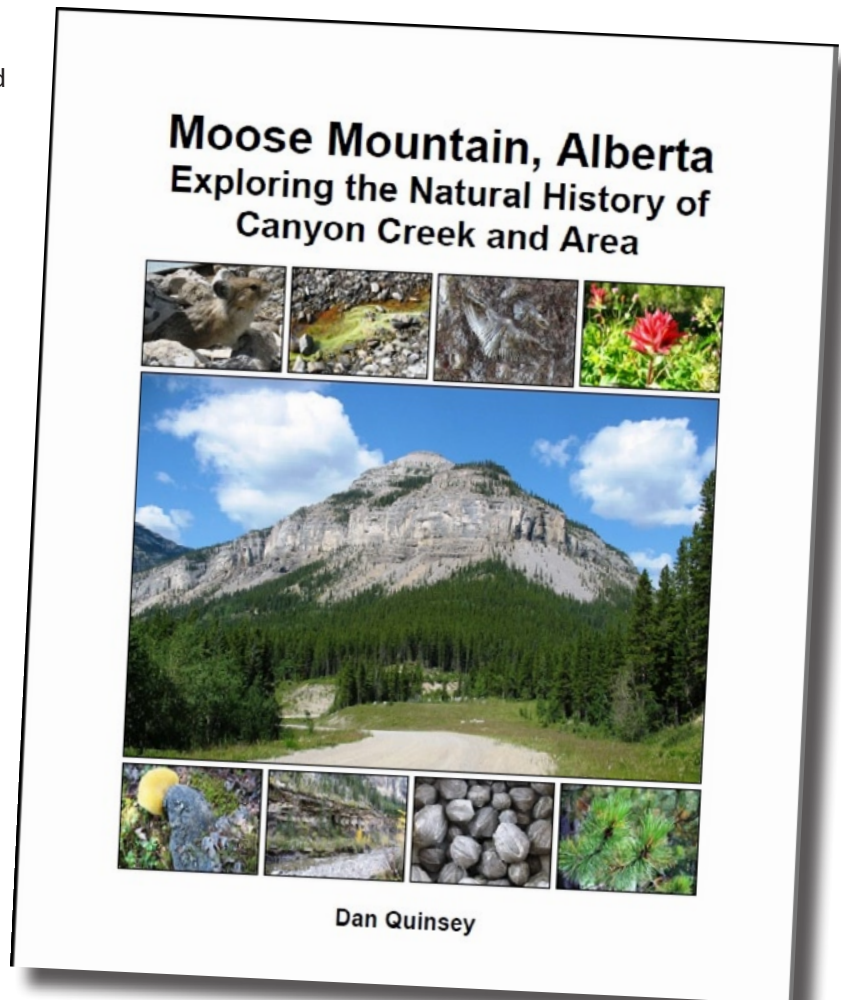
*Dr. John Cox and Dr. Jeff Pollock  
Department of Earth Sciences,  
Mount Royal University*

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# Paleo 2012

## The Symposium

Paleo 2012 is a two day event with talks, posters and displays on Saturday, March 17 and workshops on Sunday, March 18. Saturday programs are free and open to the public. Sunday workshop participants must register and pay a small fee for manuals and materials. Main events will be centred in the lower level corridor at Mount Royal University. Lectures will be held in the Jenkins Theatre.

## Call for posters and abstracts

The Alberta Palaeontological Society (APS) invites you to present a poster at Paleo 2012. The symposium will feature presentations from avocational and professional palaeontologists from all over western Canada. We are interested in posters or displays associated with palaeontology. Invitations have been sent to staff and students of universities, natural history clubs, the Geological Survey of Canada, museums, the petroleum industry and the artists' community. Our aim is to showcase palaeontology to the public and foster closer relations between the APS and the above groups. There is no fee to submit a poster and abstract.

## Instructions for posters and displays

A table and stand with a 4 x 8-foot poster board will be supplied to each presenter. You should bring push pins or tape for attaching posters, but we will try to have some on hand for those who forget. Special requirements such as electricity to operate a display or a larger display area should be identified when you request a space. Presenters are requested to provide an abstract (see below). We request that poster presenters be set up by 9:00 A.M. Saturday, March 17. During the day a poster session period will be specified; please be available at least during this time for discussion of your exhibit. The deadline for submitting requests for poster space is February 1, 2012.

## Paleo 2012 abstracts volume

A symposium abstracts volume will be published and sold at a price to cover costs. We would like all speakers and poster presenters to submit abstracts for publication. Abstracts may be any length: one page is standard, less than a full page is OK, multi-page abstracts will be accepted. Contributors are encouraged to include photos and/or diagrams, but note that colour images will be converted to black and white. Documents are not edited for content but may be reformatted to fit into the volume. The author's mailing address (and email address if you wish) should be included. **Submission deadline is February 15, 2012.** Download guidelines for authors from our website, [www.albertapaleo.org](http://www.albertapaleo.org) or contact the Editor (see contact information, below).

## Workshops

Two workshops will be offered. Both will be held at Mount Royal University, Room B213. Registration is limited to 20 participants per workshop, so register early! To register, contact **Mona Marsovsky** at (403) 547-0182 or email [giftshop@albertapaleo.org](mailto:giftshop@albertapaleo.org). **Registration deadline is March 9, 2012.** Make cheques payable to Alberta Palaeontological Society. Payment may be handed to Mona or mailed to the Society's mailing address at P.O. Box 35111 Sarcee Postal Outlet, Calgary, AB T3E 7C7.

### **Ankylosaur Fan Club, with Victoria Arbour, University of Alberta. Sunday, March 18, 2012, 9:00 A.M. to 12:00 P.M.**

Cost: \$15.00 per person. Get to know the ugliest of the dinosaurs, the armoured ankylosaurs! We will learn how to recognize ankylosaur fossils from Alberta, and how to tell different species of ankylosaurs apart. This will be a hands-on workshop with specimens and models to study, and will be appropriate for both children and adults. Victoria Arbour is a PhD student at the University of Alberta. She studies the diversity and biogeography of ankylosaurs, and has previously studied the biomechanics of tail clubbing in these amazing dinosaurs.

### **Microvertebrate material from the Cypress Hills Eocene of Saskatchewan, with Brian Rankin, University of Calgary.**

**Sunday, March 18, 2012, 1:00 P.M. to 4:00 P.M.** Cost: \$15.00 per person. In this workshop participants will learn about Eocene mammals and have the chance to help sort microvertebrate fossils. Brian Rankin is a graduate student, working on his PhD on late Mesozoic and early Cenozoic biogeography of mammals. He did his MSc at the University of Alberta, supervised by Dr. Richard Fox.

## Contact Information

**Paleo 2012 Committee Chairperson:** Vaclav Marsovsky, [membership@albertapaleo.org](mailto:membership@albertapaleo.org)

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**Presentations & Workshops:** Mona Marsovsky (403) 547-0182, [giftshop@albertapaleo.org](mailto:giftshop@albertapaleo.org)

**Abstract submissions:** Howard Allen (403) 862-3330, [editor2@albertapaleo.org](mailto:editor2@albertapaleo.org)

**Advertising:** Harold Whittaker (403) 286-0349, [vicepres@albertapaleo.org](mailto:vicepres@albertapaleo.org)

Visit the APS website for confirmation of lecture and workshop times and speakers: [www.albertapaleo.org](http://www.albertapaleo.org)

# ALBERTA PALÆONTOLOGICAL SOCIETY

## Paleo 2012

Presented in conjunction with the CSPG Palaeontological Division  
and Mount Royal University Earth Sciences Department

**Mount Royal University, 4825 Mount Royal Gate SW, Calgary, Alberta**

Lectures and poster displays—Saturday, March 17, 2012, 9:00 AM to 4:00 PM

Workshops—Sunday, March 18, 2012, 9:00 AM to 4:00 PM

### **Saturday events are free to the public**

There will be fossil displays and activities of interest to a wide audience including families.  
Sunday workshops require registration and a minor fee.

### **Saturday, March 17 speaker schedule**

**All talks to be held in Jenkins Theatre, lower level of Mount Royal University**

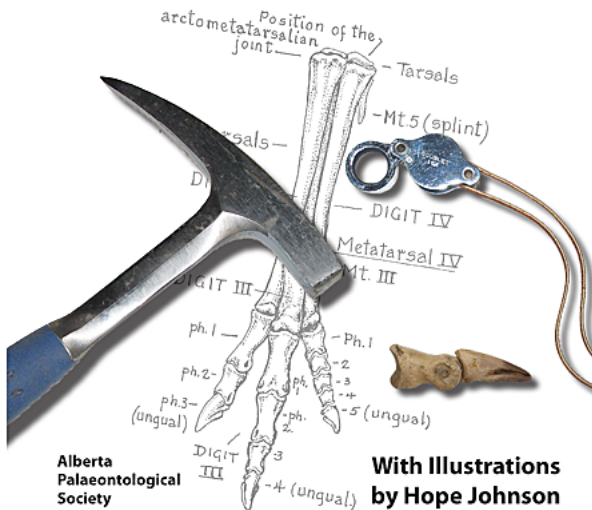
- 9:00 AM** *Opening statement by **APS President Wayne Braunberger** and symposium instructions by **Mona Marsovsky**.*
- 9:15 AM** *Headless wonder: Ongoing identification of a head-hunted hadrosaur quarry in Dinosaur Provincial Park, Alberta. **Darren Tanke and Rhiann Russell, Royal Tyrrell Museum**.*
- 9:45 AM** *In search of the beautiful and brainy: A summer studying ankylosaurs in Korea, China and Mongolia. **Victoria Arbour, University of Alberta**.*
- 10:15 AM** Coffee Break.
- 10:30 AM** When X-rays and dinosaurs collide: Use of X-ray imaging in vertebrate paleontology. **François Therrien, Royal Tyrrell Museum**.
- 11:30 AM** *A review of hadrosaurid skin impressions from North America. **Phil Bell, Pipestone Creek Dinosaur Initiative**.*
- 12:00 PM** Lunch Break and Poster Displays.
- 1:00 PM** *Could pachycephalosaurs head butt? Using engineering models to compare dinosaurs and mammals. **Jessica Theodore, University of Calgary**.*
- 1:30 PM** *Please do not touch the dinosaurs: The future of public natural history education in Calgary. **Cory Gross, Alberta Palaeontological Society**.*
- 2:00 PM** Poster session and coffee break. Poster presenters are requested to be with their posters.
- 3:00 PM** *The fossil record and systematics of dome-headed dinosaurs (Pachycephalosauria) from Alberta. **David Evans, Royal Ontario Museum**.*

# The Alberta Palaeontological Society Proudly Presents

## Guide to Common Vertebrate Fossils from the Cretaceous of Alberta

Assembled by the Alberta Palaeontological Society (APS), with illustrations by naturalist Hope Johnson. Foreword by Dr. Donald Brinkman, Royal Tyrrell Museum of Palaeontology.

### Guide to Common Vertebrate Fossils from the Cretaceous of Alberta



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by Hope Johnson

The late Hope Johnson's illustrations are the inspiration for this publication. Her passion for nature and her contributions to the science of palaeontology have brought Alberta's natural history to life.

Spiral bound, 234 pages, 144 illustrations, photographs and tables. This guide is a must for amateur and professional palaeontologists.

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[www.albertapaleo.org](http://www.albertapaleo.org)

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