تقرير عن نشاط معمل الحفريات والطبقات ومركز جامعة المنصورة للأحافير الفقارية بالقسم عن العام الدراسى ٢٠١٥/٢٠١٦

أولا: الرحلات الحقلية

- قامت الطالبة مى الأمير برحة حقلية لمنطقة وادى الحيتان بالفيوم فى سبتمبر ٢٠١٥ للمساعدة فى تحضير بعض العينات للعرض فى متحف البيئة وتغير المناخ بمنطقة وادى الحيتان بالفيوم واخذ بعض القياسات وتصوير العينات الخاصة برسالة الماجستير الخاصة بها.

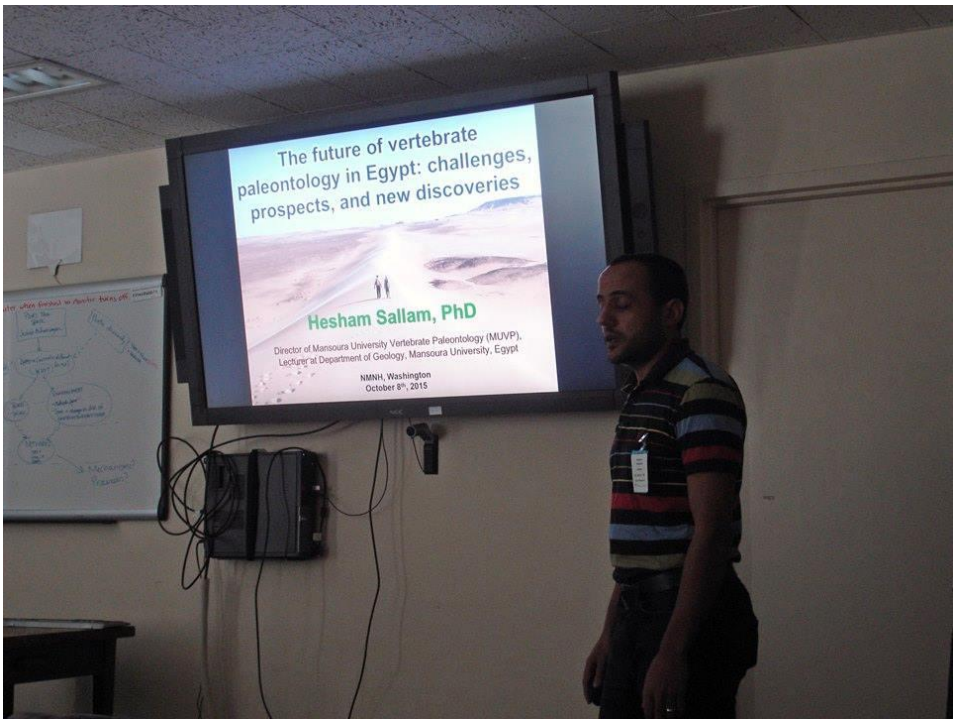
- رحلة حقلية لمنطقة الواحات البحرية فى الفترة من ١٢-١٧ ابريل ٢٠١٦ لدراسة صخور العصر السينومانى فى منطقة الواحات البحرية بالتعاون مع قطاع حماية الطبيعة بجهاز شئون البيئة وفريق عمل مكون من أعضاء مركز جامعة المنصورة للأحافير الفقارية و د/ محمد سامح مدير إدارة الجيولوجيا والحفريات بقطاع حماية الطبيعة بجهاز شئون البيئة.

ثانيا: المحاضرات العامة

- **ألقى د. هشام سلام محاضرتين عن مستقبل الحفريات الفقارية فى مصر بناءا على الدعوة الموجهة إليه من قبل متحف سميثونيان للتاريخ الطبيعى بالولايات المتحدة الأمريكية فى بعنوان:**

Hesham Sallam (2015):

- **The future of vertebrate paleontology in Egypt**: challenges, prospects, and new discoveries. *National Museum of Natural History, Smithsonian, Washington DC.*



- **Prehistoric Giants from Egypt,** 2015, the third annual Dino Shindig, Carter County Museum, Ekalaka, Montana, USA**.**

- **كذلك ألقى د. هشام سلام سلسة من المحاضرات عن الحفريات الفقارية المصرية من ديناصورات وحيتان بمؤسسة مارمارث البحثية فى شمال داكوتا بالولايات المتحدة الأمريكية بعنوان:**

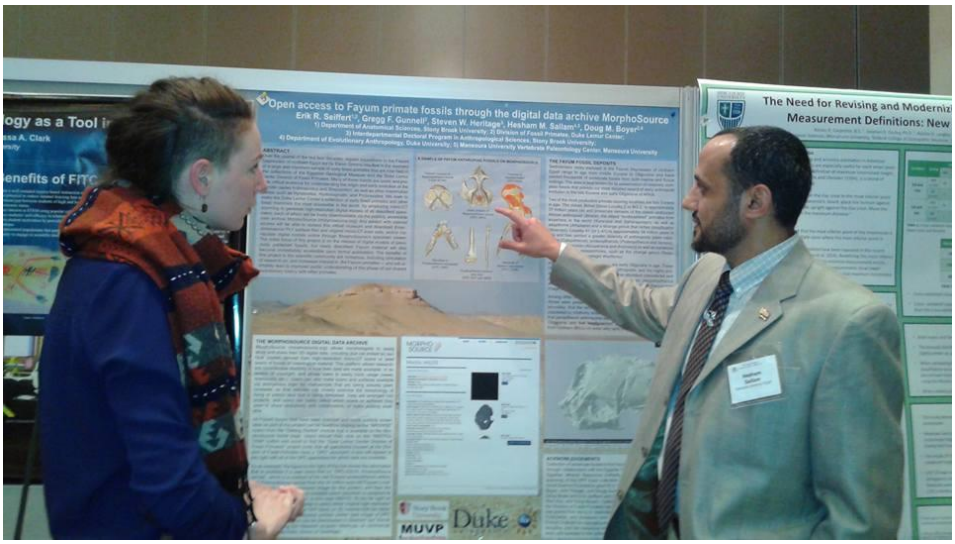
➢ **Egyptian Dinosaurs and Whales 2015**: Several talks at Marmarth Research Foundation, North Dakota., USA.

- **تمت دعوة المركز لإلقاء محاضرة عامة عن حفريات الحيتان من الصحراء المصرية فى يوم ٢٠١٥/١٢/١٠ فى المدينة الإستكشافية لطلاب فى المرحلة الإبتدائية والإعدادية وبعض الطلبة المكفوفين كما عقدت ورشة عمل بعد الإنتهاء من المحاضرة للتعريف بالدوات المستخدمة فى الحقل وكيفية إستخراج الحفريات الفقارية من أماكن تواجدها فى الصحاري المصرية.**

ثالثا: المؤتمرات العلمية

- **مثل الدكتور هشام سلام مركز جامعة المنصورة لدراسة الحفريات الفقارية في أكبر لقاء علمي للانثروبيولجي علي مستوي العالم بورقة بحثية عن مسح وتحويل حفريات الفيوم إلى نماذج رقمية لتكون متاحة للدارسين اون لاين في جميع أنحاء العالم و يضم المؤتمر آلاف من العلماء من أنحاء العالم والذى عقد في مدينة أتلانتا بولاية جورجيا ، بالولايات المتحدة الأمريكية فى يوم ٢٠١٦/٤/١٦**

- Seiffert, E. R., Gunnell, G. F., Heritage S. W., **Sallam, H**. **M**. and Doug M. B. (2016): Open access to Fayum primate fossils through the digital data archive MorphoSource. *American Association of Physical Anthropologists (Poster-AAPA).*

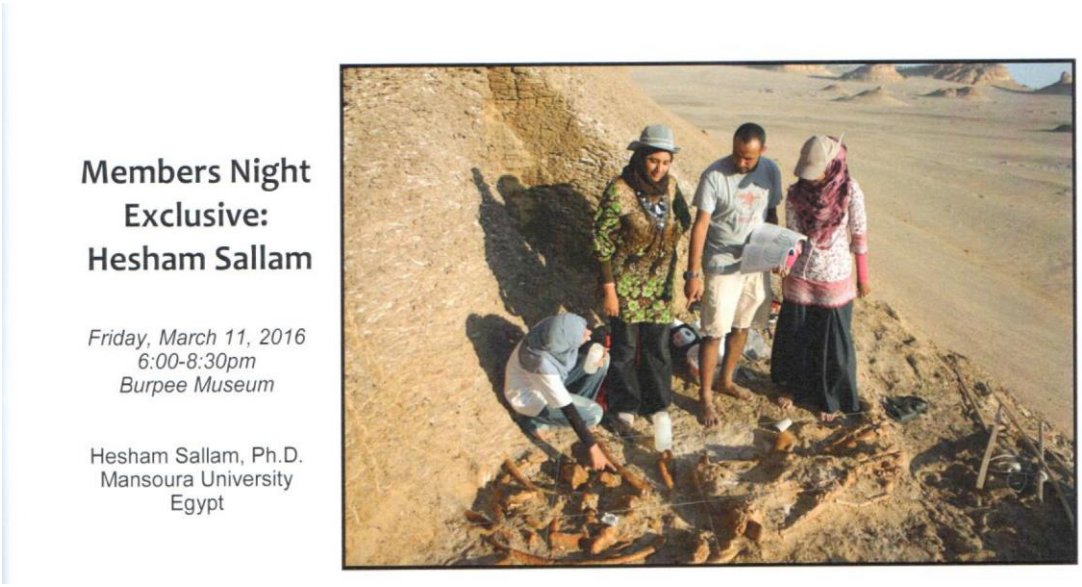


- **شاركت الطالبة سناء السيد المعيدة بالقسم وعضو مركز جامعة المنصورة للأحافير الفقارية بملخص بحثى فى المؤتمر السادس لشباب الباحثين بالجامعة والذى عقد فى ١٤ مارس ٢٠١٦ بعنوان:**

- **El-Sayed, S.** (2016): Old, ferocious, and huge fossil fishes from the Egyptian Deserts Sixth Scientific Symposium for Young Researchers, Faculty of Science, Mansoura University.

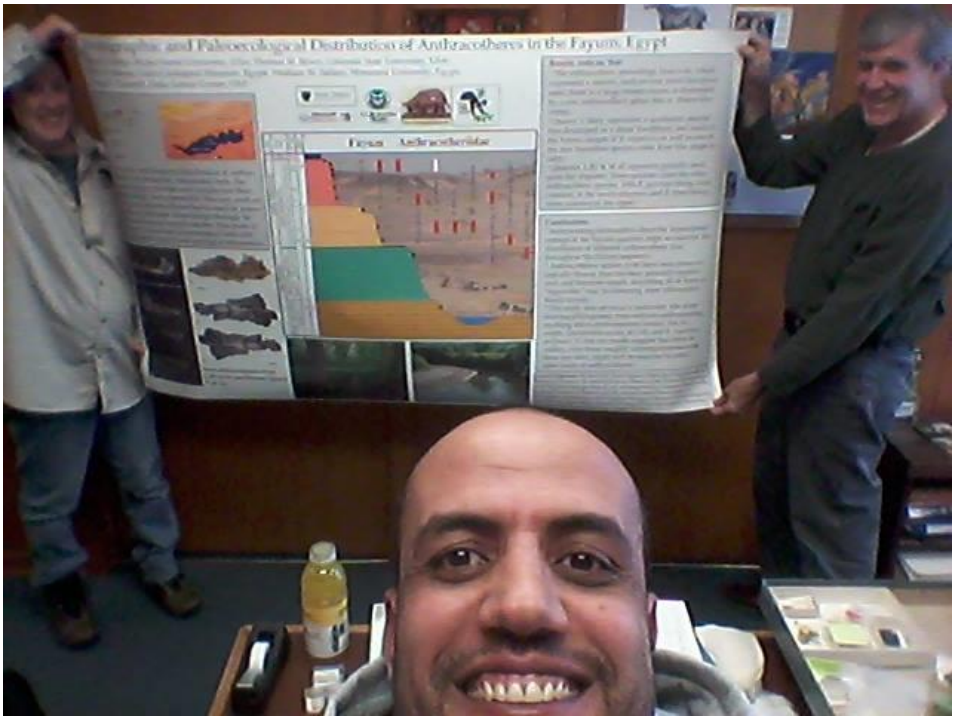
- **شارك الدكتور هشام سلام بملخص بحثى عن دور المرأة فى صناعة مستقبل الحفريات الفقارية بمصر فى موتمر Paleofest الثامن عشر الذى عقد في مدينة روك فورد بولاية إلينوي ، بالولايات المتحدة الأمريكية في شهر مارس ٢٠١٦ من بعنوان:**

- **Hesham Sallam** (2016): Present Challenges and Future Prospects for Egyptian Women in Vertebrate Paleontology. *Burbee Museum of Natural History.*



- **شارك الدكتور عفيفي سليم من المتحف الجيولوجى المصري وعضو مركز جامعة المنصورة للأحافير الفقارية و الدكتور هشام سلام بملخص بحثى وبوستر يحتوى بعض النتائج الخاصة برسالة الدكتوراة الخاصة به على أسلاف فرس النهر من منطقة الفيوم فى المؤتمر الدولى الخامس والسبعين للحفريات الفقارية بتكساس بالولايات المتحدة الامريكية فى أكتوبر ٢٠١٥**

➢ Miller, E. R., Bown, T. M., **Sileem, A. H.**, **Sallam, H. M.**, Gunnell, G. F. (2015): Stratigraphic and paleoecological distribution of anthracotheres in the Fayum, Egypt. *Poster- Society of Vertebrate Paleontology.*



رابعا: الأبحاث المنشورة

- **تم نشر ٥ بحوث فى دوريات علمية مرموقة على الحفريات الفقارية وبعض الحفريات النباتية التى سبق أن تم جمعها من قبل العاملين بالمركز وشارك فيها الباحثون بالمعمل مع علماء أجانب متخصصين :**

➢ **Sallam, H.M.** and Seiffert, E.R. (2016): New phiomorph rodents from the latest Eocene of Egypt, and the impact of Bayesian "clock"-based phylogenetic methods on estimates of basal hystricognath relationships and biochronology. *PeerJ 4:e1717; DOI 10.7717/peerj.1717.* - **Impact Factor 2.1**

PeerJ

New phiomorph rodents from the latest Eocene of Egypt, and the impact of Bayesian "clock"-based phylogenetic methods on estimates of basal hystricognath relationships and biochronology

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ABSTRACT

The Fayum Depression of Egypt has yielded fossils of hystricognathous rodents from multiple Eocene and Oligocene horizons that range in age from ~37 to ~30 Ma and document several phases in the early evolution of crown Hystricognathi and one of its major subclades, Phiomorpha. Here we describe two new genera and species of basal phiomorphs, *Birkamys korai* and *Mubhammys vadumensis*, based on rostra and maxillary and mandibular remains from the terminal Eocene (~34 Ma) Fayum Locality 41 (L-41). *Birkamys* is the smallest known Paleogene hystricognath, has very simple molars, and, like derived Oligocene-to-Recent phiomorphs (but unlike contemporaneous and older taxa) apparently retained $dP^4/_4$ late into life, with no evidence for $P^4/_4$ eruption or formation. *Mubhammys* is very similar in dental morphology to *Birkamys*, and also shows no evidence for $P^4/_4$ formation or eruption, but is considerably larger. Though parsimony analysis with all characters equally weighted places *Birkamys* and *Mubhammys* as sister taxa of extant *Thryonomys* to the exclusion of much younger relatives of that genus, all other methods (standard Bayesian inference, Bayesian "tip-dating," and parsimony analysis with scaled transitions between "fixed" and polymorphic states) place these species in more basal positions within Hystricognathi, as sister taxa of Oligocene-to-Recent phiomorphs. We also employ tip-dating as a means for estimating the ages of early hystricognath-bearing localities, many of which are not well-constrained by geological, geochronological, or biostratigraphic evidence. By simultaneously taking into account phylogeny, evolutionary rates, and uniform priors that appropriately encompass the range of possible ages for fossil localities, dating of tips in this Bayesian framework allows paleontologists to move beyond vague and assumption-laden "stage of evolution" arguments in biochronology to provide relatively rigorous age assessments of poorly-constrained faunas. This approach should become increasingly robust as estimates are combined from multiple independent analyses of distantly related clades, and is broadly applicable across the tree of life; as such it is deserving of paleontologists' close attention. Notably, in the example provided here, hystricognathous rodents from Libya and Namibia that are controversially considered to be of middle Eocene age are instead estimated to be of late Eocene and late

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Additional Information and Declarations can be found on page 47

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- **Sallam H.M.**, O'Connor P.M., **Kora M.A.**, Sertich J.J., Seiffert E.R., Faris M., Ouda K.A., **El-Dawoudi I.A.**, **Saber S.** and **El-Sayed, S.** (2016): Vertebrate paleontological exploration of the Upper Cretaceous succession in the Dakhla and Kharga Oases, Western Desert, Egypt. *Journal of African Earth Science. Journal of African Earth Sciences. 112. 223-234.* - **Impact Factor 1.4**

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Vertebrate paleontological exploration of the Upper Cretaceous succession in the Dakhla and Kharga Oases, Western Desert, Egypt

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ABSTRACT

The Campanian and Maastrichtian stages are very poorly documented time intervals in Africa's record of terrestrial vertebrate evolution. Upper Cretaceous deposits exposed in southern Egypt, near the Dakhla and Kharga Oases in the Western Desert, preserve abundant vertebrate fossils in nearshore marine environments, but have not yet been the focus of intensive collection and description. Our recent paleontological work in these areas has resulted in the discovery of numerous new vertebrate fossil-bearing localities within the middle Campanian Qusier Formation and the upper Campanian-lower Maastrichtian Duwi Formation. Fossil remains recovered from the Campanian-aged Qusier Formation include sharks, rays, actinopterygian and sarcopterygian fishes, turtles, and rare terrestrial archosaurians, including some of the only dinosaurs known from this interval on continental Africa. The upper Campanian/lower Maastrichtian Duwi Formation preserves sharks, sawfish, actinopterygians, and marine reptiles (mosasaurs and plesiosaurs). Notably absent from these collections are representatives of Mammalia and Avialae, both of which remain effectively undocumented in the Upper Cretaceous rocks of Africa and Arabia. New age constraints on the examined rock units is provided by 23 nannofossil taxa, some of which are reported from the Duwi Formation for the first time. Fossil discoveries from rock units of this age are essential for characterizing the degree of endemism that may have developed as the continent became increasingly tectonically isolated from the rest of Gondwana, not to mention for fully evaluating origin and diversification hypotheses of major modern groups of vertebrates (e.g., crown birds, placental mammals).

- **El Atfy H.**, **Sallam H.M.**, Jasper A. and Uhl D. (2016): The first evidence of paleo-wildfire from the Campanian (Late Cretaceous) of North Africa. *Cretaceous research. 57. 306-310.* - **Impact Factor 1.7**

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Short communication

The first evidence of paleo-wildfire from the Campanian (Late Cretaceous) of North Africa

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ABSTRACT

Although the fossil record of plant macro- and mesofossils, including fossil charcoal, is patchy geographically and temporally, such remains play an important role for the interpretation of paleo-environmental and paleoclimatic developments in the continental realm. In Egypt, previous palynological studies on the Upper Cretaceous (Campanian) deposits suggested presence of lush subtropical forests, dominated by angiosperms and pteridophytes, which developed under warm and wet climatic conditions. In the present study, the occurrence of paleo-wildfires during the Late Cretaceous (Campanian) is presented for the first time, based on samples from a surface exposure in the vicinity of the Baris Oasis, south Western Desert, Egypt. Macroscopic charcoal was collected and subsequently analyzed under a stereomicroscope and scanning electron microscope (SEM). The charred wood remains were identified as belonging to gymnosperms, which were important components of the North African paleoflora during the Cretaceous. These charcoal remains represent the first verified occurrence of paleo-wildfires in Africa during the Campanian.

- **Sileem A.H., Sallam H.M.,** Hewaidy A., Gunnell G. and Miller A. (2015): Anthracotheres (Mammalia, Artiodactyla) from the upper-most horizon of the Jebel Qatrani Formation, latest early Oligocene, Fayum Depression, Egypt. *Egyptian Journal of Paleontology. 15: 1-11.*

Egypt. Jour. Paleontol., Vol. 15, 2015, p. 1-11 ISSN 1687 - 4986

ANTHRACOTHERES (MAMMALIA, ARTIODACTYLA) FROM THE UPPER-MOST HORIZON OF THE JEBEL QATRANI FORMATION, LATEST EARLY OLIGOCENE, FAYUM DEPRESSION, EGYPT

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ABSTRACT

New specimens of the large anthracothere *Bothriogenys andrewsi* from Quarry L-75, and from another unnumbered locality are described. Both of these localities are near the top of the Jebel Qatrani Formation, Fayum, Egypt, and these specimens document the first definitive stratigraphic occurrence of *B. andrewsi*. The provenience of previous material attributed to *B. andrewsi*, including the type specimen, has been unknown. The confirmed presence of this large species of *Bothriogenys* from near the top of the Fayum sequence, and the absence of this taxon from sites lower in the sequence, suggests that the other described specimens of *B. andrewsi* also came from a high level in the Jebel Qatrani. In turn, this intimates that other fossil specimens of unknown provenience in museum collections, which were recovered at the same time as B. *andrewsi*, may also have come from the same stratigraphic interval. Additionally, the recovery of a very large anthracothere from near the top of the Jebel Qatrani may provide insight into *in situ* evolutionary trends in this genus of Fayum anthracothere.

Key word: *Bothriogenys andrewsi*; Anthracothere; early Oligocene; Fayum.

- **Sileem A.H., Sallam H.M.,** Hewaidy A., Miller A. and Gunnell G. (2016): A new anthracothere (Artiodactyla) from the Early Oligocene, Fayum, Egypt, and the mystery of African "Rhagatherium" solved. *Journal of Paleontology*. **Impact Factor 1.2**

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A new anthracothere (Artiodactyla) from the early Oligocene, Fayum, Egypt, and the mystery of African '*Rhagatherium*' solved

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Abstract.—Recent work on new anthracothere (Mammalia, Artiodactyla) specimens from the Jebel Qatrani Formation, early Oligocene, Fayum, Egypt, has revealed the presence of a new genus. *Nabotherium* new genus is described on the basis of a partial skull, several mandibular and maxillary specimens, and isolated teeth. The new genus exhibits a distinctive combination of features not seen in other Paleogene anthracotheres. The most noticeable characteristics of the new genus include the presence of large and well-developed upper and lower canines, caniniform third incisors, the presence of only a short diastema between the canine and first premolar, and broad, bunodont cheek teeth. This is in contrast to other contemporary anthracotheres, including other forms from the Fayum, which show a spatulate third incisor, a reduced canine, a much longer canine-premolar diastema, and more narrow, bunoselenodont cheek teeth. The presence of a relatively short rostrum with closely packed incisors, low-crowned and simple premolars, and low-crowned, bunodont molars indicates that members of the new genus would have been more efficient at crushing foods than slicing vegetation, and suggests a more varied herbivorous and frugivorous diet than was favored by other, more bunoselenodont Fayum anthracotheres.

خامسا: الجوائز

- **فاز متحف الحفريات وتغير المناخ بمحمية وادى الحيتان بالفيوم بدرع العرض المتحفى من اللجنة الوطنية المصرية للمجلس الدولى للمتاحف ICOM لأفضل عرض متحفى فى مصروتم تكريم فريق العمل من قطاع حماية الطبيعة بجهاز شئون البيئة ومركز جامعة المنصورة للأحافير الفقارية.**

سادسا: خدمة المجتمع

- **إستقبل المركز العديد من طلاب المدارس فى المراحل الإبتدائية والإعدادية والثانوية من مدارس الدلتا الدولية للغات ومدارس المنصورة كولدج ومدرسة الصالح الكامل الإبتدائية والعديد من المدارس الاخري ، وبعض طلاب الكليات الأخرى كما شرف المركز بزيارة الأستاذ الدكتور كيرت شيتوى من جامعة جراتس بالنمسا بصحبة الأستاذ الدكتور حسنى غزالة والسيد الدكتور فريد مكروم من قسم الجيولوجيا من جامعة المنصورة والدكتور محمد عبد الجليل من قسم الجيولوجيا جامعة دمياط للتعرف على طريقة الإستكشاف وكيفية إستخراج الحفريات الفقارية والتعامل معها وتجهيزها للدراسة بالإضافة لمشاهدة بعض نماذج من الحفريات الفقارية المصرية المعروضة بالمركز والتى إستخرجها الفريق البحثى للمركز فى رحلات سابقة.**

اشراف أ.د/ محمود احمد قورة
أستاذ الحفريات والطبقات بالقسم