

Schedule of Events in Brief

	Wednesday 5th	Thursday 6th SVPCA sessions	Friday 6th SVPCA sessions	Saturday 7th Fieldtrip
9.00	Registration	Ahlberg	Moreno-Azanza	Coach from Oxford Road to Buxton
9.15		Clack	Atterholt	
9.30	Bayesian	Castiello	Maharaj	
9.45	SPPC Workshop	Cupello	Martin-Silverstone	Buxton museum including guided tour of Pleistocene mammal collections
10.00	Larkin	Dobson	Unwin	
10.15	Smith	Dearden	Bestwick	
10.30	Nunn	Tea		
10.45	Tea	Tea		
11.00		Chiarenza	Bullar	
11.15	Forrest	Brocklehurst	Chatterji	
11.30	Graham	Maidment	Jones	
11.45	Henderson	Butler	Lomax	
12.00	Carrio			
12.15	Open			
12.30		Lunch Break	Lunch Break	Lunch (Old Sun Inn)
12.45	Lunch Break			
13.00		López-Arbarello	Brocklehurst	
13.15		Callender-Crowe	Troelsen	
13.30	Special Symposium	Sookias	Marek	Poole's Cavern tour
13.45		Beck	Sharp	
14.00	SVPCA Intro	Lloyd	Karoullas	
14.15	Coates	Tea		
14.30		Regalado	Tea	
14.45	Davis	Barrett	Henderson	
15.00		Johnson	Clements	
15.15	Giles	Mannion	Wallace	Return Coach
15.30		Armfield	Zhang	
15.45	Tea			
16.00		Poster Session		
16.15	Asher			
16.30				
16.45	Randle			
17.00				
17.15	Rauhut			
17.30				
17.45				
18.00				
18.15				
18.30	Museum Reception	Annual Auction	Conference Dinner	
18.45				
19.00				

Details and talk titles can be found below

FULL SCHEDULE OF ORAL PRESENTATIONS

WEDNESDAY September 5th

Symposium of Palaeontological Preparation and Conservation (SPPC)

Chair Cindy Howells

- 10.00 **Nigel Larkin** The Biddulph Grange geology gallery project: restoring a unique display from 1862 that encapsulates an important stage in the history of the development of geological thinking.
- 10.15 **Adam Smith** From China to Nottingham: the making of Dinosaurs of China
- 10.30 **Martin Nunn** Using theatre skills in a science exhibition: Dinosaurs of China in Nottingham
- 10.45 *Tea Break (Samuel Alexander Building Foyer)*
- 11.15 **Richard Forrest** Challenging preparation of a plesiosaur skeleton from a stressed nodule
- 11.30 **Mark Graham** The air-abrasive technique: re-evaluation of its use in fossil preparation
- 11.45 **Don Henderson** Rescuing an Early Cretaceous plesiosaur from an active tar sand mine
- 12.00 **Vicen Carrió** An introduction to “The Association for Materials and Methods in Palaeontology” (AMMP) meeting.
- 12.15 SPPC open session
- 12.30 *Lunch Break*

Special Symposium "Advances in the Vertebrate Tree of Life"

Chair Robert Sansom

- 14.00 SVPCA opening remarks
- 14.15 **Mike Coates** Sharks uprooted - new perspectives on early chondrichthyans
- 14.45 **Katie Davis** Shaping the avian (super)tree of life
- 15.15 **Sam Giles** Unravelling osteichthyan relationships: evolutionary tales from the head of forgotten fishes.
- 15.45 *Tea Break (Samuel Alexander Building Foyer)*
- 16.15 **Rob Asher** Confidence in palaeontological systematics: lessons from mammals
- 16.45 **Emma Randle** Tackling jawless fish: continuous characters, rooting and patterns of evolution in Heterostraci
- 17.15 **Oliver Rauhut** Dinosaur origin and success in the early Mesozoic: insights from the distribution of homoplasy
- 18.00 **WELCOME RECEPTION** (*Fossil Galleries, Manchester Museum*)

THURSDAY 6th September

SVPCA Session 1: Early Vertebrates Chair Joseph Keating

- 9.00 **Per Ahlberg** An extremely primitive miniature tetrapod from The Late Devonian (Early Famennian) of North Timan, Russia
- 9.15 **Jenny Clack** *Acherontiscus*, the earliest durophagus tetrapod redux
- 9.30 **Marco Castiello** 3D investigation of the head and shoulder of a stensioellid fish reveals Stensioellida to be a valid group of placoderm-grade affinity
- 9.45 **Camilla Cupello** Lung evolution in osteichthyans: insights from synchrotron phase-contrast microtomography
- 10.00 **Claire Dobson** Cranial osteology of *Pachycormus*, and relationships and divergence times among pachycormiforms
- 10.15 **Richard Dearden** A third “acanthodian” stem-chondrichthyan endoskeleton in a uniquely well-preserved specimen of *Diplacanthus crassissimus*
- 10.30 *Tea Break (Samuel Alexander Building Foyer)*

SVPCA Session 2: Macroevolution and Palaeobiogeography

Chair Graeme Lloyd

- 11.00 **Alessandro Chiarenza** Climatic drivers behind the demise of non-avian dinosaurs at the end Cretaceous mass extinction
- 11.15 **Neil Brocklehurst** Physical and environmental controls on Paleozoic tetrapod dispersal across Pangaea

- 11.30 **Susie Maidment** North Africa's first stegosaur and the armoured dinosaurs of Gondwana
- 11.45 **Richard Butler** Standardising for spatial sampling bias demonstrates constrained diversification of Phanerozoic terrestrial tetrapods
- 12.00 *Lunch Break*

SVPCA Session 3: Morphology and Molecules Chair Sam Giles

- 13.30 **Adriana López-Arbarello** Non-random distribution of homoplasy and the definition of actinopterygian clades
- 13.45 **Leah Callender-Crowe** Evaluating the performance and correlation morphological characters in reconstructing avian and squamate evolutionary history
- 14.00 **Roland Sookias** Reconciling morphology and molecular data in inferring phylogeny for extant crocodilians
- 14.15 **Robin Beck** Improvements in the fossil record may largely resolve the conflict between morphological and molecular estimates of mammal phylogeny
- 14.30 **Graeme Lloyd** Meta-analytical integration of fossil and molecular data in phylogenetic inference and the first truly comprehensive phylogeny for Cetacea
- 14.45 *Tea Break (Samuel Alexander Building Foyer)*

SVPCA Session 4: Sauropsid Phylogeny Chair Susie Maidment

- 15.15 **Omar Regalado** Impact of continuous character coding on the reconstruction of the evolutionary history of Basal Sauropodomorpha
- 15.30 **Paul Barrett** Those feathers won't stick: maximum likelihood modelling supports scales as primitive for Dinosauria
- 15.45 **Michaela Johnson** What is '*Steneosaurus*'? evolutionary relationships within Teleosauroidea (Crocodylomorpha, Thalattosuchia)
- 16.00 **Phil Mannion** New insights on the phylogenetic relationships and biogeographic history of eusauropod dinosaurs
- 16.15 **Roxanne Armfield** Cranial anatomy of the Palaeocene snake *Helagras prisciformis*; early implications for crown macrostomatan snakes

SVPCA POSTER SESSION (Williamson Building)

- 16.30- **All Poster Presenters** See below for poster titles

18.00 **ANNUAL AUCTION** (Williamson Building)

FRIDAY 7th September

SVPCA Session 5: Archosaur* Anatomy Chair John Nudds

- 9.00 **Miguel Moreno-Azanza** The crystallography of the alligatorid eggshell. Insights from the EBSD.
- 9.15 **Jessie Atterholt** A CT-based survey of supramedullary diverticula in extant birds
- 9.30 **Iyra Maharaj** A comprehensive description of *Endothiodon bathystoma* (Anomodontia, Therapsida), a dicynodont from the late Permian of the Karoo Basin of South Africa
- 9.45 **Liz Martin-Silverstone** A 3D reconstruction and mass estimation of a well-preserved pterosaur from Brazil
- 10.00 **Dave Unwin** A quantitative protocol for assessing the developmental stage of embryos and its implications for pterosaurs
- 10.15 **Jordan Bestwick** Reconstructing the dietary ecology of pterosaurs using quantitative 3D textural analysis of tooth microwear
- 10.30 *Tea Break (Samuel Alexander Building Foyer)*

SVPCA Session 6: Sauropsid Crania Chair Paul Barrett

- 11.00 **Claire Bullar** Ceratopsian braincase morphology and palaeoneurology through ontogeny.
- 11.15 **Ray Chatterji** A quantitative analysis of cranial growth and evolution in sea turtles (Testudinata: Cheloniaidea)

11.30 **Marc Jones** Brain structure supports interpretations of an active lifestyle in a small, iconic British dinosaur

11.45 **Dean Lomax** Odd narial features in *Ichthyosaurus* suggest the presence of salt glands

12.00 *Lunch Break*

SVPCA Session 7: Biomechanics and Functional Morphology

Chair Liz Martin

13.30 **Robert Brocklehurst** Modelling Avian Ventilation Mechanics with 3D Levers and Linkages

13.45 **Pernille Troelsen** Functional morphology and hydrodynamics of plesiosaur necks: Does size matter?

14.00 **Ryan Marek** An everyday tool: how the avian neck has adapted to (almost) every situation

14.15 **Alana Sharp** The role of soft tissues in a biomechanical model of the rat skull

14.30 **Carolina Karoullas** Estimating the Flight Capabilities of Fossil Birds from Extant Bird Data and Aerodynamic Theory

14.45 **Mariane Delaunay** Do birds have whiskers?

15.00 *Tea Break (Samuel Alexander Building Foyer)*

SVPCA Session 8: Taphonomy and Mammals Chair Robin Beck

- 15.30 **Don Henderson** Sediments, skulls and squishing – taphonomic investigations of ceratopsian skull deformation
- 15.45 **Thomas Clements** Uncovering the impact of palaeogeography on vertebrate taphonomy: an investigation of the Mazon Creek Lagerstätte.
- 16.00 **Elsbeth Wallace** Community preservation within the Late Jurassic Morrison Formation, Western Interior, USA
- 16.15 **Hanwen Zhang** *Elephas recki*: the wastebasket?
- 16.30 **Jamie MacLaren** Walking with Unicorns - metacarpal morphology of the Rhinocerotidae
- 16.45 **Stephan Lautenschlager** Morphological convergence and functional diversification of sabre-toothed vertebrates
- 17.00 **END**
- 18.30 **CONFERENCE DINNER** (Yang Sing, 34 Princess Street, M1 4JY)

POSTER PRESENTATIONS

- Eduardo Ascarrunz** Algorithmically-assisted selection of ratio characters for the phylogenetic placement of fossils of geoemydid turtles
- Sue Beardmore** *Sticky fish as an indicator of specific palaeoenvironmental conditions
- Charlotte Bird** Brain morphology and intraspecific variation in the Triassic cynodont *Thrinaxodon liorhinus*
- Emily Brown** The use of CT in discerning the life habits of the Early Triassic archosauriform, *Proterosuchus fergusi*
- David Button** A three-dimensional virtual reconstruction of the skull of the problematic Early Jurassic theropod *Coelophysis? kayentakatae*, and the importance of evaluating uncertainty in retrodeformation studies
- Hannah Byrne** *Synchrotron microtomography analysis of coprolites from the Obrutschew Bjerg Formation, East Greenland
- Savannah Cobb** Inferring mode of life for extinct avians and theropod dinosaurs using measurements of curvature for the ungual phalanx
- Sandra Chapman** Compactor storage for vertebrate collections at the NHM
- Ewan Chipping** Taming the cow: how have humans influenced morphological variation in wild and domestic cattle from prehistory to the present?
- Matthew Dempsey** A student-staff-museum collaboration to restore, image and display the skeleton of a Lower Cretaceous ornithomimid dinosaur (*Tenontosaurus tilletti* LL.1227)
- Emma Dunne** The Rise of Dinosaurs: Tetrapod diversity and climate during the Late Triassic
- Hugo Dutel** *The biomechanical significance of the palatal fascia and quadratojugal ligament in the skull of the ornate monitor (*Varanus ornatus*)

Richard Forrest	Vertebral proportions in plesiosaurs
Struan Henderson	Morphological conservatism and slow evolution under a new porolepiform phylogeny
Jesse Hennekam	Insular gigantism in Mediterranean dormice
Thomas Henton	A mystery fossil from the Kimmeridge (Upper Jurassic) of Dorset, UK – the oldest urolith on record
Emily Hunter	Tests of masticatory convergence within hard-object feeding primates
Megan Jacobs	Walking in the shadows of giants: The small dental assemblage of the Early Cretaceous Kem Kem beds of Morocco, North Africa
Zerina Johanson	*Microstructure and mineralogy in dental plates of the holocephalan chimaeroid <i>Harriotta raleaghae</i> : novel dentine and conserved patterning combine to create a unique chondrichthyan dentition
Miranta Kouvari	*Evolution of functional morphology of the <i>Suncus etruscus</i> Corsican shrew's mandible: a story between climate, man and island
Loredana Macaluso	*Morphology, taxonomy, and phylogenetic relationships of the Monteviale crocodylians (Oligocene, Italy)
Stephan Spiekman	A new Antarctic specimen of <i>Prolacerta cf. broomi</i> , its biogeographical implications and a revision of the taxon
Euan Malpas	The first Mosasaur (Reptilia: Squamata) remains from the Ulster White Limestone Group, Northern Ireland, and refinements to the Wastebasket taxon, ' <i>Mosasaurus gracilis</i> '.
Robert Mansergh	Global and regional sea-levels during the Late Cretaceous and the evolution and radiation of megaherbivorous dinosaurs
Darius Nau	*Postcranial Osteology of a New, Juvenile Skeleton of <i>Plateosaurus</i> (Dinosauria: Sauropodomorpha) from Frick, Switzerland

Tom Raven	A Phylogenetic Supermatrix of the Armoured Dinosaurs
Francesco Santini	A macroevolutionary look at the history of fishes in coral reefs
Tim Smithson	*Traquair's lungfish from Loanhead: dipnoan diversity and tooth plate growth in the late Mississippian
Marton Szabo	The Late Cretaceous (Santonian) ichthyofauna of Iharkút (Hungary), with a summary on the European Late Cretaceous continental fish faunas
Lukardis Wencker	Phylogenetic value of jaw elements of lacertid lizards (Squamata: Lacertoidea): a case study with material from the Oligocene of France
Mark Witton	Tyrannosaurid theropods: did they ever smile like crocodiles?