Donald Alexander McFarlane

W.M. Keck Science Center, The Claremont Colleges,

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**PRESENT POSITIONS:**

Professor of Biology, Keck Science Department, Claremont Colleges,

Claremont, CA 91711. (tel: 909-607-2564)

Research Associate, Section of Birds and Mammals, Natural History Museum of Los Angeles County, 900 Exposition Blvd.,

Los Angeles, CA 90007.

**EDUCATION:**

B.Sc., University of Liverpool, Liverpool, England, U.K.

Honours Zoology, 1978. Thesis: "Freshwater ecology of White Scar Cave, Yorkshire"

M.Sc., Queen's University of Belfast, Belfast, Northern Ireland, U.K.

Zoology, 1982. Dissertation: "Aspects of the biology of *Phoca vitulina* in County Down, Northern Ireland"

PhD., University of Southern California, Los Angeles, California USA.

Biology, 1987. Dissertation: "The structure and development of the Antillean bat communities"

**RESEARCH INTERESTS:**

Late Quaternary palaeoecology and paleontology, with special reference to influences on mammalian extinctions and biogeography. The ecology of caves, particularly bat guano ecosystems. Interactions of biology and geology in karst geomorphology. Speleothem records of environmental change.

**CURRENT AND RECENT RESEARCH PROJECTS:**

Biogeomorphology of Jamaican bat caves

Biogeomorphology and bio-microclimate studies of the caves of Borneo.

Vertebrate palaeontology and Quaternary paleoecology of Pleistocene “bone caves”, England and the West Indies.

Trace element uptake in cave fossil teeth.

Trace element record of ancient mining in speleothems

**SOCIETIES etc:**

Chair, National Speleological Society Research Advisory Committee

Fellow, National Speleological Society.

President, Commission on Archaeology and Palaeontology in Caves, *Union Internationale de Spéléologie*

Chair,Working Group 3D scanning of caves, *Union Internationale de Spéléologie*

Member, International Society of Explosives Engineers

**RECENT GRANTS:**

National Geographic Society (#GEFNE 9413-13: PI: McFarlane) $19,725. Measuring Darkness - 3D Mapping and Analysis of the White Cave, Gomantong, Sabah. (July 2014)

National Geographic Society (#GEFNE12-11: PI: McFarlane) $15,275. Spatial analysis of Zoogeomorphological Speleogenesis at Gomantong Caves, Sabah, Malaysia.." (July 2012)

National Geographic Society (#8847-10: Co:PI) $18,139. Sands of Time? Paleoclimate records from the extraordinary silica biospeleothems of Cueva Charles Brewer, Venezuela. (January 2012)

National Science Foundation (0952398. PI: McFarlane) $51,751. Sedimentology and Tephrochronology of Caves in the Melinau karst, Sarawak, Malaysia. (July 2010-June 2011).

National Geographic Society. (#8437-08: PI, McFarlane ) Terrestrial Stromatolites from Deer Cave; an undescribed life-form from Gunung Mulu National Park, Sarawak. $7221. June 2008-Dec2008).

**TEACHING RESPONSIBILITIES:**

General Ecology (upper division undergraduate)

Evolution (upper division undergraduate)

Introductory Biology (1st year undergraduate)

Tropical Ecology (upper division undergraduate)

**ADDITIONAL POSITIONS**.

Director of Research, Firestone Center for restoration Ecology, Costa Rica.

Editorial Board, Caribbean Journal of Science.

Board of Directors (former), National Cave and Karst Research Institute.

**PUBLICATIONS LIST – McFarlane – Last 5 years**

Lundberg, J. and D. A. McFarlane (2015). Microclimate and niche constructionism in tropical bat caves: A case study from Mount Elgon, Kenya.

The Geological Society of America Special Paper 516

McFarlane, D.A., VanRentergemG.,Ruina, A., Lundberg, J., and Christenson, K. (2015). Estimating Colony Size of the Wrinkle-lipped bat, *Chaerephon plicatus* (Chiroptera; Molossidae) at Gomantong, Sabah, by Quantitative Image Analysis. Acta Chiropterologia 17(1): 171–177.

McFarlane, D.A., Roberts, W., Buchroithner, M., Van Rentergem, G., Lundberg, J., and Hautz, S. (2015). Terrestrial LiDAR-Based Automated Counting of Swiftlet Nests in the Caves of Gomantong, Sabah, Borneo. **International Journal of Speleology** 44(2):191-195.

McFarlane, D.A., Lundberg, J. and Maincent, G. 2014.New specimens of *Amblyrhiza inundata* (Rodentia: Caviomorpha) from the Middle Pleistocene of Saint Barthélemy, French West Indies. **Caribbean Journal of Earth Science**, 47:15- 19.

McFarlane, D. A, Lundberg,J., and Neff,H. 2014. A Speleothem Record of Early British and Roman Mining at Charterhouse, Mendip, England. **Archaeometry** 56(3): 431–443*.*

McFarlane, D. A. 2014. Evolution Of Island Mammals – Adaptation and Extinction of Mammals on Islands by Alexandra van der Geer, George Lyras, John de Vos and Michael Dermitzakis. (Book Review) Geological Journal 49(3): 329–330*.*

Zijlstra J., Hoek Ostende L.W., McFarlane D.A. and Lundberg, J. 2013. New rodents (Cricetidae) from the Neogene of Curaçao and Bonaire, Dutch Antilles. Palaeontology:1-14

Lundberg, J. and McFarlane D. A. 2013. Early British and Roman lead mining at Charterhouse; A speleothem record. Geological Society of America, Abstracts, 45(7) p.494. 2013.

McFarlane, D. A. 2013. Caves and Karst of the Yorkshire Dales, edited by Tony Waltham and David Lowe. (Book Review) Geological Journal*.*

McFarlane, D.A.,Buchroithner, M.,Lundberg, J., Petters, C., Roberts, W., and Van Rentergen, G. 2013. Integrated Three-Dimensional Laser Scanning and Autonomous Drone Surface-Photogrammetry at Gomantong Caves, Sabah, Malaysia. Proceedings of the 16th International Congress of Speleology, Brno, v2, 317-320.

McFarlane, D.A. 2013. Limestone caves and the Record of Quaternary Vertebrates. Journal of the Geological Society 170: 535-538.

McFarlane, D. A. and Lundberg, J. 2013. On the occurrence of the scimitar-toothed cat, *Homotherium latidens* (Carnivora; Felidae), at Kents Cavern, England. Journal of Archaeological Science 40:1629-1635.

Lundberg, J. and McFarlane D. A. 2012. [A significant middle Pleistocene tephra deposit preserved in the caves of Mulu, Borneo](http://www.sciencedirect.com/science/article/pii/S0033589412000087). Quaternary Research, Volume 77(3), 335-343.

Lundberg, J. and McFarlane D.A. 2012. Cryogenic fracturing of calcite flowstone in caves: theoretical considerations and field observations in Kents Cavern, Devon, UK. International Journal of Speleology 492:309-319.

McFarlane, D. A. and Lundberg, J. 2012. The Status of the endemic Niah Cave Crab (Decapoda: Adeleana chapmani), Sarawak, Malaysia. Speleobiology Notes 4:29- 33.

Lundberg, J. and McFarlane D.A. (2012) Post-speleogenetic biogenic modification of Gomantong Caves, Sabah, Borneo. Geomorphology 157/158: 153-168.

McFarlane D. A., LundbergJ., and ChristensonK. (2011). New Records of Crabs from the Caves of Gunung Mulu National Park, Sarawak, with a field key to the cavernicolous taxa of Northern Sarawak. Speleobiology Notes 3:11-18.

McFarlane, D. A. (2011). Limestone caves and the Quaternary record of terrestrial tetrapods on islands. Scripta Geologica 142:29.

Wurster, C. M., Bird, M. I., and McFarlane, D. A., 2010. Bat guano: Record of climate change. McGraw Hill 2010 Yearbook of Science & Technology. McGraw Hill.

Lundberg, J. McFarlane D.A **.** (2010) A note on the occurrence of a crayback stalagmite at Niah Caves, Borneo. International Journal of Speleology 40(1):39-43.

Lundberg, J. McFarlane D.A (2011) Subaerial freshwater stromatolites in Deer Cave, Sarawak – a unique geobiological cave formation. Geomorphology 128 (2011) 57–72

Mihai, S., Lundberg, J. McFarlane D.A., and Chandler, B. 2010. Pengelly’s legacy reconsidered: a GIS approach to spatial analysis of palaeontological and archaeological collections from Kents Cavern, England. Proceedings of the Geologists’Association 121: 319–325.

Lundberg, J., Mihai, S., and McFarlane, D. A. (2010). Spatial analysis of Kents Cavern cave bear remains using GIS. Abstract, Geological Society of America Annual Meeting, 42(5): 251.

Wurster,C. M., Bird, M. I., and McFarlane, D. A., 2010. Stable isotope profiles of cave guano as an environmental archive. ISOECOL VII, 9-13 August, Fairbanks, AK, USA.

McFarlane D. A, Lundberg, J., and Roberts, W. 2010. A geographic information systems approach to the 19th Century excavation of Brixham Cavern, Devon, England. Studies in Speleology 17:1-11.

Lundberg, J. McFarlane D.A., and Brewer, C. (2010) An extraordinary example of photokarren in a sandstone cave, Cueva Charles Brewer, Chimantá Plateau, Venezuela: biogeomorphology on a small scale. Geomorphology 121(3-4): 342- 357.

McFarlane D. A., Lundberg, J. and Sabol, M. (2010) A unique population of cave bears (Carnivora: Ursidae) from the Middle Pleistocene of Kents Cavern, England, based on dental morphometrics. Historical Biology 23(2-3): 131-137.