

Leon Philip Antonius Maria CLAESSENS

- Appointments:** Assistant Professor of Biology, College of the Holy Cross (2005-)
Curatorial Affiliate, Peabody Museum, Yale University (2006-)
- Address:** Department of Biology
College of the Holy Cross
1 College Street
Worcester, MA 01610, U.S.A.
Telephone: (508) 793 2594
Facsimile: (508) 793 2696
lclaesse@holycross.edu
- Degrees:** B.Sc., Utrecht University, Netherlands, Geology, 1992
M.Sc., Utrecht University, Netherlands, Geology, 1996 (double thesis)
A.M., Harvard University, U.S.A., Biology, 2002
Ph.D., Harvard University, U.S.A., Biology, June 2005
- Teaching:** **College of the Holy Cross**
2005-
Biological Principles: Mesozoic Life (Bio 114)
Comparative Chordate Morphology (Bio 213)
General Biology II (Organismal Biology, Bio 121)
Vertebrate History (Bio 255)
- Harvard University**
1999-2000 Instructor: The Biology and Evolution of the Dinosauria
- 1997-2005 Teaching Fellow:
Dinosaurs and Their Relatives (2004)
History of Life (1999)
Integrative Biology of Organisms (1999)
Evolution of the Vertebrates (1998; 2000, 2002-2005)
Structure and Physiology of the Vertebrates (1997)
- Utrecht University**
1993-1995 Teaching Assistant:
Paleontology, Sedimentology and Mineralogy
- Previous Employment:**
2000-2002 Curatorial Research Assistant, Department of Ornithology,
Museum of Comparative Zoology
- 1996-1997 Scientific Staff, Geology Department, Museon Science Museum,
The Hague, Netherlands

Grants and Awards:

- 2008- 2011 NSF DBI 0743327 (PI: Claessens; co-PI: Edwards). Aves 3D: An Online Database of Three-Dimensional Avian Skeletal Morphology (RUI). **US\$ 497,735.**
- 2007 Ardizzone Junior Faculty Research Grant **US\$ 3,000**
- 2007 Yale Peabody Museum Funding for Triassic Fieldwork **US\$ 5,000**
- 2006, 2007 College of the Holy Cross Summer Research Grants **US\$ 3,500**
- 2004 Welles Fund Grant, UC Berkeley **US\$ 950**
- 2002- 2004 National Science Foundation Doctoral Dissertation Improvement Grant (NSF-DDIG) **US\$ 9,986**
- 2002- 2003 Humboldt Fellowship toward tuition
- 2000, 2002 Graduate Student Research Grant, Department of Organismic and Evolutionary Biology, Harvard University **US\$ 3,000**
- 1998 Harvard Graduate Student Council Conference Grant **US\$ 200**
- 1997- 2002 Harvard University Grant toward tuition
- 1995- 1996 Canadian Graduate Student Research Award (NSERC; Royal Bank of Canada Scholarship) **CAN\$ 8,000**
- 1995- 1996 Molengraaff Fund Grant **DFL 3,000**

Honors:

- 2006 Curatorial Affiliate Position in the Division of Vertebrate Paleontology, Peabody Museum of Natural History, Yale University
- 2005 Premio Internacional de Investigacion en Paleontologia, Fundacion Conjunto Paleontologico Teruel Dinopolis (for best 2004 technical paper in paleontology, *J. Vert. Paleo.* **24**: 89-106)
- 2002, 2004 Certificates of Distinction in Teaching, Harvard University

Professional Service:

- Reviews for: *Nature*; *Journal of Vertebrate Paleontology*; *Journal of Morphology*; *Sauropod Paleobiology* (edited book); *Physiological and Biochemical Zoology*; , *Journal of Comparative Physiology B*; *Palaeontology*; *Acta Zoologica Sinica*, *Journal of Avian Biology*, *Journal of Experimental Zoology Part A*.
- Symposium organizer (with P. O'Connor): *Respiratory Evolution in Sauropsids*. International Congress of Vertebrate Morphology 8, Paris 2007
- Guest editor, *Journal of Experimental Zoology Part A*, Respiratory Evolution in Sauropsids Symposium Volume (2008)
- Reviewer for the National Research Foundation of South Africa, 2007
- Reviewer for the National Science Foundation 2008; NSF Panelist, Arlington, VA, February 2008
- Invited jury panel member, Premio Internacional de Investigacion en Paleontologia, Fundacion Conjunto Paleontologico Teruel, Spain, 2006
- Invited Discussion Leader: Ostrom Symposium on the Origin of Birds, Yale University, 1998

Professional Society Memberships:

1996-present Society of Vertebrate Paleontology (SVP)
2002-present Society for Integrative and Comparative Biology (SICB)
2003-present The Palaeontological Association
2004-present International Society of Vertebrate Morphologists

Selected Invited Seminars and Lectures:

Utrecht University (1997, 2002); Rheinische Friedrich-Wilhelms Universität, Bonn (1997); A. Watson Armour III Symposium, Field Museum, Chicago (2001); Free University of Amsterdam (2002); 6th Netherlands Earth Science Conference, Veldhoven (2002; keynote); Museum für Naturkunde, Humboldt Universität, Berlin (2003); Worcester State College (2005), Stony Brook University (2007), Institute for Vertebrate Paleontology and Paleoanthropology, Beijing (2008).

Selected Lay Audience Lectures:

Museon Science Museum, The Hague (1997, 2005); Elementary Schools in Alamogordo, Middelburg, Boston (1993-2002); Harvard Museums of Natural History Adult Education Lecture Series.

Education:

1997-2005 Harvard University, Department of Organismic and Evolutionary Biology. Thesis: The Evolution of Breathing Mechanisms in the Archosauria. Principal Advisor: Farish A. Jenkins, Jr.
1995-1996 Royal Tyrrell Museum of Palaeontology, Drumheller, AB, Canada
Thesis: Dinosaur Gastralia: Morphology and Function
Principal Advisor: Philip J. Currie
1990-1996 Utrecht University, Department of Earth Sciences
Thesis: Miocene Reptilian and Amphibian Faunas of Anatolia
Principal Advisor: Albert J. van der Meulen

Medical and Anatomical Training and Credentials:

2001 Vertebrate Surgery, Harvard Medical School
Professor A.L. Lage and Dr. L. Trudell
1998 Human Functional Anatomy, Harvard Medical School
Professors F.A. Jenkins, Jr. and L. Gehrke
1994-1995 Veterinary Anatomy, Utrecht University School of Veterinary Medicine. Professor W. Hartman and Dr. J. Hasselaar

Field Experience:

2007 Chinle Formation, Southern Utah (paleontological excavation)
2006 Kaiparowits and Wahweap Fm., Utah (paleontological excavation)
2000 North Horn Fm., Utah (paleontological excavation)
1998 Triassic, Greenland (paleontological excavation)
1998 Kayenta Fm., Navajo Fm., Arizona (paleontological excavation)
1996,1997 Dinosaur Provincial Park, Alberta, Canada (paleontological excavation)
Quarry Supervisor, Royal Tyrrell Museum Field Program
1994 Crete, Greece (geological mapping)
1992 Pyrenean Mountains, France, Spain (geological mapping)
1991 Northern Apenninian Mountains, Italy (geological mapping)
1991 Normandy, France (geological mapping)
1990 Ardenne Mountains, Belgium (geological mapping)

Publications:

- Claessens, L.P.A.M.** 2006. Los huesos gastrales de los terópodos: insuflando vida a los dinosaurios [Theropod gastralia: breathing life into dinosaurs]. *Fundamental* **9**: 1-72.
- O'Connor, P.M., and **L.P.A.M. Claessens**, 2005. Evidence for basic avian pulmonary design and flow-through ventilation in nonavian theropod dinosaurs. *Nature* **436**: 253-256.
- Claessens, L.P.A.M.** 2004. Archosaurian respiration and the pelvic girdle aspiration breathing of crocodyliforms. *Proceedings of the Royal Society of London B: Biological Sciences* **271** (1547): 1461-1465.
- Claessens, L.P.A.M.** 2004. Dinosaur gastralia; origin, morphology, and function. *Journal of Vertebrate Paleontology* **24** (1): 89-106.
- Claessens, L.P.A.M.** 1997. Gastralia. In: *Encyclopedia of Dinosaurs*. Currie, P.J., and Padian, K. (Eds.), Academic Press, San Diego, pp. 269-270.

Published Abstracts:

- Claessens, L.P.A.M.**, P.M. O'Connor, and D.M. Unwin 2007. Lung ventilation in pterosaurs. Wellnhofer Flugsaurier meeting, abstracts.
- Neabore, S. Loewen, M., Zanno, L., Getty, M. and **L. Claessens**, 2007. Three-dimensional scanning and analysis of the first diagnostic ornithomimid forelimb material from the Late Cretaceous Kaiparowits Formation. *Journal of Vertebrate Paleontology*, **27** (Suppl. to 3): 123A.
- Claessens, L.P.A.M.** 2007. The relationship between skeletal constraint and pulmonary complexity in archosaurs. *ICVM 8 Abstracts, Journal of Morphology*, **268**.
- Wings, O., **L.P.A.M. Claessens**, and C.S. Sullivan, 2007. Crocodylian gastroliths past and present: their distribution and function. *5th Meeting of the European Association of Vertebrate Palaeontologists, Abstracts*: 68.
- Claessens, L.P.A.M.**, P.M. O'Connor, and D.M. Unwin 2006. Evolution of the respiratory apparatus and breathing mechanisms in Pterosauria. *Journal of Vertebrate Paleontology*, **26** (Suppl. to 3): 50A.
- Claessens, L.P.A.M.** 2005. The skeletal respiratory pump and archosaurian pulmonary evolution. *Journal of Vertebrate Paleontology*, **25** (Suppl. to 3): 45A-46A.
- Claessens, L.P.A.M.** 2004. The identity and function of the pterosaur prepubis. *Journal of Vertebrate Paleontology*, **24** (Suppl. to 3): 46A.
- Claessens, L.P.A.M.** 2004. Kinematics of crocodylian and avian lung ventilation: Investigating the evolution of breathing in extant and extinct Archosauria. *Journal of Morphology*, **260** (3): 283.
- Claessens, L.P.A.M.** 2003. The skeletal kinematics of lung ventilation in birds. *Journal of Vertebrate Paleontology*, **23** (Suppl. to 3): 41A.
- Claessens, L.P.A.M.** 2002. Analysis of the kinematics of lung ventilation in crocodylians. *Integrative and Comparative Biology*, **42** (6): 1208. (Also in: Society for Integrative and Comparative Biology Annual Meeting 2003, Abstracts: 136).

- Claessens, L.P.A.M.** 2002. Kinematic analysis of lung ventilation in crocodylians. *Journal of Vertebrate Paleontology*, **22** (Suppl. to 3): 44A.
- Claessens, L.P.A.M.** 2002. Gastralial aspiration in the Theropoda (Dinosauria), and the evolution of the avian lung. *6th Netherlands Earth Science Conference, Veldhoven, Abstracts*, 5.1 (keynote address).
- Claessens, L.P.A.M.** 2001. The function of the gastralia in theropod lung ventilation. *A. Watson Armour III Symposium, Abstracts, Field Museum, Chicago* (invited).
- Claessens, L.P.A.M.**, S.F. Perry and P.J. Currie. 1998. Reconstructing theropod lung ventilation. *The Dinofest 1998 Symposium, Abstracts*, 8-9.
- Claessens, L.P.A.M.**, S.F. Perry and P.J. Currie. 1998. Using Comparative Anatomy to Reconstruct Theropod Respiration. *Journal of Vertebrate Paleontology*, **18** (Suppl. to 3): 34A.
- Claessens, L.P.A.M.** 1997. On the herpetofauna of some Neogene Eastern Mediterranean localities, and the occurrence of *Palaeobatrachus* and *Bufo* (Amphibia, Anura) in the Lower Miocene of Turkey. *Journal of Vertebrate Paleontology*, **17** (Suppl. to 3): 39A.
- Claessens, L.P.A.M.** 1996. Dinosaur gastralia and their function in respiration. *Journal of Vertebrate Paleontology*, **16** (Suppl. to 3): 28A.