

Christopher Thomas Baldwin
Professor of Geology
Geography and Geology
Arts and Sciences

Degrees Earned

Ph.D. in Geology, University of Liverpool, UK, 1977

BSc. In Geology, University of Liverpool, UK, 1971

Professional Licensure and Certifications

Peer-Review Publications and Artistic Performances/Exhibitions

Articles

Baldwin, C.T., 1974 The control of mud crack patterns by small gastropod trails. *J. Sed Petrology*, **44:695-697**

Baldwin, C.T., 1975 The stratigraphy of the Cabos Series in the section between Luarca and Cadavedo, Province of Oviedo, N.W. Spain. *Brev. Geol. Asturica*, **XIX : 4-9**

Baldwin, C.T., 1975 The stratigraphy of the Cabos Series in the section between Luarca and Cadavedo, Province of Oviedo, N.W. Spain. In: *Mapa Geologico de Espana. El:200,000 Hoga No. 11, Luarca*, Memoria explicativa por M. Julivert y A. Marcos. Inst. Geo1. Min., Espana, Madrid.

Baldwin, C.T., 1977 *Rusophycus morgatii*: an asaphid produced trace fossil from the Cambro Ordovician of Brittany and north-west Spain. *J. Paleontology*, **52:411-433**

Baldwin, C.T., 1977 Internal structures of trilobite trace fossils indicative of an open surface furrow origin. *Palaeogeogr., Palaeoclim., Palaeoecol.*, **21:273-283**

Baldwin C.T. & Johnson, H.D., 1977. The Dalradian rocks of Lunga, Luing and Shuna. *Scottish J. Geol.* **13:143-154**

Baldwin C.T. & Johnson, H.D., 1977. Sandstone mounds and associated facies sequences in some late Precambrian and Cambro-Ordovician inshore tidal flat/ lagoonal deposit. *Sedimentology* **24:801-818**

Harris A.L., Baldwin C.T., Johnson RD. & Smith R, 1978. Ensialic basin sedimentation: the Dalradian Supergroup. In: D.R Bowes and B.E. Leake (Eds), Crustal Evolution in north-western Britain and adjacent regions. *Geol. J. Spec. Issue* **10:115-138**

- Baldwin C.T., 1978. A comparison of the stratigraphy and depositional processes in the Cambro Ordovician rocks of the Cantabrian and West Asturian-Leonese Zones, N.W. Spain. *Geologia de la parte norte Marcizico, Edicion homenaje a Isidro Parga Pondal*, **7:45-70**
- Yardley B.W.D., Vine F.J. & Baldwin C.T. 1982. The plate tectonic setting of N.W. Britain and Ireland in Late Cambrian and early Ordovician times. *J. geol. Soc. Lond.* **139:455-463**
- FitzGerald, D.M., Saiz, A., Baldwin, C.T. & Sands, D.R. 1986. Spit breaching at Slocum River Inlet: Buzzards Bay, MA. *Shore and Beach* **54:11-17**
- FitzGerald D.M., Baldwin C. T., Ibrahim N.A., & Humphries S.M. 1992. Sedimentologic and morphologic evolution of a beach-ridge barrier along an indented coast: Buzzards Bay, MA. In: C.H. Fletcher III & J.F. Wehmiller (Eds). *Quaternary Coasts of the United States: Marine and Lacustrine Systems. SEPM Spec. Publ.* **48:65-75**
- Fenster, M.S., FitzGerald, D.M., Bohlen, W.F., Lewis, R.S. & Baldwin, C.T. 1990. Stability of Giant Sand Waves in Eastern Long Island Sound. *Marine Geology* **91:207-225**
- Hill, M.C., FitzGerald, D.M. & Baldwin, C.T. 1990. Development and assessment of Sand Resources in Plymouth Bay, MA. In: Hunt, M.C., Doenges, S. & Stubbs, S.G. (Eds.) *Studies Related to Continental margins: a Summary of Year Three and Four Activities. Proceedings of Second Symposium of Studies of the Continental margins program, Bureau of Economic Geology*, **182-193**
- Rhoads, D.C., Mulsow, S.G. Gutschick, R., Baldwin, C.T. & Stoltz, J.F. 1991 The Dysaerobic Zone. *J. geol. Soc. Lond.* **58:187-199**
- Baldwin, C. T & McCave, I.N. 1999. Bioturbation in an active deep-sea area: implications for models of trace fossil tiering. *Palios*, **14:375-388**

Books

Chapters

- Baldwin, C.T., 1977 The stratigraphy and facies associations of trace fossils in some Cambrian and Ordovician rocks of north-western Spain. In: T.P. Crimes and J.C. Harper (Eds), *Trace fossils 2, Geol. J. Spec. Issue* **9:9-40**
- FitzGerald D.M., Baldwin C. T., Ibrahim N.A., & Humphries S.M. 1992. Sedimentologic and morphologic evolution of a beach-ridge barrier along an indented coast: Buzzards Bay, MA. In: C.H. Fletcher III & J.F. Wehmiller (Eds). *Quaternary Coasts of the United States: Marine and Lacustrine Systems. SEPM Spec. Publ.* **48:65-75**
- Johnson, H.D. & Baldwin, C.T. 1986. *Shallow Clastic Seas*. In: Reading, H.G. (Ed.) *Sedimentary Environments and Facies*, 2nd Edn. Blackwell Scientific Publications, Oxford, England.

Johnson, HD. & Baldwin, C. T. 1996. Shallow Clastic Seas. In: Reading, H.G. (Ed.) *Sedimentary Environments: process, facies and stratigraphy*, 3rd Edn. 232-280, Blackwell Sciences Ltd. Oxford, England

Baldwin, C. T., Strother, P.K., & Rose, E. 2004. Paleocology of the Bright Angel Shale in the eastern Grand Canyon, Arizona USA, incorporating sedimentological, ichnological and palynological data . (In) Mcllroy, D. (Ed.) *The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis: Geol. Soc. Lond. Spec. Publ.*, **228: 213-236**.

Leipnik, Mark R. & Baldwin Christopher, 2006 Use of Geospatial Technologies in Mapping and Analysis of Submarine Groundwater. (In: Zekster, I. *Submarine Groundwater*. Ch. 2. Taylor and Francis, London.

Proceedings

Artistic Performances

Artistic Exhibitions

Research Monographs and Technical Reports

Baldwin, C.T., 2004. *Flash Flood Hazards on the Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Final Report to CERL. 57 pp.

Baldwin, C.T., 2004. *Sediment Sources and Sinks on the Marine Corps Air Ground Combat Center, Twentynine Palms, California*. Final Report to CERL. 69 pp.

Funded External Grants

2001 Principal Investigator, CERL/DOD (\$121,000)
Nutrient Storages and Fluxes, 29 Palms MCCAGC, CA.

2000 Principal Investigator, CERL/OOD (\$117,000)
Eolian and Event Processes, 29 Palms MCAGC, CA.

1997 Co-principal investigator (with P.K. Strother, Boston College); Natl. Geog. Soc.
In search of the earliest land plants, Grand Canyon, AZ

1996 Co-principal investigator; (NSF funding to P .K. Strother. Boston College)
In search of the earliest land plants, Grand Canyon, AZ

1990 Co-principal Investigator, King Abdul Aziz University, Saudi Arabia, Research Grant

Red Sea Fan Deltas

- 1990 Principal Investigator, American Chemical Society, Petroleum research Fund
Carbonate Production and Export from the Grand Bahama Bank
- 1988 Co-principal Investigator, SAIC
Biogenic Magnetite as Stratigraphic and Environmental Markers
- 1986 Co-principal Investigator, NOAA/State of Maine
Hydrographic Survey of Wells Inlet, Maine
- Co-principal Investigator, NOAA/NURP
Investigation of Glacial Reworking of Sediments on the Southeastern New England Shelf
- 1985 Co-principal Investigator, Minerals Management Service
Shelf sand, gravel and heavy minerals resources, Nantasket beach, MA
- Co-principal Investigator, Minerals Management Service
Assessment of Sand resources Inside Plymouth Bay, MA
- Co-principal Investigator, NOAA/NURP
Recent Sand Waves, Long Sand Shoal, Long Island Sound
- Co-principal Investigator, EPA
Colliform Pollution and Circulation in Buttermilk Bay, MA
- 1984 Principal Investigator, UEA Seed Grant
Marine Geology of Lough Hyne, Co. Cork, Eire
- 1983 Principal Investigator, Ministry of Education, Kingdom of Saudi Arabia
Khuff Formation: Sedimentary Resources
- Principal Investigator, British Petroleum Ltd.
Mesozoic basin Platform Transitions, S.E. France
- Principal Investigator, NERC
Ice-proximal glaciomarine transitions, West Spitsbergen
- 1981 Principal Investigator, NERC
Coarse-grained sediment inputs to fjord systems, Temple Fjord, West Spitsbergen
- Co-principal Investigator, UEA Seed Grant
Carboniferous paralic sequences, N.W. Scotland
- 1980 Co-principal Investigator, CNRS, France
Glacial and glaciomarine sediments in the Precambrian of the Western Sahel Region,
Mauretania and Mali
- 1979 Co-principal Investigator, Royal Dutch Shell Co. Ltd.
Jurassic/Cretaceous sand in East Anglia, UK

Peer-Review Presentations/Posters

- Baldwin C.T. 1985. Transgressed shorelines and the Gres Armoricaïn of Crozon, western Brittany, France. *Geol. Soc. Am., Abs. with Prog.*, **17**, no 1:45
- Baldwin C.T. & Evans RE. 1985. Fan delta inputs to a Spitsbergen fjord system. *Geol. Soc. Am., Abs. with Prog.*, **17**, no 1:46
- Noor Azim I, FitzGerald D.M. & Baldwin C.T. 1986. Sedimentological and morphological development of a beach-ridge Barrier Island, Horseneck Beach, MA. *Geol. Soc. Am., Abs. with Prog.*, **18**, no 1:17
- Baldwin C.T. & McCave LN. 1986. Bioturbation in the HEBBLE area: implications for teired trace fossil models. *Abstr. with Progs., SEPM Midyear Meeting*, 3:4
- Baldwin,C.T. 1987. Dyaerobic facies models. *Abstr. with Progs. IAS, Paris*, **37:17**
- Baldwin C.T. 1987. Sedimentary Processes: the importance of Life. *Abstr. Influencia de la vida sobre el planeta Terra'*, *Soc. Catalana de Biologia/ Inst. Catalana d'Historia Natural*
- Baldwin C.T. 1987. Biology and Geology: the two faces of Gaia. *Abstr. Influencia de la vida sobre el planeta Terra, Soc. Catalana de Biologia /Inst. Catalana d 'Historia Natural*
- Freile D & Baldwin C.T. 1988. Micro-tiering in graphoglyptid trace fossils as boundary layer flow indicators. *Geol. Soc. Am., Abs. with Prog.*, **19**, no 1:14
- Freile D. & Baldwin C.T. 1988. Trilobite resting traces in the Juniata of central Pennsylvania: evidence for marginal marine deposition. *Geol. Soc. Am., Abs. with Prog.*, **20**, no 1:19
- Freile D., Baldwin C.T. & Strother P.K. 1988. The Tuscarora Formation at Mill Hall, Pennsylvania: an ichnologically defined depositional model. *Geol. Soc. Am., Abs. with Prog.*, **20**, no 1:19
- DeSimone L.A., Baldwin C.T. & Strother P.K. 1988. A stratigraphic analysis of the palynomorph suite of the Tuscarora Formation in central Pennsylvania and its role in paleoenvironmental interpretation. *Geol. Soc. Am., Abs. with Prog.*, **20**, no 1:15
- Fenster M.S., Freile D., FitzGerald D.M., Lewis R.S. & Baldwin C.T. 1988. Sand wave morphology and bedform migration in eastern Long Island Sound. *Geol. Soc. Am., Abs. with Prog.*, **20**, no 1:18
- Hill M.C., FitzGerald D.M. & Baldwin C.T. 1988. Plymouth/Kingston and Duxbury Bays, MA: a long term sediment sink. *Geol. Soc. Am., Abs. with Prog.*, **20**, no 1:27
- Weiskel P.K., Caldwell D.W., FitzGerald D.M. & Baldwin C.T. 1988. Impact of septic system effluent on groundwater quality, Buttermilk Bay Drainage Basin, MA. *Geol. Soc. Am., Abs. with Prog.*, **20**, no1:78
- Freile D., Baldwin C.T. & DeSimone L.A. 1989. A combined Sedimentological, Palynological and Ichnostratigraphic method for analyzing paleoenvironments. *Geol. Soc. Am., Abs. with Pl'Og.*, **21**, no 1:16
- Hill M.C., FitzGerald D.M. & Baldwin C.T. 1989. Development and assessment of sand resouces in

Plymouth Bay, MA. *Abs. with Progs., Symposium on Continental Shelf Research, Minerals Management Service, Austin, Texas*

- Freije D., DeSimone L.A., Baldwin C.T. & Strother P.K. 1989. Paleocology of the Tuscarora Formation based on an integrated analysis of sedimentological and paleontological data. *Abs. with Prog., SEPM Eastern Section Meeting*
- Fenster M.S., FitzGerald D.M., Bohlen, W.F., Lewis R.S. & Baldwin C.T. 1989. Morphodynamics of Large Bedforms in Tide-dominated Long Island Sound. *Abstr. with Progs., Tidal Clastic Symposium, Calgary, Canada*
- Mulsow S., Rhoads D.C. & Baldwin C.T. 1989. The Dysaerobic Zone Revisited: a Magnetic Facies? *Abstr Geol. Soc. Lond., Modern and Ancient Continental Shelf Anoxia*
- Hill M.C., FitzGerald D.M. & Baldwin C.T. 1990. Development and assessment of sand resources in Plymouth Bay, MA. *PI'OC. 2nd Symposium of Studies of the Continental Margins Program, Bureau of Economic Geology, 112-134*
- Strother, P.K., Baldwin, C.T. & Beck, J. 1993. The recognition of non-marine indicators in shallow marine lithofacies in the Silurian of the central Appalachians. *Geol. Soc. Am., Abs. with Prog. 25, no 6:A-361*
- Freile D. & Baldwin, C. T. 1996. Traces fossils and sequences in a Cambrian-Ordovician mixed siliciclastic/carbonate sequence in central Texas. *Texas Academy of Sciences, Abs. with Prog.*
- Skilliter, D*, Strother, P.K., Baldwin, C.T. & McNulty, T. 1998 A Paleontological and Sedimentological Study of the Middle Cambrian Bright Angel Shale: What's for lunch? *Geol. Soc. Am. Abs. with Prog. 30*
- Baldwin, C. T., Rose, E., Strother, P.K., and Beck, J. 2000 The Paleocology of the Bright Angel Shale in the Eastern Grand Canyon. *Geol. Soc. Am. 32 Reno, Nevada.*
- Baldwin, C. T., Rush, R & Brint, J*. 2002. Partially closed Aeolian/alluvial sedimentary systems on Mojave Desert alluvial fans. In: Lee, Jeffrey and Zobeck, Ted M., 2002 *Proceedings of ICAR5/GCTE-SEN Joint Conference, International Center for Arid and Semiarid Lands Studies, Texas Tech University, Texas USA Publication 02-2ii p.308*
- Baldwin, C. T., Rush, R, Brint J*. Jones G. 2002. Up-slope driven Aeolian dunes on Mojave alluvial fans. *Proceedings, Texas Academy of Sciences 2002, SFA.*
- Strother, P.K., Baldwin, C.T., Rose, E. & Beck, J. 2003. A study of the paleocology of the Bright Angel Shale in the eastern Grand Canyon, AZ, USA based on an integration of sedimentological, ichnological and palynological data. *Proceedings of the Lyell Conference, Geological Society of London, London, UK.*
- Baldwin, C.T., Holik, L* & Shanafeld, K*. 2003. The internal structure and kinematics of production of the Paleozoic trace fossil *Arthropycus alleghaniensis*. *Proceedings, Texas Academy of Sciences 2003.*
- Howard, M.M.*, Baldwin, C. T. & Rush, R. 2003. Study of change detection analysis for Lake Comoe watershed 1979-2000. *Proceedings, Texas Academy of Sciences 2003.*

Baldwin, C.T. & Strother, P.K. 2004 The internal structure and kinematics of production of the Paleozoic trace fossil *Arthropycus alleghaniensis* and a possible non-trilobite trace maker. *Ichnia* 2004. April 2004, Museo Paleontologico Egidio Ferugio, Trelew, Patagonia, Argentina.

Netoff, Dennis, Baldwin, Chris and Dohrenwend, John 2005 Continued activity and geomorphic evolution of fluid/gas escape structures in muddy surficial beds of the recently-exposed Hite Delta, southeastern Utah. *GSA SW Region. Abstracts with Programs*

Work or Professional Experiences

Honors and Awards

Other Competencies