



Donald Lowe

Max Steineke Professor in Earth Sciences
Geological Sciences

Bio

BIO

Don Lowe was born and raised in Sacramento, California, and attended Stanford University for his undergraduate study. In his sophomore year, he chanced to take a class in physical geology from Ben Page, which set the course of his future professional career. He decided to go back "east" for his graduate study and enrolled in geology at the University of Illinois, where he received a PhD degree in 1967. He subsequently was awarded a post-doctoral associate position at the US Geological Survey (1968-70) and started his first academic position as an Assistant Professor at Louisiana State University in 1970. He returned to Stanford in 1988 as a Professor and has continued his education, teaching, and research there since then. His research falls into two broad areas: deep-water sedimentation and Archean sedimentary systems. In the former, he examines the processes of sediment transport and deposition in the deep-sea, resulting lithofacies and lithofacies associations, stacking and facies pattern as reflecting environments of deposition, and overall basin history. The Archean research focuses on rocks older than 3.0 billion-years-old and aims to use sedimentary principles to investigate early surface environments, the nature and role of early organisms, the role of giant meteorite impacts in early crustal development, and Archean basinal settings and tectonics.

ACADEMIC APPOINTMENTS

- Professor, Geological Sciences
- Member, Bio-X

ADMINISTRATIVE APPOINTMENTS

- Professor of Geological & Environmental Sciences, Stanford University, (1993- present)
- Professor of Geology, Stanford University, (1988-1993)
- Consulting Professor, Department of Earth and Space Sciences, University of California at Los Angeles, (1988-1988)
- Acting Chairman, Department of Geology, Louisiana State University, Baton Rouge, Louisiana, (1982-1983)
- Visiting Lecturer, Department of Geology, Carleton University, Ottawa, Ontario, Canada, (1981-1981)
- Visiting Professor, Department of Geology, University of Ottawa, Ottawa, Ontario, Canada, (1980-1981)
- Professor, Department of Geology, Louisiana State University, Baton Rouge, Louisiana, (1978-1988)
- Associate Professor, Department of Geology, Louisiana State University, Baton Rouge, Louisiana, (1973-1978)
- Assistant Professor, Department of Geology, Louisiana State University, Baton Rouge, Louisiana, (1970-1973)
- Post-doctoral Research Associate, U.S. Geological Survey, Menlo Park, California, (1968-1970)
- Instructor in Geology, University of Illinois, (1967-1968)
- Visiting Graduate Fellow, Sedimentary Research Laboratory University of Reading, Reading, England, (1966-1967)

HONORS AND AWARDS

- Twenhofel Medal, Society of Sedimentary Geology (SEPM) (2018)
- 2016 Alumni Achievement Award, University of Illinois, Department of Geology (2016)
- Fellow, Geological Society of America (2016)
- Grover E. Murray Memorial Distinguished Educator Award, American Association of Petroleum Geologists (2014)
- Honorary Membership, Pacific Section, Society for Sedimentary Geology, SEPM (2012)
- Max Steineke Professor, Stanford University (2012)
- Research Fellowship, Japan Society for the Promotion of Science (1994)
- Post-Doctoral Fellowship, U.S. Geological Survey (1968-1970)
- Graduate Fellowship, National Science Foundation (1964-1967)
- Phi Beta Kappa, Sigma Xi (1964)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Editorial Board, Precambrian Research (1990 - present)
- Co-Director, Stanford Project on Deep-Water Depositional Systems (SPODDS) (1993 - present)
- Member, Interschool Faculty Committee for the Goldman Environmental Honors Program, Stanford University (1993 - 1998)
- Member, GSA Committee on the Penrose Medal Award (1995 - 1997)
- Member, Grant Proposal Review Panel, NASA Exobiology Program (1995 - 1998)
- Invited Scientist, Kyushu University, Collaborative Studies of Japanese Siliceous Sinter (1997 - 1997)
- Invited Lecturer, BP Petroleum (Houston) and Texaco (UK) (1997 - 1997)
- Invited Participant, SEPM Debate at Annual AAPG-SEPM Meeting: Processes of Deep-water Clastic Sedimentation and Their Reservoir Implications: What Can We Predict? (1997 - 1997)
- Qualline Lecturer (a series of 3 lectures), Department of Geological Sciences, University of Texas at Austin (1997 - 1997)
- Member, Soil Scientist Search Committee, Stanford University (1997 - 1998)
- Member, Penn State Astrobiology Research Consortium (1998 - 2009)
- Member, GSA Committee on Honorary Fellows (1998 - 2000)
- Field Trip Leader, Unocal, Deep-water Systems in Western California (1998 - 1998)
- Invited Lecturer, San Joaquin Geological Society, Bakersfield, CA (1998 - 1998)
- Invited Participant and Speaker, Statoil Research Summit, Processes, Stratigraphy, and Lithology Distribution in Deep-water Clastic Systems-An Update, Trondheim and Stavanger, Norway (1998 - 1998)
- Invited Lecturer, University of Chicago, Chicago, Ill. (1998 - 1998)
- Leader, Science Definition Team, NASA Astrobiology Research Laboratory (1999 - 2000)
- Member, NASA Ames Space Science Review Panel (1999 - 1999)
- Member, advisory panel, Calif. Acad. Sci., major new directions for CAS programs over the next 10-15 years (1999 - 1999)
- Member, advisory group, NASA/Ames Astrobiology Program, objectives and goals of new Astrobiology laboratory at NASA/Ames Research Center (1999 - 1999)
- Invited Lecturer, Conference on North Sea Petroleum province (1999 - 1999)
- Member, NRC/NSF/GSA panel to consider future research directions and initiatives in sedimentary geology (1999 - 1999)
- Earth Sciences representative on Walk Through Time committee, Stanford University (1999 - 1999)
- Stanford Office of Technology and Licensing Grants Committee, Stanford University (1999 - 2000)
- Member, Editorial Board, Astrobiology (2000 - 2005)

- Member, UCLA Center for Astrobiology (2000 - 2009)
- Invited Speaker, Barberton Geological Society, South Africa (2000 - 2000)
- Invited Speaker, Triton Energy, Dallas, Texas (2000 - 2000)
- Invited Speaker, Louisiana State University (2000 - 2000)
- Invited Speaker, UCLA (2000 - 2000)
- Invited Speaker, Petrobras Conference on Deep-water Sedimentation, Rio de Janeiro, Brazil (2000 - 2000)
- Member, SETI Advisory Committee on long-range planning for new program on Life in the Universe (2000 - 2002)
- Organizer and Leader, AAPG Hedberg Field Research Conference, Deep-water Sandstones, Submarine Canyon to Basin Plain, Western California, April 9-14 (2000 - 2000)
- Chair, GES Long Range Planning Committee, Stanford University (2000 - 2004)
- Member, GES Admissions Committee, Stanford University (2000 - 2001)
- Invited Speaker, SEPM Diamond Jubilee Symposium, Denver, CO; Peninsula Geological Society; University of California, Davis, CA; US Geological Survey, Menlo Park, CA (2001 - 2001)
- Chair, GES Undergraduate Program Committee, Stanford University (2001 - 2002)
- Member, Impacts Focus Group, NASA Astrobiology Institute (2002 - 2006)
- Invited Speaker, UCLA Rubey Symposium, Impacts and the origin, Evolution, and Extinction of Life (2002 - 2002)
- Invited Speaker, Barberton Geological Society, South Africa; Rohol Aussuchungs Gesellschaft, Vienna, Austria; Osterreichische Geologische Gesellschaft (Austrian Geological Society), Vienna; UCLA Department of Earth and Planetary Sciences (2002 - 2002)
- GES Course designer (4 planetary science courses), NASA/Ames Research Center and USGS (2002 - 2004)
- Organizer and leader of 10-day field conference, Archean Surface Processes, in the Barberton Greenstone Belt, South Africa (29 international participants) (2003 - 2003)
- Member, GES Faculty Search Committee (Surface Processes), Stanford University (2003 - 2004)
- Member, School of Earth Sciences Subcommittee on Core disciplines, Stanford University (2003 - 2004)
- Chair, Promotion and Tenure Committee, Stanford University (2003 - 2003)
- Sabbatical leave, Stanford University (2004 - 2005)
- Invited Speaker, Barberton Geological Society; Goldschmidt Conference, Copenhagen, Denmark (2004 - 2004)
- Invited Lecturer, G. Derwood Baker Distinguished Lecture Series, Avenidas, Palo Alto, CA (2004 - 2004)
- Member, NASA 2009 MSL mission team (2004 - 2005)
- Member, Editorial Board, Astrobiology (2005 - present)
- Invited Speaker, Barberton Geological Society, South Africa; UCLA Department of Earth & Planetary Sciences, Institute of Geophysics and Planetary Physics; Shirley A. Kliegal Lecture in Geology, California Institute of Technology (2005 - 2005)
- Co-Chair, Symposium on Deep-Water Sedimentation, Annual Meeting of GSA Cordilleran Section, San Jose, CA (2005 - 2005)
- Member, Subcommission on Subdivision and Calibration of the Precambrian Time Scale , International Commission on Stratigraphy (2005 - 2008)
- Co-Chair, GES Faculty Search Committee (Paleobiology), Stanford University (2005 - 2005)
- Co-Leader (w/Graham), AAPG Field Seminar: Deep-Water Siliciclastic Reservoirs (2006 - 2006)
- Invited Speaker, University of Southern California, Los Angeles, CA (2006 - 2006)
- Chair, Undergraduate Curriculum Committee in Geological Sciences, Stanford University (2006 - 2007)
- Invited Keynote Speaker, Biosignatures in Ancient Rocks Workshop, Sudbury, Ontario (2007 - 2007)
- Invited Speaker/Participant, Core Workshop: Deep-Water Reservoirs of California: AAPG (2007 - 2007)
- Chair, GES Long Range Planning Committee 2, Stanford University (2007 - 2009)
- Associate Chair, GES, Stanford University (2007 - present)
- Member, GES Graduate Admissions Committee, Stanford University (2007 - 2008)

- Invited Speaker, Deepwater Sediments, RAG (petroleum company, Vienna, Austria) and Reliance Industries (India) (2008 - 2008)
- Co-Leader, Pacific Section of AAPG Field Trip, Deepwater Sediments in Central California (2008 - 2008)
- Invited Speaker, Committee on the Origins and Evolution of Life (COEL) of the National Academies of Sciences, Washington, DC. (2008 - 2008)
- Invited Speaker, Geological Society of Vienna (2008 - 2008)
- Invited Speaker, CSU-Channel Islands, Symposium, "Early Life on the Ancient Earth and Mars" (2008 - 2008)
- Chair, GES Graduate Admissions Committee, Stanford University (2008 - 2012)
- Member, GES Space Committee, Stanford University (2008 - 2009)
- Member, University Committee on Health and Safety, Stanford University (2009 - 2011)
- Invited Speaker, Hess Forum on Thin-Bedded Sediments (2009 - 2009)
- Member, Promotion and Tenure Committee, Stanford University (2011 - 2011)
- Chair, Promotion and Tenure Committee, Stanford University (2011 - 2011)
- Leader and Organizer, Stanford-KFUPM Field Trip to Death Valley (2012 - 2012)
- Keynote Speaker, International Geological Congress, Brisbane, Symposium on Large Asteroid Impacts and Crustal Evolution (2012 - 2012)
- Leader and Organizer, Stanford-KFUPM Field Course to El Paso area and Guadalupe Mtns. (2014 - 2014)

PROFESSIONAL EDUCATION

- Ph.D., University of Illinois , Geology (1967)
- B.S., Stanford University , Geology (1964)

LINKS

- SPODDS: <http://spodds.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

I enjoy the historical aspects of geology, looking back in time to explore past events and ancient life. My research and that of my students is focused in two main areas. We use the techniques of sedimentary geology and geochemistry to explore the Earth's earliest surface environments, life, and crustal development, generally before 2.5 billion years ago. Much of this research is focused in South Africa and Western Australia. The other half of my research deals with deep-water sedimentation, especially using outcrops and cores to study the processes by which coarse sediment is transported and deposited in the deep sea.

Teaching

My teaching is focused on topics in sedimentary geology and techniques for interpreting the sedimentary record. This includes an undergraduate/graduate course (co-taught with Professor Steve Graham) in sedimentary geology and depositional systems, and graduate courses in sedimentation mechanics, sedimentary petrography, and sedimentary environments.

Professional Activities

I engage in a variety of activities in support of sedimentary geology, especially deep-water sedimentation and Archean sedimentology. I am currently Chair of the SEPM Committee for the Arnold Bouma Conferences on Deep-Water Geoscience and a member of the Subcommittee on Precambrian Stratigraphy of the International Commission on Stratigraphy. I have recently stepped down after 27 years as co-director of the Stanford Project On Deep-water Depositional Systems (SPODDS) and have served on numerous school and departmental committees, especially those aimed at setting goals and directions for long-range planning and graduate admissions, and on the editorial boards of a number of professional journals and on numerous program, grant, and fellowship review panels.

PROJECTS

- Sedimentology, Palaeoenvironment and Diagenesis of the Tertiary Burqan Formation in the Midyan area, Saudi Arabia: Implications for subsurface reservoir quality. - King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia
- Investigating the Origin of Layered Outcrops in the Mawrth Vallis Region, Mars - Stanford

Teaching

COURSES

2020-21

- Sedimentation Mechanics: GEOLSCI 250 (Aut)

2019-20

- Introduction to Depositional Systems: GEOLSCI 258 (Aut)
- Sediments: The Book of Earth's History: GEOLSCI 106 (Win)
- Topics in Sedimentary Geology: GEOLSCI 213 (Aut, Win)

2018-19

- Sedimentary Petrography: GEOLSCI 252 (Aut)
- Topics in Sedimentary Geology: GEOLSCI 213 (Aut, Win, Spr)

2017-18

- Sedimentary Geology and Depositional Systems: GS 106 (Win)
- Sedimentation Mechanics: GS 250 (Aut)
- Topics in Sedimentary Geology: GS 213 (Aut, Win)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Chayawan (Earth) Jaikla

Doctoral (Program)

Chayawan (Earth) Jaikla

Publications

PUBLICATIONS

- **The non-glacial and non-cratonic origin of an early Archean felsic volcanoclastic unit, Barberton Greenstone Belt, South Africa** *PRECAMBRIAN RESEARCH*
Lowe, D. R., Byerly, G. R.
2020; 341
- **Deposition of > 3.7 Ga clay-rich strata of the Mawrth Vallis Group, Mars, in lacustrine, alluvial, and aeolian environments** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Lowe, D. R., Bishop, J. L., Loizeau, D., Wray, J. J., Beyer, R. A.
2020; 132 (1-2): 17–30
- **EDIACARAN (VENDIAN)-PERIOD ALLUVIAL AND COASTAL GEOMORPHOLOGY APPLIED TO DEVELOPMENT OF VERKHNECHONSKOYE AND YARAKTINSKOYE FIELDS, EAST SIBERIA, RUSSIAN FEDERATION** *JOURNAL OF SEDIMENTARY RESEARCH*
Tye, R. S., Lowe, D. R., Hickey, J. J.
2020; 90 (1): 67–101

- **EVOLUTION OF AN ARCHEAN FAN DELTA AND ITS IMPLICATIONS FOR THE INITIATION OF UPLIFT AND DEFORMATION IN THE BARBERTON GREENSTONE BELT, SOUTH AFRICA** *JOURNAL OF SEDIMENTARY RESEARCH*
Drabon, N., Heubeck, C. E., Lowe, D. R.
2019; 89 (9): 849–74
- **The role of avulsion and splay development in deep-water channel systems: Sedimentology, architecture, and evolution of the deep-water Pliocene Godavari "A" channel complex, India** *MARINE AND PETROLEUM GEOLOGY*
Lowe, D. R., Graham, S. A., Malkowski, M. A., Das, B.
2019; 105: 81–99
- **Provenance of the Neoproterozoic deep-water Zerrissene Group of the Damara Orogen, Namibia, and paleogeographic implications for the closing of the Adamastor Ocean and assembly of the Gondwana supercontinent** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Nieminski, N. M., Grove, M., Lowe, D. R.
2019; 131 (3-4): 355–71
- **Crustal fracturing, unconformities, and barite deposition, 3.26-3.23 Ga, Barberton Greenstone Belt, South Africa** *Precambrian Research*
Lowe, D. R., Drabon, N., Byerly, G. R.
2019
- **Provenance and tectonic implications of the 3.28–3.23 Ga Fig Tree Group, central Barberton greenstone belt, South Africa** *Precambrian Research*
Drabon, N., Heubeck, C. E., Lowe, D. R.
2019: 1-19
- **The terrestrial record of Late Heavy Bombardment** *NEW ASTRONOMY REVIEWS*
Lowe, D. R., Byerly, G. R.
2018; 81: 39–61
- **Hadean zircon from a 3.3 Ga sandstone, Barberton greenstone belt, South Africa** *GEOLOGY*
Byerly, B. L., Lowe, D. R., Drabon, N., Byerly, G. R.
2018
- **Initial generation of sand across climate zones of the Mojave, Sierra Nevada, and Klamath Batholiths in California, USA** *SEDIMENTARY GEOLOGY*
Hessler, A. M., Lowe, D. R.
2017; 347: 37-50
- **A high continental weathering flux into Paleoproterozoic seawater revealed by strontium isotope analysis of 3.26 Ga barite** *EARTH AND PLANETARY SCIENCE LETTERS*
Satkoski, A. M., Lowe, D. R., Beard, B. L., Coleman, M. L., Johnson, C. M.
2016; 454: 28-35
- **Sedimentology of the similar to 3.3 Ga upper Mendon Formation, Barberton Greenstone Belt, South Africa** *PRECAMBRIAN RESEARCH*
Trower, E. J., Lowe, D. R.
2016; 281: 473-494
- **Outcrop characterization of a submarine channel-lobe complex: The Lower Mount Messenger Formation, Taranaki Basin, New Zealand** *MARINE AND PETROLEUM GEOLOGY*
Masalimova, L. U., Lowe, D. R., Sharman, G. R., King, P. R., Arnot, M. J.
2016; 71: 360-390
- **Interplay between an axial channel belt, slope gullies and overbank deposition in the Puchkirchen Formation in the Molasse Basin, Austria** *SEDIMENTOLOGY*
Masalimova, L. U., Lowe, D. R., McHargue, T., Derksen, R.
2015; 62 (6): 1717-1748
- **Sedimentology and geochemistry of Archean silica granules** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Stefurak, E. J., Lowe, D. R., Zentner, D., Fischer, W. W.
2015; 127 (7-8): 1090-1107
- **Geologic record of partial ocean evaporation triggered by giant asteroid impacts, 3.29-3.23 billion years ago** *GEOLOGY*
Lowe, D. R., Byerly, G. R.

2015; 43 (6): 535-538

- **Texture-specific Si isotope variations in Barberton Greenstone Belt cherts record low temperature fractionations in early Archean seawater** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Stefurak, E. J., Fischer, W. W., Lowe, D. R.
2015; 150: 26-52
- **High resolution tephra and U/Pb chronology of the 3.33–3.26 Ga Mendon Formation, Barberton Greenstone Belt, South Africa** *PRECAMBRIAN RESEARCH*
Decker, N. B., Byerly, G. R., Stiegler, M. T., Lowe, D. R., Stefurak, E.
2015; 261: 54-74
- **PROCESSES OF SEDIMENTATION AND STRATIGRAPHIC ARCHITECTURE OF DEEP-WATER BRAIDED LOBE COMPLEXES: THE PLIOCENE REPETTO AND PICO FORMATIONS, VENTURA BASIN, USA** *JOURNAL OF SEDIMENTARY RESEARCH*
Rotzien, J. R., Lowe, D. R., Schwalbach, J. R.
2014; 84 (10): 910-934
- **Paleoarchean ocean crust and mantle excavated by meteor impact: Insight into early crustal processes and tectonics** *GEOLOGY*
Krull-Davatzes, A. E., Byerly, G. R., Lowe, D. R.
2014; 42 (7): 635-638
- **Primary silica granules-A new mode of Paleoarchean sedimentation** *GEOLOGY*
Stefurak, E. J., Lowe, D. R., Zentner, D., Fischer, W. W.
2014; 42 (4): 283-286
- **Stratigraphic architecture and evolution of a deep-water slope channel-levee and overbank apron: The Upper Miocene Upper Mount Messenger Formation, Taranaki Basin** *MARINE AND PETROLEUM GEOLOGY*
Rotzien, J. R., Lowe, D. R., King, P. R., Browne, G. H.
2014; 52: 22-41
- **Physics of crustal fracturing and chert dike formation triggered by asteroid impact, similar to 3.26 Ga, Barberton greenstone belt, South Africa** *GEOCHEMISTRY GEOPHYSICS GEOSYSTEMS*
Sleep, N. H., Lowe, D. R.
2014; 15 (4): 1054-1070
- **Stratigraphic architecture and evolution of a deep-water slope channel-levee and overbank apron: The Upper Miocene Upper Mount Messenger Formation, Taranaki Basin** *MARINE AND PETROLEUM GEOLOGY*
Rotzien, J. R., Lowe, D. R., King, P. R., Browne, G. H.
2014; 52: 22-41
- **Recently discovered 3.42-3.23 Ga impact layers Barberton Belt, South Africa: 3.8 Ga detrital zircons, Archean impact history, and tectonic implications** *GEOLOGY*
Lowe, D. R., Byerly, G. R., Kyte, F. T.
2014; 42 (9): 747-750
- **Timing of deposition and deformation of the Moodies Group (Barberton Greenstone Belt, South Africa): Very-high-resolution of Archean surface processes** *PRECAMBRIAN RESEARCH*
Heubeck, C., Engelhardt, J., Byerly, G. R., Zeh, A., Sell, B., Luber, T., Lowe, D. R.
2013; 231: 236-262
- **Crustal fracturing and chert dike formation triggered by large meteorite impacts, ca. 3.260 Ga, Barberton greenstone belt, South Africa** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Lowe, D. R.
2013; 125 (5-6): 894-912
- **Geologic Map of the West-Central Barberton Greenstone belt, South Africa** *GEOLOGICAL SOCIETY OF AMERICA MAP & CHART SERIES*
Lowe, D. R., Byerly, G. R., Heubeck, C.
2013; MCS103
- **Channelized debris-flow deposits and their impact on turbidity currents: The Puchkirchen axial channel belt in the Austrian Molasse Basin** *SEDIMENTOLOGY*
Bernhardt, A., Stright, L., Lowe, D. R.

2012; 59 (7): 2042-2070

- **Geochemistry and petrology of komatiites of the Pioneer Ultramafic Complex of the 3.3 Ga Weltevreden Formation, Barberton greenstone belt, South Africa** *PRECAMBRIAN RESEARCH*
Stiegler, M. T., Cooper, M., Byerly, G. R., Lowe, D. R.
2012; 212: 1-12
- **Palaeogeography and diachronous infill of an ancient deep-marine foreland basin, Upper Cretaceous Cerro Toro Formation, Magallanes Basin** *BASIN RESEARCH*
Bernhardt, A., Jobe, Z. R., Grove, M., Lowe, D. R.
2012; 24 (3): 269-294
- **Climbing-ripple successions in turbidite systems: depositional environments, sedimentation rates and accumulation times** *SEDIMENTOLOGY*
Jobe, Z. R., Lowe, D. R., Morris, W. R.
2012; 59 (3): 867-898
- **Mineralogy and diagenesis of 3.24 Ga meteorite impact spherules** *PRECAMBRIAN RESEARCH*
Krull-Davatzes, A. E., Lowe, D. R., Byerly, G. R.
2012; 196: 128-148
- **Geologic map of the west-central Barberton greenstone belt, South Africa:** *GEOLOGICAL SOCIETY OF AMERICA Map and Chart Series*
Lowe, D. R., Byerly, G. R.
2012; MCS103
- **Fragmentation and dispersal of komatiitic pyroclasts in the 3.5-3.2 Ga Onverwacht Group, Barberton greenstone belt, South Africa** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Stiegler, M. T., Lowe, D. R., Byerly, G. R.
2011; 123 (5-6): 1112-1126
- **Stratigraphic evolution of a submarine channel-lobe complex system in a narrow fairway within the Magallanes foreland basin, Cerro Toro Formation, southern Chile** *MARINE AND PETROLEUM GEOLOGY*
Bernhardt, A., Jobe, Z. R., Lowe, D. R.
2011; 28 (3): 785-806
- **Two fundamentally different types of submarine canyons along the continental margin of Equatorial Guinea** *MARINE AND PETROLEUM GEOLOGY*
Jobe, Z. R., Lowe, D. R., Uchytel, S. J.
2011; 28 (3): 843-860
- **FACIES AND ARCHITECTURAL ASYMMETRY IN A CONGLOMERATE-RICH SUBMARINE CHANNEL FILL, CERRO TORO FORMATION, SIERRA DEL TORO, MAGALLANES BASIN, CHILE** *JOURNAL OF SEDIMENTARY RESEARCH*
Jobe, Z. R., Bernhardt, A., Lowe, D. R.
2010; 80 (11-12): 1085-1108
- **Evidence for a low-O₂ Archean atmosphere from nickel-rich chrome spinels in 3.24 Ga impact spherules, Barberton greenstone belt, South Africa** *EARTH AND PLANETARY SCIENCE LETTERS*
Krull-Davatzes, A. E., Byerly, G. R., Lowe, D. R.
2010; 296 (3-4): 319-328
- **The Petrogenesis of Volcaniclastic Komatiites in the Barberton Greenstone Belt, South Africa: a Textural and Geochemical Study** *JOURNAL OF PETROLOGY*
Stiegler, M. T., Lowe, D. R., Byerly, G. R.
2010; 51 (4): 947-972
- **Did LHB end not with a bang but a whimper? The geologic evidence** *41st Lunar and Planetary Science Conference.*
Lowe, D. R., Byerly, G. R.
2010; 2563
- **Biosignatures in Ancient Rocks: A Summary of Discussions at a Field Workshop on Biosignatures in Ancient Rocks** *ASTROBIOLOGY*
Ohmoto, H., Runnegar, B., Kump, L. R., Fogel, M. L., Kamber, B., Anbar, A. D., Knauth, P. L., Lowe, D. R., Sumner, D. Y., Watanabe, Y.
2008; 8 (5): 883-895

- **Abundant pyroclastic komatiitic volcanism in the 3.5-3.2 Ga Barberton greenstone belt, South Africa** *GEOLOGY*
Stiegler, M. T., Lowe, D. R., Byerly, G. R.
2008; 36 (10): 779-782
- **Architecture and evolution of the Paine channel complex, Cerro Toro Formation (Upper Cretaceous), Silla Syncline, Magallanes Basin, Chile** *SEDIMENTOLOGY*
Crane, W. H., Lowe, D. R.
2008; 55 (4): 979-1009
- **The evolution of an elongate foreland basin: the deep- to shallow-marine filling of the Cretaceous Magallanes Basin, Chile, 28th Annual GCSSEPM Foundation Bob F. Perkins Research Conference,**
Bernhardt, A., Jobe, Z. R., Lowe, D. R.
2008: 268-310
- **Sedimentology and architecture of coarse-grained submarine channel fills, Lobitos Village, Peru** *Deep-Water Outcrops of the World Atlas*
Duerichen, E. T., Lowe, D. R.
edited by Nilsen, T., Shew, R., Steffens, G., Studlick, J.
American Association of Petroleum Geologists.2008: 3P
- **Preface** *Deep-Water Outcrops of the World Atlas*
Graham, S. A., Lowe, D. R.
edited by Nilsen, T., Shew, R., Steffens, G., Studlick, J.
American Association of Petroleum Geologists.2008: 2
- **The five stable isotope compositions of Fig Tree barites: Implications on sulfur cycle in ca. 3.2 Ga oceans** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Bao, H., Rumble, D., Lowe, D. R.
2007; 71 (20): 4868-4879
- **A comment on "Weathering of quartz as an Archean climatic indicator" by N.H. Sleep and A.M. Hessler [Earth Planet. Sci. Lett. 241 (2006) 594-602]** *EARTH AND PLANETARY SCIENCE LETTERS*
Lowe, D. R.
2007; 253 (3-4): 530-533
- **Ironstone bodies of the Barberton greenstone belt, South Africa: Products of a Cenozoic hydrological system, not Archean hydrothermal vents!** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Lowe, D. R., Byerly, G. R.
2007; 119 (1-2): 65-87
- **Tectonic controls on atmospheric, climatic, and biological evolution 3.5-2.4 Ga** *PRECAMBRIAN RESEARCH*
Lowe, D. R., Tice, M. M.
2007; v. 158: p. 177-197
- **An overview of the geology of the Barberton greenstone belt and vicinity: Implications for early crustal development** *Earth's Oldest Rocks*
Lowe, D. R., Byerly, G. R.
edited by Van Kranendonk, M. J., Smithies, H., Bennett, V.
Elsevier, Amsterdam.2007: 481-526
- **Weathering and sediment generation in the Archean: An integrated study of the evolution of siliciclastic sedimentary rocks of the 3.2 Ga Moodies Group, Barberton greenstone belt, South Africa** *PRECAMBRIAN RESEARCH*
Hessler, A. M., Lowe, D. R.
2006; 151 (3-4): 185-210
- **The origin of carbonaceous matter in pre-3.0 Ga greenstone terrains: A review and new evidence from the 3.42 Ga Buck Reef Chert** *EARTH-SCIENCE REVIEWS*
Tice, M. M., Lowe, D. R.
2006; 76 (3-4): 259-300
- **Stable isotope and rare earth element evidence for recent ironstone pods within the Archean Barberton greenstone belt, South Africa** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Hren, M. T., Lowe, D. R., Tice, M. M., Byerly, G., CHAMBERLAIN, C. P.

2006; 70 (6): 1457-1470

- **Hydrogen-based carbon fixation in the earliest known photosynthetic organisms** *GEOLOGY*
Tice, M. M., Lowe, D. R.
2006; 34 (1): 37-40
- **Compositional grading in an 3,240 Ma impact-produced spherule bed, Barberton greenstone belt, South Africa: A key to impact plume evolution** *JOURNAL OF SOUTH AFRICAN GEOLOGY*
Krull-Davatzes, A. E., Lowe, D. R., Byerly, G. R.
2006; 76: 233-244
- **Iron and manganese minerals from South African ironstone deposits** *PHYSICA SCRIPTA*
Roy, A., Byerly, G. R., Lowe, D. R., Walsh, M. W., Bianchetti, C.
2005; T115: 918-920
- **Textural trends in turbidites and slurry beds from the Oligocene flysch of the East Carpathians, Romania** *SEDIMENTOLOGY*
Sylvester, Z., Lowe, D. R.
2004; 51 (5): 945-972
- **Geologic evidence for Archean atmospheric and climatic evolution: Fluctuating levels of CO₂, CH₄, and O₂, with an overriding tectonic control** *GEOLOGY*
Lowe, D. R., Tice, M. M.
2004; 32 (6): 493-496
- **Depositional processes of the gravelly debris flow deposits, South Dolomite alluvial fan, Owens Valley, California** *GEOSCIENCES JOURNAL*
Kim, B. C., Lowe, D. R.
2004; 8 (2): 153-170
- **A lower limit for atmospheric carbon dioxide levels 3.2 billion years ago** *NATURE*
Hessler, A. M., Lowe, D. R., Jones, R. L., Bird, D. K.
2004; 428 (6984): 736-738
- **Thermal history of the 3.5-3.2 Ga Onverwacht and Fig Tree Groups, Barberton greenstone belt, South Africa, inferred by Raman microspectroscopy of carbonaceous material** *GEOLOGY*
Tice, M. M., Bostick, B. C., Lowe, D. R.
2004; 32 (1): 37-40
- **A stratigraphic and architectural-element methodology for the subdivision and interpretation of deep-water clastic sequences: an example from the Cretaceous Venado Sandstone, Sacramento Valley, California** *Deep-Water Sedimentation: Technological Challenges for the Next Millennium*
Lowe, D. R., Ghosh, B.
edited by Appi, C. J., D'Avila, R., Viana, A.
ABGP.2004
- **Early Precambrian stratigraphic record of large extraterrestrial impacts** *Tempos and Events in Precambrian Time*
Simonson, B. M., Byerly, G. R., Lowe, D. R.
edited by Eriksson, P. A., Nelson, D.
Elsevier, Amsterdam.2004: 27-45
- **Photosynthetic microbial mats in the 3 in the 3,416-Myr-old ocean** *Nature*
Tice, M. M., Lowe, D. R.
2004; 431: 549-552
- **Ironstone pods in the Archean Barberton greenstone belt, South Africa: Earth's oldest seafloor hydrothermal vents reinterpreted as Quaternary subaerial springs: Reply:** *GEOLOGY, ONLINE FORUM*
Lowe, D. R., Byerly, G. R.
2004: e69
- **Deep-water sandstones: Submarine canyon to basin plain western California** *Pacific Section AAPG and AAPG, Pacific Section AAPG Publication GB*
Lowe, D. R.
2004; 79

- **Microstructure of high-temperature (> 73 degrees C) siliceous sinter deposited around hot springs and geysers, Yellowstone National Park: the role of biological and abiological processes in sedimentation** *CANADIAN JOURNAL OF EARTH SCIENCES*
Lowe, D. R., Braunstein, D.
2003; 40 (11): 1611-1642
- **Ironstone pods in the Archean Barberton greenstone belt, South Africa: Earth's oldest seafloor hydrothermal vents reinterpreted as Quaternary subaerial springs** *GEOLOGY*
Lowe, D. R., Byerly, G. R.
2003; 31 (10): 909-912
- **High Archean climatic temperature inferred from oxygen isotope geochemistry of cherts in the 3.5 Ga Swaziland Supergroup, South Africa** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Knauth, L. P., Lowe, D. R.
2003; 115 (5): 566-580
- **Early Archean spherule beds: Chromium isotopes confirm origin through multiple impacts of projectiles of carbonaceous chondrite type** *GEOLOGY*
Kyte, F. T., Shukolyukov, A., Lugmair, G. W., Lowe, D. R., Byerly, G. R.
2003; 31 (3): 283-286
- **Facies of slurry-flow deposits, Britannia Formation (Lower Cretaceous), North Sea: implications for flow evolution and deposit geometry** *SEDIMENTOLOGY*
Lowe, D. R., Guy, M., Palfrey, A.
2003; 50 (1): 45-80
- **Spherule Beds 3.473.24 Billion Years Old in the Barberton Greenstone Belt South Africa: A Record of Large Meteorite Impacts and Their Influence on Early Crustal and Biological Evolution** *Astrobiology*,
Lowe, D. R., Byerly, G. R., Kyte, F. T., Shukolyukov, A., Asaro, F., Krull, A.
2003; 3: 7-48
- **Field guide to the geology of the 3.5-3.2 Ga Barberton Greenstone Belt, South Africa** *Guidebook prepared for Field Conference, Archean Surface Processes*
Lowe, D. R., Byerly, G. R.
2003; 2
- **An Archean impact layer from the Pilbara and Kaapvaal cratons** *SCIENCE*
Byerly, G. R., Lowe, D. R., Wooden, J. L., Xie, X. G.
2002; 297 (5585): 1325-1327
- **Facies architecture of a submarine fan channel-levee complex: The Juniper Ridge Conglomerate, Coalinga, California** *SEDIMENTOLOGY*
Hickson, T. A., Lowe, D. R.
2002; 49 (2): 335-362
- **Relationship between spring and geyser activity and the deposition and morphology of high temperature (> 73 degrees C) siliceous sinter, Yellowstone National Park, Wyoming, USA** *JOURNAL OF SEDIMENTARY RESEARCH*
Braunstein, D., Lowe, D. R.
2001; 71 (5): 747-763
- **Silicified microbial community at Steep Cone Hot (Spring), Yellowstone National Park** *Microbes and Environments*
Inagaki, F., Motomura, Y., Doi, K., Taguchi, S., Izawa, E., Lowe, D. R., Ogata, S.
2001; 16: 125-130
- **The zonation and structuring of siliceous sinter around hot springs, Yellowstone National Park, and the role of thermophilic bacteria in its deposition** *Thermophiles: Biodiversity, Ecology, and Evolution*
Lowe, D. R., Anderson, K. S., Braunstein, D.
edited by Reysenbach, et al.
Kluwer Academic/Plenum Publishers, New York.2001: 143-166
- **Slurry-flow deposits in the Britannia Formation (Lower Cretaceous), North Sea: a new perspective on the turbidity current and debris flow problem** *SEDIMENTOLOGY*
Lowe, D. R., Guy, M.
2000; 47 (1): 31-70

- **Deep-water sandstones, submarine canyon to basin plain, western California** *Field guide for AAPG Hedberg Field Research Conference*
Lowe, D.R.
2000
- **The oldest impact deposits on Earth - First confirmation of an extraterrestrial component** *1st Workshop of the European-Science-Foundation Scientific Program*
Shukolyukov, A., Kyte, F. T., Lugmair, G. W., Lowe, D. R., Byerly, G. R.
SPRINGER-VERLAG BERLIN.2000: 99–115
- **Foreland basin sedimentation in the Mapepe Formation, southern-facies Fig Tree Group** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R., Nocita, B. W.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 233–258
- **Modes of accumulation of carbonaceous matter in the Early Archean: A petrographic and geochemical study of the carbonaceous cherts of the Swaziland Supergroup** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Walsh, M. M., Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 115–132
- **Geologic evolution of the Barberton Greenstone Belt and vicinity** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 287–312
- **Petrology and sedimentology of cherts and related silicified sedimentary rocks in the Swaziland Supergroup** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 83–114
- **Structural divisions and development of the west-central part of the Barberton Greenstone Belt** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R., Byerly, G. R., Heubeck, C.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 37–82
- **Sedimentology, mineralogy, and implications of silicified evaporites in the Kromberg Formation, Barberton Greenstone Belt, South Africa** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R., Fisher-Worrell, G.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 167–188
- **Shallow-water sedimentation of accretionary lapilli-bearing strata of the Msauli Chert: Evidence of explosive hydromagmatic komatiitic volcanism** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 213–232
- **Subaqueous to subaerial Archean ultramafic phreatomagmatic volcanism, Kromberg Formation, Barberton Greenstone Belt, South Africa** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Ransom, B., Byerly, G. R., Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 151–166
- **Geologic Evolution of the Barberton Greenstone Belt, South Africa** *Geological Society of America Special Paper*
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999

- **Sedimentary petrography and provenance of the Archean Moodies Group, Barberton Greenstone Belt** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Heubeck, C., Lowe, D. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America.1999: 259–286
- **Stratigraphy of the west-central part of the Barberton Greenstone Belt, South Africa** *Geologic evolution of the Barberton Greenstone Belt, South Africa*
Lowe, D. R., Byerly, G. R.
edited by Lowe, D. R., Byerly, G. R.
Geological Society of America .1999: 1–36
- **Reinterpretation of depositional processes in a classic flysch sequence (Pennsylvanian Jackfork Group), Ouachita Mountains, Arkansas and Oklahoma: Discussion** *AAPG BULLETIN-AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS*
Lowe, D. R.
1997; 81 (3): 460-465
- **Numerical simulation of turbidity current flow and sedimentation .2. Results and geological applications** *SEDIMENTOLOGY*
Zeng, J. J., Lowe, D. R.
1997; 44 (1): 85-104
- **Numerical simulation of turbidity current flow and sedimentation .1. Theory** *SEDIMENTOLOGY*
Zeng, J. J., Lowe, D. R.
1997; 44 (1): 67-84
- **Statistical analysis of bed-thickness patterns in a turbidite section from the great valley sequence, Cache Creek, northern California** *JOURNAL OF SEDIMENTARY RESEARCH*
Murray, C. J., Lowe, D. R., Graham, S. A., Martinez, P. A., Zeng, J. J., Carroll, A. R., Cox, R., Hendrix, M., Heubeck, C., Miller, D., MOXON, I. W., Sobel, E., Wendebourg, et al
1996; 66 (5): 900-908
- **Quantification of the effects of secondary matrix on the analysis of sandstone composition, and a petrographic-chemical technique for retrieving original framework grain modes of altered sandstones** *JOURNAL OF SEDIMENTARY RESEARCH*
Cox, R., Lowe, D. R.
1996; 66 (3): 548-558
- **Prolonged magmatism and time constraints for sediment deposition in the early Archean Barberton greenstone belt: Evidence from the Upper Onverwacht and Fig Tree groups** *PRECAMBRIAN RESEARCH*
Byerly, G. R., Kroner, A., Lowe, D. R., Todt, W., Walsh, M. M.
1996; 78 (1-3): 125-138
- **COMPOSITIONAL EVOLUTION OF COARSE CLASTIC SEDIMENTS IN THE SOUTHWESTERN UNITED-STATES FROM 1.8 TO 0.2 GA AND IMPLICATIONS FOR RELATIONSHIPS BETWEEN THE DEVELOPMENT OF CRUSTAL BLOCKS AND THEIR SEDIMENTARY COVER** *JOURNAL OF SEDIMENTARY RESEARCH SECTION A-SEDIMENTARY PETROLOGY AND PROCESSES*
Cox, R., Lowe, D. R.
1995; 65 (3): 477-494
- **THE INFLUENCE OF SEDIMENT RECYCLING AND BASEMENT COMPOSITION ON EVOLUTION OF MUDROCK CHEMISTRY IN THE SOUTHWESTERN UNITED-STATES** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Cox, R., Lowe, D. R., Cullers, R. L.
1995; 59 (14): 2919-2940
- **A CONCEPTUAL REVIEW OF REGIONAL-SCALE CONTROLS ON THE COMPOSITION OF CLASTIC SEDIMENT AND THE COEVOLUTION OF CONTINENTAL BLOCKS AND THEIR SEDIMENTARY COVER** *JOURNAL OF SEDIMENTARY RESEARCH SECTION A-SEDIMENTARY PETROLOGY AND PROCESSES*
Cox, R., Lowe, D. R.
1995; 65 (1): 1-12
- **LATE SYNDEPOSITIONAL DEFORMATION AND DETACHMENT TECTONICS IN THE BARBERTON GREENSTONE-BELT, SOUTH-AFRICA** *TECTONICS*
Heubeck, C., Lowe, D. R.
1994; 13 (6): 1514-1536

- **SPINEL FROM ARCHEAN IMPACT SPHERULES** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Byerly, G. R., Lowe, D. R.
1994; 58 (16): 3469-3486
- **SM-ND DATING OF FIG TREE CLAY-MINERALS OF THE BARBERTON GREENSTONE-BELT, SOUTH-AFRICA** *GEOLOGY*
Toulkeridis, T., Goldstein, S. L., Clauer, N., Kroner, A., Lowe, D. R.
1994; 22 (3): 199-202
- **ACCRETIONARY HISTORY OF THE ARCHEAN BARBERTON GREENSTONE BELT (3.55-3.22 GA), SOUTHERN AFRICA** *GEOLOGY*
Lowe, D. R.
1994; 22: 1099-1102
- **DEPOSITIONAL AND TECTONIC SETTING OF THE ARCHEAN MOODIES GROUP, BARBERTON GREENSTONE BELT, SOUTH AFRICA** *PRECAMBRIAN RES.*
Heubeck, C., Lowe, D. R.
1994; 68: 257-290
- **ARCHEAN GREENSTONE-RELATED SEDIMENTARY ROCKS** in: *Archean crustal evolution, Condie, K. C., ed.*,
Lowe, D.
Elsevier, Amsterdam.1994: 121-169
- **EARLY ENVIRONMENTS: CONSTRAINTS AND OPPORTUNITIES FOR EARLY EVOLUTION** in: *Early life on Earth: Bengtson, S., ed., Nobel Symposium No. 84*
Lowe, D.
Columbia University Press.1994: 24-35
- **THE ABIOLOGICAL ORIGIN OF DESCRIBED STROMATOLITES OLDER THAN 3.2 GA** *GEOLOGY*
Lowe, D.
1994; 22: 387-390
- **3.4-BILLION-YEAR-OLD BIOGENIC PYRITES FROM BARBERTON, SOUTH-AFRICA - SULFUR ISOTOPE EVIDENCE** *SCIENCE*
Ohmoto, H., Kakegawa, T., Lowe, D. R.
1993; 262 (5133): 555-557
- **GEOCHEMISTRY OF A SILICIFIED, FELSIC VOLCANICLASTIC SUITE FROM THE EARLY ARCHEAN PANORAMA FORMATION, PILBARA BLOCK, WESTERN-AUSTRALIA - AN EVALUATION OF DEPOSITIONAL AND POSTDEPOSITIONAL PROCESSES WITH SPECIAL EMPHASIS ON THE RARE-EARTH ELEMENTS** *PRECAMBRIAN RESEARCH*
Cullers, R. L., DIMARCO, M. J., Lowe, D. R., Stone, J.
1993; 60 (1-4): 99-116
- **TIMING OF DEFORMATION OF THE ARCHAEOAN BARBERTON GREENSTONE BELT, SOUTH AFRICA: CONSTRAINTS FROM ZIRCON DATING OF THE SALISBURY KOP PLUTON** *SOUTH AFRICAN JOURNAL OF GEOLOGY*
Heubeck, C., Wendt, J. I., Toulkeridis, T., Kroner, A., Lowe, D. R.
1993; 96: 1-8
- **A NUMERICAL-MODEL FOR SEDIMENTATION FROM HIGHLY-CONCENTRATED MULTI-SIZED SUSPENSIONS** *MATHEMATICAL GEOLOGY*
Zeng, J. J., Lowe, D. R.
1992; 24 (4): 393-415
- **NOBLE-METAL ABUNDANCES IN AN EARLY ARCHEAN IMPACT DEPOSIT** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Kyte, F. T., Lei, Z., Lowe, D. R.
1992; 56 (3): 1365-1372
- **MAJOR EVENTS IN THE GEOLOGICAL DEVELOPMENT OF THE PRECAMBRIAN EARTH** in: *The Proterozoic Biosphere, Schopf, J. W., and Klein, C., eds.*
Lowe, D.
Cambridge University Press.1992: 67-76
- **THE ARCHEAN GEOLOGIC RECORD** in: *The Proterozoic Biosphere, Schopf, J.W., and Klein, C., eds.*
Lowe, D., Ernst, W. G.

Cambridge University Press.1992: 13–20

- **FLOW PROPERTIES OF TURBIDITY CURRENTS IN BUTE INLET, BRITISH-COLUMBIA** *SEDIMENTOLOGY*
Zeng, J. J., Lowe, D. R., Prior, D. B., Wiseman, W. J., Bornhold, B. D.
1991; 38 (6): 975-996
- **CHRONOLOGY OF EARLY ARCHEAN GRANITE-GREENSTONE EVOLUTION IN THE BARBERTON MOUNTAIN LAND, SOUTH-AFRICA, BASED ON PRECISE DATING BY SINGLE ZIRCON EVAPORATION** *EARTH AND PLANETARY SCIENCE LETTERS*
KRUNER, A., Byerly, G. R., Lowe, D. R.
1991; 103 (1-4): 41-54
- **LAHARS: VOLCANO-HYDROLOGIC EVENTS AND DEPOSITION IN THE DEBRIS FLOW - HYPERCONCENTRATED FLOW CONTINUUM** *SEPM SPECIAL PUBLICATION 45*
Smith, G. A., Lowe, D. R.
1991: 59-70
- **FAN-DELTA SEQUENCE IN THE ARCHEAN FIG TREE GROUP, BARBERTON GREENSTONE-BELT, SOUTH-AFRICA** *PRECAMBRIAN RESEARCH*
NOCITA, B. W., Lowe, D. R.
1990; 48 (4): 375-393
- **PETROGRAPHY AND PROVENANCE OF SILICIFIED EARLY ARCHEAN VOLCANICLASTIC SANDSTONES, EASTERN PILBARA BLOCK, WESTERN-AUSTRALIA** *SEDIMENTOLOGY*
DIMARCO, M. J., Lowe, D. R.
1989; 36 (5): 821-836
- **GEOLOGICAL AND GEOCHEMICAL RECORD OF 3400-MILLION-YEAR-OLD TERRESTRIAL METEORITE IMPACTS** *SCIENCE*
Lowe, D. R., Byerly, G. R., Asaro, F., KYTE, F. J.
1989; 245 (4921): 959-962
- **SHALLOW-WATER VOLCANICLASTIC DEPOSITION IN THE EARLY ARCHEAN PANORAMA FORMATION, WARRAWOONA GROUP, EASTERN PILBARA BLOCK, WESTERN-AUSTRALIA** *SEDIMENTARY GEOLOGY*
DIMARCO, M. J., Lowe, D. R.
1989; 64 (1-3): 43-63
- **STRATIGRAPHY AND SEDIMENTOLOGY OF AN EARLY ARCHEAN FELSIC VOLCANIC SEQUENCE, EASTERN PILBARA BLOCK, WESTERN AUSTRALIA, WITH SPECIAL REFERENCE TO THE DUFFER FORMATION AND IMPLICATIONS FOR CRUSTAL EVOLUTION** *PRECAMBRIAN RESEARCH*
DIMARCO, M. J., Lowe, D. R.
1989; 44 (2): 147-169
- **ENVIRONMENTAL-CONTROL ON DIVERSE STROMATOLITE MORPHOLOGIES IN THE 3000 MYR PONGOLA SUPERGROUP, SOUTH-AFRICA** *SEDIMENTOLOGY*
Beukes, N. J., Lowe, D. R.
1989; 36 (3): 383-397
- **POLYTYPES OF 2-1 DIOCTAHEDRAL MICAS IN SILICIFIED VOLCANICLASTIC SANDSTONES, WARRAWOONA GROUP, PILBARA BLOCK, WESTERN-AUSTRALIA** *AMERICAN JOURNAL OF SCIENCE*
DIMARCO, M. J., Ferrell, R. E., Lowe, D. R.
1989; 289 (5): 649-660
- **GEOCHEMISTRY OF PRECAMBRIAN CARBONATES .2. ARCHEAN GREENSTONE BELTS AND ARCHEAN SEA-WATER** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Veizer, J., Hoefs, J., Lowe, D. R., Thurston, P. C.
1989; 53 (4): 859-871
- **GEOCHEMISTRY OF PRECAMBRIAN CARBONATES .1. ARCHEAN HYDROTHERMAL SYSTEMS** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Veizer, J., Hoefs, J., RIDLER, R. H., Jensen, L. S., Lowe, D. R.
1989; 53 (4): 845-857
- **SHELF SANDSTONES OF THE ROBULUS L ZONE, OFFSHORE LOUISIANA**
Hart, G. F., Ferrell, R. E., Lowe, D. R., Lenoir, A. E.

Gulf Coast Section SEPM, 7th Annual Research Conference .1989: 117–141

- **SUSPENDED-LOAD FALLOUT RATE AS AN INDEPENDENT VARIABLE IN THE ANALYSIS OF CURRENT STRUCTURES** *SEDIMENTOLOGY*
Lowe, D. R.
1988; 35: 765-776
- **TURBIDITY-CURRENT ACTIVITY IN A BRITISH-COLUMBIA FJORD** *SCIENCE*
Prior, D. B., Bornhold, B. D., Wiseman, W. J., Lowe, D. R.
1987; 237 (4820): 1330-1333
- **REPLY TO COMMENTS ON "EARLY ARCHEAN SILICATE SPHERULES OF PROBABLE IMPACT ORIGIN, SOUTH AFRICA AND WESTERN AUSTRALIA:"** *GEOLOGY*
Lowe, D., Byerly, G. R.
1987; 15: 179-182
- **GEOMORPHOLOGY AND SEDIMENTOLOGY OF THE TORO AMARILLO ALLUVIAL FAN IN A HUMID TROPICAL ENVIRONMENT** *GEOGRAFISKA ANNALER*
Kesel, R. H., Lowe, D. R.
1987; 69A: 85-99
- **ARCHEAN FLOW-TOP ALTERATION ZONES FORMED INITIALLY IN A LOW-TEMPERATURE SULFATE-RICH ENVIRONMENT** *NATURE*
Lowe, D. R., Byerly, G. R.
1986; 324 (6094): 245-248
- **EARLY ARCHEAN SILICATE SPHERULES OF PROBABLE IMPACT ORIGIN, SOUTH-AFRICA AND WESTERN AUSTRALIA** *GEOLOGY*
Lowe, D. R., Byerly, G. R.
1986; 14 (1): 83-86
- **LAHARS INITIATED BY THE NOVEMBER 13, 1985, ERUPTION OF NEVADO DEL RUIZ, COLOMBIA** *NATURE*
Lowe, D. R., Williams, S. N., Leigh, H., Connor, C. B., Gemmell, J. B., Stoiber, R. E.
1986; 324: 51-53
- **STROMATOLITES FROM THE 3,300-3,500-MYR SWAZILAND SUPERGROUP, BARBERTON MOUNTAIN LAND, SOUTH AFRICA** *NATURE*
Byerly, G., Lowe, D. R., Walsh, M. M.
1986; 319: 489-491
- **A PERMO-CARBONIFEROUS GLACIAL PAVEMENT AND RELATED KAROO ROCKS ALONG THE GHAAP ESCARPMENT NEAR BOETSAP, NORTHERN CAPE PROVINCE** *TRANSACTIONS OF THE GEOLOGICAL SOCIETY OF SOUTH AFRICA*
Visser, J. N., Lowe, D. R., Beukes, N. J.
1986; 89: 385-388
- **STRATIGRAPHIC AND SEDIMENTOLOGICAL EVIDENCE BEARING ON STRUCTURAL REPETITION IN EARLY ARCHEAN ROCKS OF THE BARBERTON GREENSTONE-BELT, SOUTH-AFRICA** *PRECAMBRIAN RESEARCH*
Lowe, D. R., Byerly, G. R., RANSOM, B. L., NOCITA, B. W.
1985; 27: 165-186
- **FILAMENTOUS MICROFOSSILS FROM THE 3,500-MYR-OLD ONVERWACHT GROUP, BARBERTON MOUNTAIN LAND, SOUTH-AFRICA** *NATURE*
Walsh, M. M., Lowe, D. R.
1985; 314 (6011): 530-532
- **SEDIMENTARY ENVIRONMENT AS A CONTROL ON THE FORMATION AND PRESERVATION OF ARCHEAN VOLCANOGENIC MASSIVE SULPHIDE DEPOSITS** *Evolution of Archean Supracrustal Sequences*
Lowe, D.
Geological Association of Canada Spec. Paper 28 .1985: 193–201
- **FILAMENTOUS MICROFOSSILS FROM THE 3,500 MILLION YEAR OLD ONVERWACHT GROUP, BARBERTON MOUNTAINLAND, SOUTH AFRICA** *NAURE*
Walsh, M. M., Lowe, D. R.
1985; 314: 530-532

- **OUACHITA TROUGH: PART OF A CAMBRIAN FAILED RIFT SYSTEM** *GEOLOGY*
Lowe, D.
1985: 790-793
- **RESTRICTED SHALLOW WATER SEDIMENTATION OF 3.4 BYR-OLD STROMATOLITIC AND EVAPORITIC STRATA OF THE STRELLEY POOL CHERT, PILBARA BLOCK, WESTERN AUSTRALIA** *PRECAMBRIAN RES.*
Lowe, D. R.
1983: 239-283
- **SEDIMENTOLOGY OF THE MIDDLE MARKER (3.4 GA), ONVERWACHT GROUP, TRANSVAAL, SOUTH AFRICA** *PRECAMBRIAN RES.*
Lanier, W. P., Lowe, D. R.
1982: 237-260
- **SEDIMENT GRAVITY FLOWS II: DEPOSITIONAL MODELS WITH SPECIAL REFERENCE TO THE DEPOSITS OF HIGH-DENSITY TURBIDITY CURRENTS** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D.
1982: 279-297
- **COMPARATIVE SEDIMENTOLOGY OF THE PRINCIPAL VOLCANIC SEQUENCES OF ARCHEAN GREENSTONE BELTS IN SOUTH AFRICA, WESTERN AUSTRALIA AND CANADA** *PRECAMBRIAN RESEARCH*
Lowe, D.
1982: 1-29
- **DIFFUSION OF SEDIMENT ON THE LEE OF DUNE-LIKE BEDFORMS: THEORETICAL AND NUMERICAL ANALYSIS** *SEDIMENTOLOGY*
Chakrabarti, C., Lowe, D. R.
1981; 28: 531-545
- **STROMATOLITES 3,400-MYR OLD FROM THE ARCHEAN OF WESTERN AUSTRALIA** *NATURE*
Lowe, D. R.
1980; 284: 441-443
- **ARCHEAN SEDIMENTATION** *ANNUAL REVIEW OF EARTH AND PLANETARY SCIENCES*
Lowe, D.
1980; 8: 145-167
- **SEDIMENT GRAVITY FLOWS: THEIR CLASSIFICATION AND PROBLEMS OF APPLICATION TO NATURAL FLOWS AND DEPOSITS** *SEPM SPECIAL PUBLICATION 27*
Lowe, D. R.
1979: 75-82
- **OLDEST MARINE CARBONATE OIDS REINTERPRETED AS VOLCANIC ACCRETIONARY LAPILLI, ONVERWACHT GROUP, SOUTH-AFRICA - REPLY** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D. R., Knauth, L. P.
1979; 49 (2): 664-666
- **OXYGEN ISOTOPE GEOCHEMISTRY OF CHERTS FROM ONVERWACHT GROUP (3.4 BILLION YEARS), TRANSVAAL, SOUTH-AFRICA, WITH IMPLICATIONS FOR SECULAR VARIATIONS IN ISOTOPIC COMPOSITION OF CHERTS** *EARTH AND PLANETARY SCIENCE LETTERS*
Knauth, L. P., Lowe, D. R.
1978; 41 (2): 209-222
- **OLDEST MARINE CARBONATE OIDS REINTERPRETED AS VOLCANIC ACCRETIONARY LAPILLI ONVERWACHT GROUP, SOUTH-AFRICA** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D. R., Knauth, L. P.
1978; 48 (3): 709-722
- **SEDIMENTOLOGY OF ONVERWACHT GROUP (3.4 BILLION YEARS), TRANSVAAL, SOUTH-AFRICA, AND ITS BEARING ON CHARACTERISTICS AND EVOLUTION OF EARLY EARTH** *JOURNAL OF GEOLOGY*
Lowe, D. R., Knauth, L. P.
1977; 85 (6): 699-723
- **THE ARKANSAS NOVACULITE: SOME ASPECTS OF ITS PHYSICAL SEDIMENTATION:** *Symposium on the Geology of the Ouachita Mountains*

Lowe, D. R.

Arkansas Geological Commission.1977: 132-138

- **NONGLACIAL VARVES IN THE LOWER MEMBER OF ARKANSAS NOVACULITE (DEVONIAN), ARKANSAS AND OKLAHOMA** *AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS BULLETIN*
Lowe, D. R.
1976; 60: 2103-2116
- **SUBAQUEOUS LIQUEFIED AND FLUIDIZED FLOWS AND THEIR DEPOSITS** *SEDIMENTOLOGY*
Lowe, D. R.
1976; 23: 285-308
- **GRAIN FLOW AND GRAIN FLOW DEPOSITS** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D. R.
1976; 46: 188-199
- **REGIONAL CONTROLS ON SILICA SEDIMENTATION IN THE OUACHITA SYSTEM** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*
Lowe, D. R.
1975; 86: 1123-1127
- **WATER ESCAPE STRUCTURES IN COARSE-GRAINED SEDIMENTS** *SEDIMENTOLOGY*
Lowe, D. R.
1975; 46: 157-204
- **CHARACTERISTICS AND ORIGINS OF DISH AND PILLAR STRUCTURES** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D. R., LoPiccolo, R. D.
1974; 44: 484-501
- **IMPLICATIONS OF THREE SUBMARINE MASS-MOVEMENT DEPOSITS, CRETACEOUS, SACRAMENTO VALLEY, CALIFORNIA** *JOURNAL OF SEDIMENTARY PETROLOGY*
Lowe, D. R.
1972; 42: 89-101
- **STRATIGRAPHIC RELATIONS OF PHOSPHATE- AND GYPSUM-BEARING UPPER MIOCENE STRATA, UPPER SESPE CREEK, VENTURA COUNTY, CALIFORNIA** *AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS BULLETIN*
Dickinson, W. R., Lowe, D. R.
1966; 50: 2464-2481