

MICHAEL XAVIER KIRBY, Ph.D.

Principal Geologist/Paleontologist
ArchaeoPaleo Resource Management, Inc.
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EDUCATION

Ph.D. Geology, University of California, Davis
M.S. Geology, California State University, Northridge
B.S. Geology, California State University, Northridge (*Magna Cum Laude*)

PROFESSIONAL EXPERIENCE

2013-Present Principal Paleontologist, ArchaeoPaleo Resource Management, Inc.
2009-2013 Director of Earth Resources, Environmental Planning Group, Inc.
2007-2008 Paleontological Field Manager, San Diego Natural History Museum
2005-2007 Paleontological Consultant for the Panama Canal Authority
2003-2005 Postdoctoral Fellow, Smithsonian Tropical Research Institute
2001-2003 Postdoctoral Fellow, Scripps Institution of Oceanography
2000-2001 Postdoctoral Fellow, National Center for Ecological Analysis and Synthesis
2000-2000 Paleontologist, Paleo Environmental Associates, California
1999-2000 Paleontological Consultant for RMW Associates, Mission Viejo, California
1992-1993 Crew Chief Paleontologist, LSA Associates, Irvine, California

GRANTS

2007 U.S. National Science Foundation, Sedimentary Geology & Paleobiology (EAR 0642528) (\$152,000)
2006 U.S. National Science Foundation, International Planning and Workshops (OISE 0638538) (\$9,845)
2004 Smithsonian Walcott Fund (\$15,000)
2003 Smithsonian Institution Postdoctoral Fellowship (\$32,000)
1999 U.S. National Science Foundation, Earth Science Postdoctoral Fellowship (EAR 0000495) (\$72,000)
1996 Geological Society of America Research Grant (5864-96) (\$1,800)

CERTIFICATIONS & PERMITS

Bureau of Land Management Paleontological Resources Use Permits in Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming
Riverside County Approved Paleontologist
San Diego Qualified Paleontologist
Society of Vertebrate Paleontology Member
State Paleontological Permits in Arizona, Colorado, Nevada, and Utah
U.S. Forest Service Paleontological Permit (project specific)

PROJECTS

2018 ANTELOPE VALLEY LANDFILL VA-07 – Senior Paleontologist, Palmdale, California.
2017 VENICE
2017 ACADEMY MUSEUM OF MOTION PICTURES PROJECT – Senior Paleontologist, Los Angeles, California.
2016 CALTRANS VEN-118 WIDENING PHASE II PROJECT – Senior Paleontologist, Ventura County, California.
2016 CALTRANS VENTURA ON-CALL, MASTODON TUSK SALVAGE PROJECT – Senior Paleontologist, Ventura, California.
2016 TCM LEWIS BARSTOW GRADING PROJECT – Senior Paleontologist, Barstow, California.
2016 MODERA WEST L.A. PROJECT – Senior Paleontologist, Los Angeles, California.
2016 JUPITER PROJECT – Senior Paleontologist, Apple Valley, San Bernardino County, California.
2016 MTA ROSECRANS/MARQUARDT GRADE PROJECT – Senior Paleontologist, Santa Fe Springs, California.

- 2015 TCM LEWIS BARSTOW BARROW PROJECT – Senior Paleontologist, Barstow, California.
- 2015 AGOURA ROAD WIDENING PROJECT – Senior Paleontologist, Agoura Hills, California.
- 2015 PALMDALE LANDFILL AVENUE R5 PROJECT – Senior Paleontologist, Palmdale, California.
- 2015 SOUTHERN CALIFORNIA EDISON LAKEVIEW SUBSTATION PROJECT – Senior Paleontologist, Riverside County, California.
- 2015 UNIVERSITY OF SOUTHERN CALIFORNIA VILLAGE PROJECT – Senior Paleontologist, Los Angeles, California.
- 2014 RITTER RANCH ACCESS ROAD PROJECT – Senior Paleontologist, Los Angeles County, California.
- 2014 AVENUE S – GAP ROAD PROJECT – Senior Paleontologist, Los Angeles County, California.
- 2014 METRO PHASE I PROJECT – Senior Paleontologist, Los Angeles County, California.
- 2014 LOS ANGELES DEPARTMENT OF WATER AND POWER BARREN RIDGE RENEWABLE TRANSMISSION PROJECT – Senior Paleontologist, Los Angeles and Kern counties, California.
- 2014 NORTH BANK PROJECT – Senior Paleontologist, Ventura County, California.
- 2013 LOS ANGELES DEPARTMENT OF WATER AND POWER SCATTERGOOD GENERATING STATION REPOWERING PROJECT – Senior Paleontologist, Los Angeles, California.
- 2013 LA QUIRILLUCA PROJECT – Principal Investigator for a paleontological resources survey of a residential development in Puchuncavi, Valparaiso Region, Chile.
- 2012 SIGURD TO RED BUTTE TRANSMISSION LINE PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, water, and paleontological resource inventory and impact assessment in support of the Environmental Impact Statement, Utah.
- 2012 ENERGY GATEWAY SOUTH TRANSMISSION LINE PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, paleontological, and water resource inventory and impact assessment in support of the Environmental Impact Statement, Wyoming, Colorado, Utah, and Nevada.
- 2012 SUNZIA SOUTHWEST TRANSMISSION LINE PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, paleontological, and water resource inventory and impact assessment in support of the Environmental Impact Statement, New Mexico and Arizona.
- 2012 CEDAR CITY FIELD OFFICE BLM RESOURCE MANAGEMENT PLAN – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil and water resource inventory and impact assessment in support of the Environmental Impact Statement, Utah.
- 2011 ARTILLERY PEAK MANGANESE PROJECT – Principal Investigator for a paleontological resources survey of open-pit and underground mines in Mohave County, Arizona.
- 2011 RESTORATION DESIGN ENERGY PROJECT – Principal Investigator for paleontological resource studies. Primary responsibilities included directing the paleontological resource inventory and impact assessment of lands across Arizona that may be suitable for the development of renewable energy in support of the Programmatic Environmental Impact Statement.
- 2011 AGUA CALIENTE SOLAR ENERGY ZONE PROJECT – Principal Investigator for paleontological resource studies. Primary responsibilities included directing the paleontological resource inventory and impact assessment of lands in southwestern Arizona that may be suitable for the development of renewable energy.
- 2011 PLEASANT HILL-OASIS TRANSMISSION LINE PROJECT – Principal Investigator for Earth Resource studies of a transmission line near Clovis, New Mexico. Primary responsibilities included directing the paleontological, soil, geological hazard, mineral, and water resources inventory and impact assessment.
- 2011 GRAND CANYON-PINNACLE PEAK VEGETATION MANAGEMENT ENVIRONMENTAL ASSESSMENT – Principal Investigator for Earth Resource studies of a transmission line in northern Arizona. Primary responsibilities included directing the soil, geological hazard, mineral, and water resources inventory and impact assessment.
- 2011 WILSON CREEK WIND FARM PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Impact Statement, Nevada.
- 2011 SUN VALLEY TO MORGAN 500KV/230KV TRANSMISSION LINE PROJECT – Principal Investigator for Earth Resource studies of a transmission line Phoenix, Arizona. Primary responsibilities included directing the paleontological, soil, geological hazard, mineral, and water resources inventory and impact assessment in support of the Programmatic Environmental Impact Statement.
- 2010 AMARGOSA FARM ROAD SOLAR PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Impact Statement, Nevada.

- 2010 SOUTHERN NEVADA INTERTIE PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Assessment, Nevada.
- 2010 EASTERN NEVADA TRANSMISSION PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Assessment, Nevada.
- 2010 QUARTZSITE SOLAR ENERGY PROJECT - Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Impact Statement, Arizona.
- 2010 PHOENIX PAPAGO MILITARY RESERVATION GROW THE ARMY READINESS CENTER II ENVIRONMENTAL ASSESSMENT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory and impact assessment in support of the Environmental Assessment, Arizona.
- 2009 MONA TO OQUIRRH TRANSMISSION CORRIDOR PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, water, and paleontological resource impact assessment in support of the Environmental Impact Statement, Utah.
- 2009 SONORAN SOLAR ENERGY PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, and paleontological resource inventory in support of the Environmental Impact Statement, Arizona.
- 2009 SOUTHWEST INTERTIE PROJECT – Principal Investigator for paleontological resource studies. Primary responsibilities included directing the paleontological resource inventory and impact assessment in support of the Environmental Impact Statement, Nevada and Idaho.
- 2009 TRANS WEST EXPRESS TRANSMISSION LINE PROJECT – Principal Investigator for Earth resource studies. Primary responsibilities included directing the soil, geological, mineral, paleontological, and water resource inventory and impact assessment in support of the Environmental Impact Statement, Wyoming, Colorado, Utah, and Nevada.
- 2009 GOODSPRINGS WASTE HEAT RECOVERY PLANT PROJECT – Principal Investigator for Paleontological resource studies. Primary responsibilities included directing the paleontological resource inventory in support of the Environmental Assessment, Nevada.
- 2009 PALO VERDE SOLAR PROJECT – Principal Investigator for Earth resource studies in support of the Critical Impact Assessment, Arizona.
- 2009 SOUTHERN CALIFORNIA EDISON DEVERS-MIRAGE TRANSMISSION PROJECT – Reviewer of the Earth resource sections in the Environmental Impact Report, California.
- 2009 LOS ANGELES DEPARTMENT OF WATER AND POWER BARREN RIDGE RENEWABLE TRANSMISSION PROJECT – Consultant, Los Angeles County, California.
- 2008 SUMMIT POINTE PLAZA PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 SDG&E SILVERGATE SUBSTATION PROJECT – Paleontological Field Manager for an electrical substation in San Diego, California.
- 2008 DUAL MAGNET HIGH SCHOOL – Paleontological Field Manager, San Diego, California.
- 2008 HI HOPE RANCH PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 CABRILLO-POINT LOMA PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 HORIZON TECH CENTER PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 SORRENTO GATEWAY, LOT 1 PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 7674 HILLSIDE DRIVE PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 SAN PEDRO WATERFRONT PROJECT – Paleontological Field Manager, San Pedro, California.
- 2008 CARMEL VALLEY NEIGHBORHOOD 10 PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 PACIFIC COAST BUSINESS PARK, PARKS B & C PROJECT – Paleontological Field Manager, Oceanside, California.
- 2008 MIRAMAR WATER TREATMENT PLANT PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 MARRIOTT RESIDENCE INN GASLAMP PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 LA ENTRADA PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 16TH AND MARKET PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 BAYER RESIDENCE PROJECT – Paleontological Field Manager, San Diego, California.
- 2008 SDG&E CHOLLAS SUBSTATION PROJECT – Paleontological Field Manager, San Diego, California.

2008 SCRIPPS MERCY HOSPITAL SLOPE REPAIR PROJECT – Paleontological Field Manager, San Diego, California.

2008 CHOLLAS CREEK RESTORATION PROJECT – Paleontological Field Manager, San Diego, California.

2008 1353 LA PALMA PROJECT – Paleontological Field Manager, San Diego, California.

2008 SUMMIT RANCHO BERNARDO PROJECT – Paleontological Field Manager, San Diego, California.

2008 NORTH TORREY PINES BRIDGE PROJECT – Paleontological Field Manager, San Diego, California.

2008 RANCHO SANTA FE LAKES, UNIT 3 PROJECT – Paleontological Field Manager, San Diego, California.

2007 IMPERIAL VALLEY LOOP PROJECT – Paleontological Field Manager for a paleontological resource survey of a natural gas pipeline in Imperial County, California.

2007 OTAY LANDFILL CANYON 3, PHASE 3C PROJECT – Paleontological Field Manager, San Diego, California.

2007 PACIFIC HIGHLANDS RANCH, UNIT 6 PROJECT – Paleontological Field Manager, San Diego, California.

2007 NORTH COAST CHURCH PROJECT – Paleontological Field Manager, San Diego, California.

2007 FOX-MILLER PROPERTY 2005 PROJECT – Paleontological Field Manager, San Diego, California.

2007 NCTD SPRINTER RAIL LINE PROJECT – Paleontological Field Manager, San Diego, California.

2007 CASSIA PROFESSIONAL OFFICES PROJECT – Paleontological Field Manager, San Diego, California.

2007 GATEWAY 1 PROJECT – Paleontological Field Manager, San Diego, California.

2007 SR-125 TOLL ROAD PROJECT – Paleontological Field Manager, San Diego, California.

2007 DENNERY RANCH VILLAGES 2 & 3 PROJECT – Paleontological Field Manager, San Diego, California.

2007 CALTRANS AT NATIONAL AVENUE PROJECT – Paleontological Field Manager, San Diego, California.

2007 PILOT TRAVEL CENTERS PROJECT – Paleontological Field Manager, San Diego, California.

2007 SHARP PARKING FACILITY NO. 3 PROJECT – Paleontological Field Manager, San Diego, California.

2007 SAN DIEGO JEWISH ACADEMY PROJECT – Paleontological Field Manager, San Diego, California.

2007 BAYER RESIDENCE PROJECT – Paleontological Field Manager, San Diego, California.

2007 STONE RESIDENCE PROJECT – Paleontological Field Manager, San Diego, California.

2007 CHRISTENSEN RANCH PROJECT – Paleontological Field Manager, San Diego, California.

2007 CALTRANS I-5 AUXILIARY LANES PROJECT – Paleontological Field Manager, San Diego, California.

2007 STUDIO 15 PROJECT – Paleontological Field Manager, San Diego, California.

2007 MT. SOLEDAD SLOPE REPAIR PROJECT – Paleontological Field Manager, San Diego, California.

2007 SDG&E MAPLE COURT TO GRANT HILL PROJECT – Paleontological Field Manager, San Diego, California.

2007 RAGEN RESIDENCE PROJECT – Paleontological Field Manager, San Diego, California.

2007 ARBOR TERRACE PROJECT – Paleontological Field Manager, San Diego, California.

2007 EDUCATIONAL CULTURAL COMPLEX PROJECT – Paleontological Field Manager, San Diego, California.

2007 SERENATA TOWN HOMES PROJECT – Paleontological Field Manager, San Diego, California.

2007 CALTRANS I5 AND 805 INTERCHANGE PROJECT – Paleontological Field Manager, San Diego, California.

2006 PANAMA CANAL EXPANSION PROJECT – Principal Investigator of the paleontological resource survey of the Panama Canal.

2000 PLANTERO PROJECT – Consultant, Lemon Heights, California.

2000 FORSTER RANCH HIGHLANDS PROJECT – Consultant, San Clemente, California.

1999 BIG SKY COUNTRY CLUB GOLF COURSE PROJECT – Geologist, Simi Valley, California.

1997 GEOLOGICAL SURVEY OF THE BAXTER AREA, NEVADA AND PLACER COUNTIES, CALIFORNIA – Geological consultant for Laurence Dashiell, Sacramento, California.

1993 COLSON QUARRY PROJECT – Principal Investigator for a paleontological resources survey of Colson Quarry, Santa Barbara County, California (Antolini and Son, Santa Maria, California).

1993 CHOCOLATE MOUNTAINS AERIAL GUNNERY RANGE SURVEY – Paleontologist, Imperial County, California.

1992 M70 PIPELINE PROJECT – Paleontological Crew Chief supervising six paleontologists on the construction of a petroleum pipeline between Bakersfield and Torrance, California.

1991 COLSON QUARRY PROJECT – Exploration Geologist, Santa Barbara County, California.

1987 OFFSHORE GEOLOGICAL SURVEY CRUISE – Exploration Geologist aboard the M/V Glorita, Santa Barbara and San Luis Obispo counties, California.

TECHNICAL REPORTS

2017. Paleontological resources monitoring and data recovery for the Academy Museum of Motion Pictures Development Project, Los Angeles, California.
2016. CALTRANS VEN-118 widening phase II paleontological evaluation report, Ventura County, California.
2016. CALTRANS Ventura on-call, paleontological resources mastodon tusk salvage report, Ventura, California.
2016. Archaeological and paleontological resources phase I assessment Jupiter Project – Navajo Road, Town of Apple Valley, San Bernardino County, California.
2016. Archaeological and paleontological resources phase I assessment, Los Angeles County Metropolitan Transportation Authority: Rosecrans/Marquardt grade separation, City of Santa Fe Springs, Los Angeles County, California.
2015. r avenue palmdale
2015. Archaeological and paleontological resources phase I assessment, Donald C. Tillman Water Reclamation Plant Multi-Use Facility Project, Sepulveda Dam Basin, City of Los Angeles, Los Angeles County, California.
2015. Archaeological and paleontological resources phase 1 assessment, Aliso Creek – Limekiln Creek Restoration Project in the Community of Northridge, San Fernando Valley, Los Angeles County, California.
2015. Final paleontological and archaeological resources monitoring and mitigation report for the USC Village project in the City and County of Los Angeles, California.
2014. Paleontological resources report for the Los Angeles Department of Water and Power Scattergood Generating Station Repowering Project in the City of Los Angeles, Los Angeles County, California.
2014. Paleontological resources monitoring and mitigation plan for the Los Angeles Department of Water and Power Barren Ridge Renewable Transmission Project, Los Angeles and Kern counties, California.
2014. Archaeological and paleontological resources phase I assessment, Los Angeles County, Metropolitan Transportation Authority: Environmental clearance and preliminary engineering services for four intersection improvements in the cities of La Mirada, Santa Fe Springs, and Cerritos, Los Angeles County, California.
2013. Paleontological resources survey report. La Quirilluca Project, Puchuncavi, Valparaiso Region, Chile.
2013. Paleontological resources monitoring and mitigation plan for the Los Angeles Department of Water and Power Scattergood Generating Station Repowering Project in the City of Los Angeles, Los Angeles County, California.
2012. Paleontological resource assessment of renewable energy development areas in Arizona. Restoration Design Energy Project, Arizona.
2011. Paleontological resources survey report. Artillery Peak Manganese Project, Mohave County, Arizona.
2011. Paleontological resources treatment plan. Sigurd to Red Butte No. 2 345 kV Transmission Project.
2010. Geotechnical investigation paleontological resource survey. Sigurd to Red Butte No. 2 345 kV Transmission Project, 21 p.
2010. Paleontological resources treatment plan. Mona to Oquirrh Transmission Corridor Project.
2009. Paleontological resources literature review and treatment plan. Southwest Intertie Project - Northern Portion, 32 p.
2009. Paleontological pre-construction survey report. Southwest Intertie Project – Southern Portion, 23 p.
2008. Paleontological mitigation report, Summit Pointe Plaza, City of San Diego, San Diego County, California, 19 p.
2008. Paleontological mitigation report, Carmel Valley Neighborhood 10, City of San Diego, San Diego County, California, 19 p.
2008. Paleontological mitigation report, SDG&E Silvergate Substation, City of San Diego, San Diego County, California, 26 p.
2008. Paleontological mitigation report, Pacific Coast Business Park, Parks B & C, City of Oceanside, San Diego County, California, 22 p.
2008. Paleontological mitigation report, Miramar Water Treatment Plant, City of San Diego, San Diego County, California, 20 p.
2008. Paleontological mitigation report, Marriott Residence Inn Gaslamp, City of San Diego, San Diego County, California, 16 p.
2008. Paleontological mitigation report, La Entrada, City of San Diego, San Diego County, California, 16 p.
2008. Paleontological mitigation report, 16th and Market, City of San Diego, San Diego County, California, 20 p.
2008. Paleontological mitigation report, Bayer Residence, City of San Diego, San Diego County, California, 14 p.

2008. Paleontological mitigation report, SDG&E Chollas Substation, City of San Diego, San Diego County, California, 20 p.
2008. Paleontological mitigation report, Scripps Mercy Hospital Slope Repair, City of San Diego, San Diego County, California, 18 p.
2008. Paleontological mitigation report, Chollas Creek Restoration, City of San Diego, San Diego County, California, 17 p.
2008. Paleontological mitigation report, 1353 La Palma, City of San Diego, San Diego County, California, 26 p.
2008. Paleontological mitigation report, Summit Rancho Bernardo, City of San Diego, San Diego County, California, 17 p.
2008. Paleontological mitigation report, Cabrillo-Point Loma, City of San Diego, San Diego County, California, 20 p.
2008. Paleontological assessment report, North Torrey Pines Bridge, San Diego County, California, 10 p.
2008. Paleontological mitigation report, Rancho Santa Fe Lakes, Unit 3, City of San Diego, San Diego County, California, 17 p.
2007. Paleontological assessment report, Imperial Valley Loop, Imperial County, California, 15 p.
2007. Paleontological mitigation report, Otay Landfill Canyon 3, Phase 3C, San Diego County, California, 23 p.
2007. Paleontological mitigation report, Pacific Highlands Ranch, Unit 6, San Diego County, California, 19 p.
2007. Paleontological mitigation report, North Coast Church, San Diego County, California, 16 p.
2007. Paleontological mitigation report, Fox-Miller Property 2005, San Diego County, California, 19 p.
2007. Paleontological mitigation report, NCTD Sprinter Rail Line, San Diego County, California, 26 p.
2007. Paleontological mitigation report, Cassia Professional Offices, City of San Diego, San Diego County, California, 18 p.
2007. Paleontological mitigation report, Gateway 1, City of San Diego, San Diego County, California, 17 p.
2007. Paleontological mitigation report, SR-125 Toll Road, San Diego County, California, 49 p.
2007. Paleontological mitigation report, Serenata Town Homes, City of San Diego, San Diego County, California, 20 p.
2007. Paleontological mitigation report, Caltrans I5 and 805 Interchange, City of San Diego, San Diego County, California, 25 p.
2006. Consultoría sobre recursos paleontológicos en sitios de excavación en las áreas de proyectos de modernización y ampliación del canal [Survey of the paleontological resources of the areas proposed for excavation during the expansion and modernization of the Panama Canal]. Panama Canal Authority, Republic of Panama, Contract SAA-156837, 74 p.
2000. Final paleontological monitoring report for the Plantero Project, Lemon Heights, Orange County, California. 17 p.
2000. Final paleontological monitoring report for the planning area 1, planning area 3 and Community Park segments of the Forster Ranch Highlands Project, San Clemente, Orange County, California, 27 p.
1993. Paleontological resources survey at Colson Quarry, Santa Barbara County, California, 19 p.

GEOLOGIC MAPS

2005. Potencial paleontológico del Corte Culebra, Republica de Panamá [Paleontological potential of the Culebra Cut, Republic of Panama].
2005. Potencial paleontológico del alineamiento sector Pacifico, Republica de Panamá [Paleontological potential of the new alignment, Pacific section, Republic of Panama].
2005. Potencial paleontológico del alineamiento sector Atlántico, Republica de Panamá [Paleontological potential of the new alignment, Atlantic section, Republic of Panama].
1997. Geological map of the Baxter Area, Nevada and Placer counties, California.
1992. Geologic map of Colson Quarry. Plate 2. In Anderson, T., Geologic and economic evaluation of the G. Antolini and Son dimension stone quarry, Santa Barbara County, California. 42p.
1992. Ledge exposure map of Colson Quarry. Plate 3. In Anderson, T., Geologic and economic evaluation of the G. Antolini and Son dimension stone quarry, Santa Barbara County, California. 42p.
1992. Ledge exposure map of Colson Quarry on geologic base map. Plate 5. In Anderson, T., Geologic and economic evaluation of the G. Antolini and Son dimension stone quarry, Santa Barbara County, California. 42p.

PEER-REVIEWED PUBLICATIONS

- S.P. Ávila, R. Ramalho, J. Habermann, R. Quartau, A. Kroh, R. Meireles, B. Berning, M. Kirby, V. Zanon, A. Goss, A.C. Rebelo, C. Melo, P. Madeira, R. Cordeiro, L. Bagaço, C.M. da Silva, M. Cachão, J. Madeira. 2015.

- Palaeoecology, taphonomy, and preservation of a lower Pliocene shell bed (coquina) from a volcanic oceanic island (Santa Maria Island, Azores, NE Atlantic Ocean). *PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY* 430:57-73.
- B.J. Macfadden, M.X. Kirby, A. Rincon, C. Montes, S. Moron, N. Strong, C. Jaramillo. 2010. Extinct peccary “*Cynorca*” *occidentale* (Tayassuidae, Tayassuinae) from the Miocene of Panama and correlations to North America. *JOURNAL OF PALEONTOLOGY* 84:288-298.
- S.P. Ávila, P. Madeira, C. Zazo, A. Kroh, M. Kirby, C.M. da Silva, M. Cachão, A. M. De Frias Martins. 2009. Palaeoecology of the Pleistocene (MIS 5.5) outcrops of Santa Maria Island (Azores) in a complex oceanic tectonic setting. *PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY* 274:18-31.
- M.X. Kirby, D.S. Jones, B.J. MacFadden. 2008. Lower Miocene stratigraphy along the Panama Canal and its bearing on the Central American Peninsula. *PLOS ONE*, 3-e2791:1-14.
- M.X. Kirby, D.S. Jones, S.P. Avila. 2007. Neogene shallow-marine paleoenvironments and preliminary strontium isotope chronostratigraphy of Santa Maria Island, Azores. *ACOREANA, Supplement* 5:112-125.
- G.J. Retallack, M.X. Kirby. 2007. Middle Miocene global change and paleogeography of Panama. *PALAIOS*, 22:667-679.
- H.K. Lotze, H.S. Lenihan, B.J. Bourque, R.H. Bradbury, R.G. Cooke, M.C. Kay, S.M. Kidwell, M.X. Kirby, C.H. Peterson, J.B.C. Jackson. 2006. Depletion, degradation, and recovery potential of estuaries and coastal seas. *SCIENCE*, 312:1806-1809.
- K. Johnson, M.X. Kirby. 2006. The Emperador Limestone rediscovered: Early Miocene corals from the Culebra Formation, Panama. *JOURNAL OF PALEONTOLOGY*, 80:283-293.
- M.X. Kirby, B. MacFadden. 2005. Was southern Central America an archipelago or a peninsula in the middle Miocene? A test using land-mammal body size. *PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY*, 228:173-202.
- M.X. Kirby, H. Miller. 2005. Response of a benthic suspension feeder (*Crassostrea virginica*) to three centuries of anthropogenic eutrophication in Chesapeake Bay. *ESTUARINE, COASTAL AND SHELF SCIENCE* 62:679-689.
- M.X. Kirby, J.B.C. Jackson. 2004. Extinction of a fast-growing oyster and changing ocean circulation in Pliocene tropical America. *GEOLOGY* 32:1025-1028.
- M.X. Kirby. 2004. Fishing down the coast: Historical expansion and collapse of oyster fisheries along continental margins. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES* 101:13096-13099.
- C. Peterson, J. Jackson, M. Kirby, H. Lenihan, B. Bourque, R. Bradbury, R. Cooke, S. Kidwell. 2001. Factors in the decline of coastal ecosystems. *SCIENCE* 293:1589-1591.
- J.B.C. Jackson, M.X. Kirby, W.H. Berger, K.A. Bjorndal, L.W. Botsford, B.J. Bourque, R. Bradbury, R. Cooke, J.A. Estes, T.P. Hughes, S. Kidwell, C.B. Lange, H.S. Lenihan, J.M. Pandolfi, C.H. Peterson, R.S. Steneck, M.J. Tegner, R. Warner. 2001. Historical overfishing and the recent collapse of coastal ecosystems. *SCIENCE* 293:629-638.
- M.X. Kirby. 2001. Differences in growth rate and environment between Tertiary and Quaternary *Crassostrea* oysters. *PALEOBIOLOGY* 27:84-103.
- M.X. Kirby. 2000. Paleoecological differences between Tertiary and Quaternary *Crassostrea* oysters, as revealed by stable isotope sclerochronology. *PALAIOS* 15:132-141.
- M.X. Kirby, T.M. Soniat, H.J. Spero. 1998. Stable isotope sclerochronology of Pleistocene and Recent oyster shells (*Crassostrea virginica*). *PALAIOS* 13:560-569.
- M.X. Kirby, L.R. Saul. 1995. The Tethyan bivalve *Roudairia* from the Upper Cretaceous of California. *PALAEONTOLOGY* 38:23-38.

TEACHING EXPERIENCE

2014	University of New Haven – Natural Science course
2013	Lyme Academy College of Fine Arts – Natural Science course
2012	Lyme Academy College of Fine Arts – Natural Science course
2010	7 th International Workshop, University of the Azores, Portugal
2008	Graduate Liberal Studies Program, Wesleyan University – Graduate-level seminar
2008	Lyme Academy College of Fine Arts – Natural Science course
2008	5 th International Workshop, University of the Azores, Portugal
2007	4 th International Workshop, University of the Azores, Portugal
2006	3 rd International Workshop, University of the Azores, Portugal
2005	2 nd International Workshop, University of the Azores, Portugal
1993-1999	Department of Geology, University of California, Davis
1988-1990	Department of Geological Sciences, California State University, Northridge

PRESENTATIONS

- 2010 Deciphering the Geologic History of Santa Maria Island from Strontium Isotopes and Neogene Stratigraphy. 7th International Workshop, Palaeontology in Atlantic Islands, University of the Azores, Portugal.
- 2007 Revised Miocene stratigraphy of the Panama Canal Basin and its bearing on the Peninsula of Panama. GEOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING.
- 2007 Geology and paleontology of the Panama Canal. PALAEOONTOLOGY IN ATLANTIC ISLANDS, 4TH INTERNATIONAL WORKSHOP, AZORES.
- 2006 Neogene shallow-marine paleoenvironments of Santa Maria, Azores, Portugal. ATLANTIC ISLAND NEOGENE, INTERNATIONAL CONGRESS, AZORES.
- 2005 Survey of the paleontological resources of the areas proposed for excavation during the expansion and modernization of the Panama Canal. PANAMA CANAL AUTHORITY, REPUBLIC OF PANAMA.
- 2004 Miocene fossils, paleoenvironments and paleogeography of the Panama Canal Basin. SMITHSONIAN TROPICAL RESEARCH INSTITUTE, PANAMA.
- 2002 Environmental deterioration in estuaries. NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY.
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