

YAIR ROSENTHAL – CURRICULUM VITAE

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Professional experience

2015- present [Distinguish Professor, Rutgers University](#)
2007- present Visiting Professor, Institute of Earth Sciences, Hebrew University, Jerusalem
2006-2015 Professor, Rutgers University
2000-2006 Assistant and Associate Professor, Department of Marine and Coastal Sciences and the Department of Earth & Planetary Sciences, Rutgers University
1997-2000 Assistant Research Professor, Rutgers University
1996-1997 Post-doc, The Weizmann Institute of Science, Rehovot, Israel (advisor: A Shemesh)
1995-1996 Post-doc, Biosphere-2 Center of Columbia University (advisor: W Broecker)
1988-1994 Research Assistant, Massachusetts Institute of Technology, Cambridge, MA
1985-1988 Research Assistant, The Hebrew University of Jerusalem, Israel
1978-1981 Regional Supervisor, National Parks Authority, Israel

Education

1994 PhD, Massachusetts Institute of Technology / Woods Hole Oceanographic Institution
1988 MSc, The Hebrew University of Jerusalem, Israel
1985 BSc, The Hebrew University of Jerusalem, Israel, majors in Geology and Biology

Research interests

Paleoceanography, Paleoclimatology, Geological History, Biogeochemistry

Academic and professional services

Lead proponent and co-Chief of IODP [Expedition363](#) to the western equatorial Pacific in 2016.

Editorial responsibilities:

Associate Editor, *Geochim Cosmochim Acta* (2012-present)

Associate Editor, *Geology* (2009-2012)

Guest editor for *Global Planetary Change* (2005)

Committees: Member of United States Advisory Committee on deep-ocean drilling (USAC; 2011-2014); member of the USA-Indonesia joint council on research (2011-2014); Member of IODP Science Steering Evaluation Panel (2007-2010); Member of the Science advisory board for the Goldschmidt Conference 2012; Member of NSF P2C2 planning workshop; Co-chair of the IMAGES-PAGES working group on coring in the western Equatorial Pacific; Member of the NSF review panel of MG&G, November 2000, May 2001; Consultant to the New York Academy of Sciences

Other: Reviewer for major scientific journals; Reviewer of proposals for NSF, BSF, NERC and HRF; Session Chair: Fall AGU 1998, Spring AGU 1999, Fall AGU 2001; Faculty sponsor for NSF funded Hunter College's "Gender Equity Project"; Organizer of an international Mg/Ca inter-lab calibration study; Faculty member of the Urbino Summer School of Paleoclimatology (2008-present); member of the scientific committee for the Goldschmidt Conference, Montreal (2012)

Sabbatical host to: Kira Lawrence (Lafayette College, 2009, 2014); Jain Xu (Xian University, 2012)

Teaching

Chemical Oceanography (Graduate), Paleoceanography (Graduate), The Water Planet (Undergraduate),

Awards

Lady Davis Fellowship, The Hebrew University, 2012
Outstanding Referee award, Paleoceanography AGU, 2009
Forchheimer Fellowship, The Hebrew University, 2005
The Department of Geology (Hebrew University) Excellence Award for graduate students, 1986
The Israel Geological Society Award for MSc thesis, 1987

Professional affiliations

Geochemical Society, American Geophysical Union

Graduate students supervised

- 2014- Maria Makarova, PhD student (co-advisor with Ken Miller and Jim Wright)
2009-14 Julie Kalansky, PhD student (principal advisor)
Thesis title: “*Internal and forced variability of the equatorial Pacific Ocean and ITF during the Holocene*”
2012-14 Maria Makarova, MSc student (co-advisor with Ken Miller and Jim Wright.
2007-13 Tali Babila, PhD student (principal advisor; now post doc UC Santa Cruz)
Thesis title: “*Boron/calcium in planktonic foraminifera: proxy development and application to the Paleocene-Eocene boundary*”
2010-12 Katherine Esswein, MSc (principal advisor; now research associate Lamont Doherty Earth Observatory)
Thesis title: “*Patterns of climate variability in the western equatorial Pacific during the Common Era*”
2002-08 Sindia Sosdian, PhD student (principal advisor; now Lecturer, Cardiff University, UK)
Thesis title: “*Climate transitions across the Cenozoic: insights from elemental ratios in benthic foraminifera and marine gastropods*”
2004-08 Kate Jordan, MSc student (principal advisor; now at Liberty Science Museum)
Thesis title: “*Evaluating carbonate saturation effects on magnesium calcium core top calibration in benthic foraminifera*”
2006-07 Kuo-Fang Huang (Visiting PhD student; now Assistant Research Fellow, Institute of Earth Sciences, Academia Sinica Taiwan)
2005-07 Emily Clinch, MSc student (principal advisor; now high school teacher NYC)
Thesis title: “*Scientific Literacy and Undergraduate Education at Rutgers University*”

Current post-doctoral advisees (PhD Institution)

- 2014 Patrick Grunert (*University of Gratz, Austria*)
2014 Katherine Allen (*Colombia University, USA; primary advisor Liz Sikes*)
2014 Paola Moffa-Sanchez (*Cardiff University, UK*)
2011 Stella Woodard (*Texas A&M University, USA*)

Previous post-doctoral advisees (Current position)

- 2013-14 Morgan Schaller (*Assistant Professor at Rensselaer Polytechnic Institute*)
2010-13 Audrey Morley (*Lecturer, National University Ireland, Galway, Ireland*)
2010-14 Tali Mass (*Haifa University, Israel*)
2010-11 Wenge Jiang (*post doc McGill University Canada*)
2008-10 Allison Farnzese (*Lecturer, Columbia University*)
2006-07 Bridget Wade (*Professor, University College of London, UK*)
2002-04 Thibault de Garidel-Thoron (*Research scientist, CEREGE, France*)
2002-05 Dyke Andreasen (*Research Associate, University of California, Santa Cruz*)
2001-04 Bas Vandeschootbrugge (*Assistant Professor, Utrecht University, The Netherlands*)
2001-04 Caroline Lear (*Reader, Cardiff University, UK*)
2001-04 Trevor Bailey (*Cardiff Geological Museum, UK*)

Undergraduate advising

Advised over 35 undergraduate students in laboratory work including 10 participants on research cruises

Undergraduate honor theses / REU student

- 2015 Molly Cunningham (Rutgers SAS, Aresty Fellow)
- 2014 Chris Vishu Kumar (Rutgers SAS, Aresty Fellow)
- 2014 Brian Gonzales (William Paterson, REU summer student)
- 2012 Beverly Chiu (Rutgers SAS, Aresty Fellow; a coauthor on a Science paper)
- 2012 Josh Epstein (Rutgers SAS, Aresty Fellow)
- 2011 Logan Brenner (Skidmore College, REU summer student)
- 2010 Julie Criscione (Rutgers SAS, REU)
- 2009 Ashley Brower (Rutgers Cook College, Aresty Fellow)
- 2007 Emily Israel (Rutgers Cook College, REU)
- 2002 Amber Granger (Rutgers, Cook College, Cook Honors)
- 2001 Katherine Androwski (Rutgers, Cook College, REU)
- 1994 Phoebe Lam (MIT)

Thesis committee member

- 2011- Kim Baldwin, EPS Rutgers University
- 2011- Jeana Drake, IMCS Rutgers University
- 2011- Michael Erb, Envir. Sciences Rutgers U.
- 2009- Audrey Morley (Bamberg), PhD external member Bremen University, Germany
- 2008- Livia Montone MSc, IMCS Rutgers University
- 2008- Eleni Anagnostou PhD, IMCS Rutgers University
- 2007- Nick Venti, PhD, external member University of Delaware
- 2007- Michele Lavigne, PhD, IMCS Rutgers University
- 2006- Aurora Elmore, PhD, Department of Geological Science, Rutgers University
- 2005- Samantha Langton, MSc, State University of New York at Albany
- 2004 Kathleen D. Scheiderich, MSc, University of Delaware
- 2003- Yongcheng Ji, PhD, IMCS Rutgers University

PhD thesis examiner

- 2010 Adriana Dueñas-Bohorquez, Utrecht University, The Netherlands
- 2007 Allison Farnzese, PhD, LDEO, Columbia University
- 2006 Kenichi Fukuda, University of Otago, New Zealand
- 2002 Athanasios Koutavas, LDEO, Columbia University
- 2002 Renee Takesue, LDEO, Columbia University

Shipboard experience

- 2013 R/V Revelle – Chief Scientist. Site survey and coring cruise western eq. Pacific (26 days)
- 2009 R/V Knorr, coring in east equatorial Pacific (11 days)
- 2005 R/V Sonne, coring in the Timor Channel (24 days)
- 2004 R/V Knorr. Co-chief Scientist. Coring in western N. Atlantic (21 days)
- 2004 R/V Knorr, Chief Scientist. Coring in Norwegian Sea (10 days)
- 2003 R/V Baruna Jaya VIII, Chief Scientist. Coring in Indonesia (31 days)
- 2002 R/V Oceanus, coring in the North Atlantic (4 days)
- 2000-02 Eight 1-day cruises on the Hudson River
- 1998 R/V Moana Wave, Co-chief Scientist. Coring in Hawaii (23 days)
- 1997 R/V Shikmona, Sediment geochemistry, eastern Mediterranean Sea

- 1992 R/V Le Suirat, Coring in the North Atlantic (21 days)
 1991 R/V New Horizon, Trace-metal cycling in the California Current (11 days)
 1990 R/V New Horizon, Trace-metal cycling in the California Current (11 days)
 1989 R/V Weatherbird, Trace-metal cycling near Bermuda (2 days)

FUNDING HISTORY

Drilling proposals

IODP- Cenozoic Evolution of the North Atlantic—the Western Atlantic Latitudinal Transect (lead proponent Mitch Lyle- OSU, co-proponents Ken Miller, Jim Wright, Yair Rosenthal).

IODP- Paleoceanographic records from the Western Pacific Warm Pool (Rosenthal and Mountain- lead proponents; approved for drilling as Expedition 363, Rosenthal co-chief)

Current

NSF (ODP)- Site survey cruise and coring of potential IODP drill sites in the Western Pacific Warm Pool (05/13-05/15; PI: Y. Rosenthal, co-PI: G. Mountain, \$300,000)

NSF (OCE)- Deep Ocean Sensitivity to, and Role in the Transition from mid-Pliocene Warmth to Northern Hemisphere Glaciation (08/13-08/16; PI: Y. Rosenthal, co-PI: Stella Woodard (post doc), \$348,551)

Past

NSF (OA)- Collaborative Research: Ocean Acidification-Category 1: The molecular basis of ocean acidification effects on calcification in zooxanthellate corals (10/10-10/14 PI: Paul Falkowski, co-PIs: Rosenthal, Schofield, Sherrell; \$1,882,193 to Rutgers)

NSF (P2C2)- Collaborative Research: High-resolution paleoceanography in the heart of the Equatorial Pacific Cold Tongue (07/10-07/14 PI: Rosenthal, \$245,017 to Rutgers; co-PIs: Tim Herbert Brown, Mark Altabet, University of Massachusetts)

Consortium for Ocean Leadership- Site-survey cruise in support of proposal IODP 799, Full- support for students' and post docs' training (2013; PIs: Rosenthal and Mountain, \$15,000)

Norwegian research council- North Atlantic Ocean-Climate Variability in a Warmer World (01/11-01/14; PI: Helga F. Kleiven Bergen University; Rutgers' share: \$41,000)

NSF (EAR)- Pliocene peak sea level and warmth: Integration of a Virginia core-hole array and deep-sea isotope and trace metal records (PI: Ken Miller, co PIs: Browning, Rosenthal, Wright – recommended for funding 11/2011-11/2012; \$75,000)

NSF (P2C2)- Collaborative Research: Temperature reconstruction of the western equatorial Pacific thermocline during the last ~2000 years: a paleo perspective for modern observations (08/09-08/12 PI: Rosenthal, \$185,317 to Rutgers + \$9,085 REU; co-PI: Brad Linsley, SUNY)

NSF (International Programs)- Planning visit in support of a collaborative paleoclimate study between USA and Indonesian Scientists (09/09-09/11 PI: Rosenthal, \$10,230)

NSF (OCE)- Foraminifera as a proxy for seawater neodymium: Core-top calibration and down-core application for reconstructing Holocene variability in the Indonesian Throughflow (ITF). (\$189,985, 05/09-05/11, PI: Rosenthal)

ACS-PRF- Assessing the potential of B/Ca in planktonic foraminifera as a proxy of seawater pH: a sediment trap calibration (\$100,000, 06/08-06/11, PI: Rosenthal)

NSF (OCE)- Reconstructing Holocene climate variability and the Indonesian throughflow in the western equatorial Pacific (\$623,585, 06/05-06/08, PI: Rosenthal, \$164,606 share; co-PI's: Oppo, WHOI and Linsley, SUNYA).

NSF (MRI)- Acquisition of a laser ablation high resolution inductively coupled plasma mass spectrometer (\$645,000, 09/04-08/07, PI's: Sherrell, Rosenthal, Field, Swisher).

NSF (OCE)- Assessing the effects of calcite saturation on the benthic foraminiferal Mg/Ca-temperature relationship using a homothermal depth transect in the Norwegian Sea (\$221,810,

02/04-01/06, PI: Rosenthal). Includes a 10-day cruise in the Norwegian Sea. Supplement (\$36,900) for participation on 25 day cruise to New Zealand

NSF (OCE)- Acquisition of inductively coupled plasma optical emission spectrometer (ICP OES) for paleoceanographic research (\$66,400, 01/03-01/04, PI: Rosenthal)

NSF (OCE)- Reconstructing Holocene climate variability and the Indonesian throughflow in the western equatorial Pacific (\$850,000, 08/02-08/04, PI: Rosenthal, \$365,912 share; co-PI's: Oppo, WHOI, and Linsley, SUNYA). Supplement: (\$18,660)

NSF (sub-award through WHOI)- Holocene changes in the Gulf Stream and western Sargasso Sea (\$600,000, 9/02-9/05, PI: Keigwin, WHOI; co-PI: Rosenthal - \$75,000 share)

NSF (EAR)- Constraining Tertiary temperatures, salinities, and ocean chemistry: An isotopic and trace-metal study of serially-sampled mollusks. (\$112,000 01/02-12/03, PI: Ethan Grossmann, TAMU; co-PI: Rosenthal, Lear - \$53,980 share)

NSF (OCE)- An inter-lab comparison of Mg/Ca and Sr/Ca measurements in foraminifera (\$22,765 03/01-03/02; PI: Rosenthal)

Rutgers Research Council (2002) - \$1000

Rutgers Undergraduate Research Fellows Program (2001) - \$1500

NSF (Biocomplexity)- The evolution and radiation of eucaryotic phytoplankton taxa (\$4,000,000, 10/00-10/05, PI: Paul Falkowski; co-PI: Miller, Schofield, Rosenthal and others)

Hudson River Foundation- Toxic metal inputs to the lower Hudson River Estuary during sediment resuspension (\$224,496, 6/00-6/02, PI: Rosenthal - 65% share; co-PI's: Rob Sherrell, Rutgers and Rob Mason, CBL Maryland)

NSF (OCE)- Incorporation and preservation of magnesium in planktonic foraminiferal calcites: Implications for Mg-paleothermometry (\$349,000, 5/00-5/03, PI: Rosenthal; co-PI: G. Lohmann, WHOI; Rosenthal \$179,000 share)

NSF (OCE)- Research Experience for Undergraduate (\$5875, 4/00-4/01, PI: Rosenthal)

NSF (OCE)- The Southern Ocean paleochemical record: Modern calibration and down-core reconstructions of trace-metal variability in planktonic and benthic foraminifera (\$214,038, 1/99-1/02, PI: Rosenthal)

NSF (OCE)- A calibration study of the elemental chemistry of live benthic foraminifera at Hawaii (\$29,864, 5/98-5/99, PI: Rosenthal)

Recent media coverage (selected)

Pacific Ocean Heat Content

An interview with Andrew Revkin of the New York Times:

<http://dotearth.blogs.nytimes.com/2013/10/31/10000-year-study-finds-oceans-warming-fast-but-from-a-cool-baseline/>

NSF research highlights: http://www.nsf.gov/news/news_summ.jsp?cntn_id=129544

US Senate climate news: <http://www.whitehouse.senate.gov/download/?id=7d8f1d4b-e3f8-451d-92e0-024e7f230589&download=1> **Unstable Ocean Circulation**

Science Daily: <http://www.sciencedaily.com/releases/2014/02/140220141625.htm>

Phys.Org: <http://phys.org/news/2014-02-unstable-atlantic-deep-ocean-circulation.html>

3.2 Million Year Earth Temperature History

Rutgers Today: <http://news.rutgers.edu/research-news/32-million-year-temperature-history-tiny-fossils/20090805#.U7gEsgjEbU>

Antarctic Role in Northern Hemisphere Glaciation

Rutgers Today: <http://news.rutgers.edu/news/past-climate-change-was-caused-ocean-not-just-atmosphere-new-rutgers-study-finds/20141023#.VEqWzygEbU>

Science Daily: <http://www.sciencedaily.com/releases/2014/10/141025152717.htm>

Climate Detective

An undergraduate film project at Mason Gross, Rutgers

<http://vimeo.com/97696757>

Invited keynote or plenary addresses in the past 10 years

- 2014 “A Paleo-perspective on Ocean Heat Content and Climate Change” Caltech
- 2014 “Past as Prologue: Holocene Climate as Context for Future Climate Change,” conference in Oregon
- 2013 Ocean Gateways Conference, Israel
- 2012 Kaplan Conference on Paleoceanography, Israel
- 2011 Chapman Conference, Santa Fe USA
- 2008 Element Users Annual Conference, New Brunswick, NJ
- 2007 9th International Conference on Paleocanography, Shanghai, China
- 2007 International Conference of Paleoceanography-9, Shanghai, China
- 2007 Conference on Milankovitch Cycles over the past 5 Myr, Trieste, Italy
- 2005 Israel Society for Ecology and Environmental Sciences. The Weizmann Institute of Science, Rehovot, Israel
- 2005 Past Equatorial Pacific Dynamics meeting, NTU, Taipei, Taiwan
- 2005 13th International Marine Science Symposium on the Physical, Biological, Chemical and Geological Processes in the Pacific Ocean and Asian Marginal Seas. Bali, Indonesia
- 2005 The G.M. Friedman Conference on Paleoclimate and Paleoceanography, The Hebrew University of Jerusalem, Israel. Invited speaker
- 2004 International Conference of Paleoceanography-8 Biarritz, France (declined due to field work)
- 2003 Goldschmidt Conference in Geochemistry, Kurashiki, Japan

Invited talks / seminars in the past 10 years

- 2015 Yale University
- 2015 Brown University
- 2015 Rice University
- 2014 California Institute of Technology
- 2014 LDEO/Columbia University, “Paleo-perspective of the Indonesia Throughflow”
- 2014 Institute of Earth Sciences, The Hebrew University, Israel. “Ocean Heat Content”
- 2013 Fall AGU, San Francisco
- 2013 Department of Earth Sciences, University of Bergen, Norway
- 2013 Ben Gurion University, Israel
- 2011 LDEO, Columbia University
- 2011 Yale University
- 2011 Lafayette College
- 2010 Utrecht University, The Netherlands
- 2010 Tokyo University, Japan
- 2010 National Cheng Kung University, Taiwan
- 2010 Bandung University, Indonesia
- 2008-14 Summer School in Paleoceanography, Urbino Italy
- 2007-14 The Hebrew University of Jerusalem, invited lectures on “Topics in Cenozoic Paleoceanography”
- 2009 Princeton University
- 2009 Rutgers University EPS
- 2008 Princeton University
- 2008 Rutgers University, Institute of marine and Coastal Sciences

2008 Rutgers University, Department of Earth and Planetary Sciences
2007 LDEO Columbia University
2006 Institut für Geowissenschaften Christian-Albrechts-Universität zu Kiel, Germany
2006 Princeton University
2006 Rutgers University Climate symposium “Research Highlights”
2004 Inter-university Institute of Marine Biology, Eilat, Israel
2004 University of Washington, Seattle, WA
2004 Massachusetts Institute of Technology
2004 Rutgers University, Department of Geology