

CURRICULUM VITAE: Fei Chai

Personal and Business Data:

School of Marine Sciences
5706 Aubert Hall
University of Maine
Orono, ME 04469-5706, USA

Telephone: (207) 581-4317
Fax: (207) 581-4388
E-mail: fchai@maine.edu
<http://www.marine.maine.edu/>

Present Positions:

Professor, School of Marine Sciences, University of Maine
Professor, Climate Change Institute, University of Maine
Adjunct Associate Professor, Nicholas School of the Environment, Duke University

Education:

B. S. 1984 Shandong College of Oceanology (Ocean University of China)
M. A. 1991 Princeton University (M. A. advisor: Prof. S. George Philander)
Ph.D. 1995 Duke University (Ph.D. advisor: Prof. Richard T. Barber)

Professional Experience:

2008 - Professor, School of Marine Sciences, University of Maine
2008 - Professor, Climate Change Institute, University of Maine
2002 - 2008 Associate Professor, School of Marine Sciences, University of Maine
2002 - 2008 Associate Professor, Climate Change Institute, UMaine
10/02 - 3/03 Visiting Professor, Nagoya University, Japan
1996 - 2001 Assistant Professor, School of Marine Sciences, Univ. of Maine
5/99 - 8/99 Visiting Professor, Hong Kong University of Science & Technology
1994 - 1996 Research Assistant Professor, Department of Oceanography, UMaine

5 Most Relevant Publications

Chai, F., M-S Jiang, Y. Chao, R.C. Dugdale, F. Chavez, and R.T. Barber (2007):
Modeling Responses of Diatom Productivity and Biogenic Silica Export to Iron
Enrichment in the Equatorial Pacific Ocean. *Global Biogeochemical Cycle*, Vol. 21,
GB3S90, doi:10.1029/2006GB002804

Fujii, M., E. Boss, and **F. Chai** (2007): The value of adding optics to ecosystem
models: a case study. *Biogeosciences* 4, 1585-1631.

deYoung, B., M. Heath, F. Werner, **F. Chai**, B. Megrey, and P. Monfray (2004):
Challenges of Modelling Ocean Basin Ecosystems. *Science*, Vol. 304, 1463-1467.

Chai, F., M. Jiang, R.T. Barber, R.C. Dugdale, and Y. Chao (2003): Interdecadal
Variation of the Transition Zone Chlorophyll Front, A Physical-Biological Model
Simulation between 1960 and 1990. *Journal of Oceanography*, Vol. 59, 461-475.

Chai, F., R. C. Dugdale, T-H Peng, F. P. Wilkerson, and R. T. Barber (2002): One
Dimensional Ecosystem Model of the Equatorial Pacific Upwelling System, Part I:
Model Development and Silicon and Nitrogen Cycle. *Deep-Sea Res. II*, Vol. 49, No.
13-14, 2713-2745.

5 Other Selected Publications

- Fujii, M. and **F. Chai** (2007): Modeling carbon and silicon cycling in the equatorial Pacific. *Deep Sea Res. II* 54, 496-520.
- Jiang, M-S and **F. Chai** (2004): Iron and silicate regulation on new and export production in the equatorial Pacific: A physical-biological model study. *Geophys. Res. Lett.*, Vol. 31, doi: 10.1029/2003GL018598.
- Dugdale, R.C., M. Lyle, F.P. Wilkerson, **F. Chai**, R.T. Barber, T-H Peng, and A.G. Wischmeyer (2004): The Influence of Equatorial Diatom Processes on Si Deposition and Atmospheric CO₂ Cycles at Glacial/Interglacial Time Scales. *Paleoceanography*, Vol. 19, PA3001, doi:10.1029/2003PA000929.
- Landry, M.R., R.T. Barber, R.R. Bidigare, **F. Chai**, K.H. Coale, H.G. Dam, M.R. Lewis, S.T. Lindley, J.J. McCarthy, M.R. Roman, D.K. Stoecker, P.G. Verity, J.R. White (1997): Iron and Grazing Constraints on Primary Production in the Central Equatorial Pacific: An EQPAC Synthesis. *Limnol. Oceanogr.*, Vol. 42, No.3, 405-418.
- Chai, F.**, R.T. Barber, and S.T. Lindley (1996): Origin and maintenance of high nutrient condition in the equatorial Pacific. *Deep-Sea Res. II*, Vol. 42, No. 4-6, 1031-1064.

Synergistic Activities

- Taught both graduate courses (“Marine System Modeling”, “Advanced Reading in Oceanography”, and “Marine Science Seminar”) and undergraduate course (“Introduction to Oceanography”, “Oceans and Climate Change”); advised undergraduate (20) and graduate students (5), as well as postdoctoral associates (5);
- Involved in developing U.S.-China collaborative research programs in the South China Sea and Southern Ocean, and hosted several visiting Chinese scientists at the University of Maine;
- Co-organized “U.S. JGOFS SMP Workshop on Modeling Dynamics of Equatorial Pacific Ecosystem” in 1999 and 2002;
- Organized and Chaired several special sessions during “The Ocean Sciences Meeting”, January 2000, February 2002, February 2006, Hawaii, and for the PICES in Vladivostok, October 2005, and Yokohama, October 2006. Co-Chair of the PICES working group on impact of iron on carbon cycle and marine ecosystems.
- Involved in two NASA funded research projects on connecting ENSO and PDO climate variability with Peru ecosystem dynamics, including forecasting anchovy population in the Peru upwelling system.

Scientific Collaborators outside of UMaine in the past 48 months:

Prof. Richard Barber (Duke), Dr. Yi Chao (JPL/NASA), Dr. Francisco Chavez (MBARI), Prof. Richard Dugdale (SFSU), Dr. Joaquim Goes (Bigelow), Drs. Mark Altabet and Avijit Gangopadhyay (UMass Dartmouth), Dr. Robert Bidigare (U. Hawaii).

Graduate and Postdoctoral Advisees:

Li Xu (former M.S. student, now in computer science), Lawrence Klein (former M.S. student, now with NOAA), Yi Xu (Ph.D. student), Jeremy Winn (M.S. student), Daiki Mukai (M.S. exchange student from Japan), Artur Palacz (Ph.D. student), Carrie Ambrecht (M.S. student), Mingshun Jiang (former postdoc, now at UMass Boston), Lei Shi (former postdoc, now at UMaine), Masahiko Fujii (former postdoc, now at Hokkaido University), Guimei Liu (postdoc), Lionel Pawlowski (postdoc, now at Laboratoire Biologie Halieutique), Peng Xiu (postdoc).