



Spring 2005

RMA Newsletter

Resource Modeling Association

www.resourcemodeling.org

The plans for the 2005 World Conference on Natural Resource Modeling are now in place. I think we have an exciting program planned for you. The conference will take place on the beautiful campus of Humboldt State University in Arcata, CA, a rural community 275 miles north of San Francisco. Arcata sits on Humboldt Bay, the largest bay between

addition, we are planning a special workshop on individual-based modeling led by Steve Railsback.

We are planning a pre-conference white water rafting outing on the wild and scenic Trinity River; a mid-conference outing to Redwood National Park, and a post-conference off-shore outing on the HSU research vessel Coral Sea.

California — Are YOU Coming?

San Francisco and Seattle, and is bounded by the Pacific Ocean to the west and the coastal mountain range to the east. The university campus is adjacent to the Arcata city forest which is composed of hundreds of acres of rugged hilly redwood forest crisscrossed by hiking trails. Humboldt is widely known for its environmental, ecological, and natural resource programs and is situated in a perfect setting for such studies.

The scientific program is scheduled for June 15, 16, and 17 and will feature presentations by John Goss-Custard from the Centre for Ecology and Hydrology, Dorchester, UK; Carlos Castillo-Chavez, the Joaquin Bustoz Jr. Professor of Mathematical Biology at Arizona State University, and Steve Railsback from Humboldt State University and co-author of *Individual-based Modeling and Ecology* (Princeton University Press). Plus there will be many interesting contributed papers. In

The Cooper Ornithological Society will hold their annual meeting on the HSU campus at the same time we are meeting and we have arranged for those registered for the RMA meeting to freely attend any of the sessions of the Cooper meeting that might interest them.

Two carriers, United Express and Horizon Air, serve the Eureka/Arcata airport (ACV). Because of the limited number of flights, it is very important to make your air travel arrangements as early as possible. You may want to consider flying to San Francisco and driving to Arcata. It is a beautiful 6 hour drive through California wine country, the coastal mountain range, and redwood forests.

The deadline date for submission of abstracts and for early registration is May 1. Information on accommodations, registration forms, and lots more are available on the RMA web site: www.resourcemodeling.org

From the President

The RMA 2004 World Conference in Natural Resource Modeling in Melbourne was very successful. Although the weather, like the 2003 meeting I organized in North Carolina was very atypical, cool and rainy. When I was a kid a friend of my father said I was an omen of bad weather. Maybe he was correct. The weather aside it was a wonderful experience. The banquet was excellent. Especially for those of us who stayed around to finish off the wine. Although I never figured out the tiny pool balls!

We held a meeting of the officers and directors. I brought up the topic of "What could we do to bring back the good old days?" when, as I remember, our meetings were more interactive and the presentations were more on ideas than results. It was the thing I found distinctive about RMA

meetings as apposed to other meetings I attended, where the emphasis was more on results than thought. It may be we're just a victim of success. Greater participation requires more formality. However RMA membership doesn't appear to be increasing in correspondence with participation at our meetings. Perhaps we can find time for a general discussion at our next meeting in Arcata.

Thank you for the honor of serving as President for the next two years.

-- Bill Smith

About *Natural Resource Modeling*

From Dr. Catherine A. Roberts, Editor

It was an exciting year for RMA's journal, *Natural Resource Modeling*. We'd like to welcome our newest Senior Editor, Carlos Castillo-Chavez from Arizona State University.

Carlos will be handling papers in Ecological and Biological Modeling. He plans to bring several students to the Arcata CA meeting in June 2005, so we'll have the opportunity to greet him there! We also welcome our newest Associate Editor: Erwin Bulte from Tilburg University, The Netherlands. He will be helping to handle our increasing submissions in economics.

We would like to send our sincerest thanks to those who are stepping down from the editorial board in 2005: Mike Mesterton-Gibbons, Tony Charles, Richard Plant, Bill Reed, and Tony Smith. Their expertise and many years of service have been very much appreciated.

NRM published 19 papers in the four issues of Volume 17 during 2004. Issue Number 4 was a special issue associated with the RMA meeting in Lesvos, Greece. It was co-edited by John Hearne and Yiannis Matsinos.

We have big plans for Volume 18 in 2005. The Joint Math Meetings in Phoenix, AZ resulted in a special issue to be published later this year (in issues #3 and #4). Horst Thieme from Arizona State University and Suzanne Lenhart from the University of Tennessee served as co-editors.

There are some other special issues in the works: two from our most recent RMA meetings (Beaufort & Melbourne) and one from a Diversitas workshop in Paris. I am grateful to the guest editors of these special issues and will thank them individually in future columns as their issues are published.

We are pleased to learn that Thompson's ISI/WOS is bringing our journal under consideration for inclusion in their Science Citation Index. We've been aiming for this for years, as it would significantly enhance the profile of our journal. We are already included in several other citation indices, but Science Citation Index would be a real coup. We are working aggressively to help improve our position with Thompson's ISI/WOS. (Apologies for an earlier announcement distributed to our editorial board that this was a done deal...this was premature and we may not know the results of their deliberations until the fall.)

If you have any ideas for NRM, send them along. Please consider organizing sessions at upcoming conferences you attend, and possibly developing a special issue. Please send me the contact information for advertising our organization and journal with your field's professional publications.

I can't emphasize enough the need to increase the circula-

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tion of our journal. I'm sure each RMA member can think of people they know who would benefit from belonging to RMA and subscribing to our journal. To reach the industry standard as a "healthy" journal, we should aim to triple our subscriptions. That said, could each of you personally encourage and invite some colleagues to join? The upcoming meeting in Arcata, CA is a great place to introduce your colleagues to our organization. Please try to increase the circulation of NRM by signing up a colleague or your institution's library. This will really help your journal succeed!

On a personal note, I'd like to thank Tom Sherman, the Executive Director of the Rocky Mountain Math Consortium. He has been incredibly patient with me during my inaugural year as editor for NRM.

A Report from Melbourne

The 2004 World Conference on Natural Resource Modeling was held December 12-15 at RMIT University in Melbourne, Australia. Attending the meeting were 90 individuals from 12 countries.

On Sunday evening, December 12, the visitors were welcomed by a reception at the Oxford Scholar Hotel. A special presentation of dances by a dozen Aboriginal children was a highlight of this occasion.

The conference program consisted of 65 talks on a wide range of subjects; four of these talks were invited addresses.

The invited speakers were Mark Burgman from the University of Melbourne, Wayne Getz from the University of California, Berkeley, Hugh Possingham from the University of Queensland, and Andre Punt from the University of Washington, Seattle. Mark asserted that mathematical models are often overly optimistic since they fail to address uncertainty. He proposed using information-gap theory, which asks how much uncertainty can be tolerated before our decision would change, and using as a performance measure the minimum expected population. Wayne presented two new methods for analyzing large ecological data sets of animal movements. One method is a correlation of n measurements in time or over space, called Correlation Coherence Analysis; the second utilizes the k nearest neighbors and is called the Local Convex Hull Method. He then applied these methods to the movement of wolves in Yellowstone and the distribution of ungulates in Kruger. Hugh argued that conservation biology needs to be more than simply ecology. Economic and decision theoretic tools must be used to determine where resources should be allocated to obtain the greatest conservation benefits for the money spent. Andre addressed some of the same concerns as Hugh. He stressed the importance of decision rules in management plans for fisheries and the need for quantitative scientists to communicate with policymakers.

Many different subjects were addressed in the 61 contributed papers. As is usually the case, a number of speakers discussed issues in forestry and fisheries, but the managing of water rights and usage was also a common topic. In addition, there were talks about marine ecosystems, controlling predators, plant survival, and wildlife management. A wide assortment of quantitative methods was applied to these problems. Both deterministic and stochastic population models were employed. Also used were methods from game theory, neural networks, optimal control theory, and mathematical programming. A number of talks were based on simulations and individual-based models. Such a rich diversity of subjects and methods guaranteed a highly successful conference.

Complementing the scholarly presentations, were various excellent social opportunities. On Tuesday, December 14, the conference participants took an outing in the rain to the Yarra Ranges National Park, a lush forest of mountain ash, and several varieties of ferns and eucalyptus. After lunch the participants chose between visiting the Healesville Sanctuary, one of Australia's premier wildlife parks, or a tour of the Healesville Wine Centre, a showcase of Yarra Valley wines.

On Wednesday night the conference dinner was held at the Oxford Scholar Hotel. In keeping with RMA tradition, John Hearne presented a variety of awards, some serious, others dubious. The award for the best student paper was given to Amgad Elmahdi of the University of Melbourne for his paper "A System Dynamics Approach and Sustainability Indicator Modelling for the Coleambally Irrigation System." Since our incoming president, Bill Smith, was fifteen minutes late for the

opening session, he was given a compass to help him find the way at future meetings. Since Rick McGarvey was even later returning to the bus at Healesville, he was presented a calendar to help him keep track of time. The presider at the final session, Rob Alexander, allowed the speakers to go on and on and In appreciation was he was given a bell to help him stop speakers on time in the future.

On Thursday morning about 20 people attended a special workshop on Density Dependent Mechanisms in Natural Resources. Four speakers, Rob Day, Wayne Getz, Rollie Lamberson, and Rick MacGarvey presented short talks. A useful discussion followed with perspectives from a range of problems in both aquatic and terrestrial ecosystems.

This was a highly successful and enjoyable RMA conference. The participants wish to express their appreciation to our host, John Hearne, who did an excellent job organizing the conference, and to Megan Austin who assisted John, took care of all the details, and made the social events so pleasurable.

— Bob Fray

Student Award Winner

At each RMA meeting, an award is given for the best student paper. At the Melbourne meeting the award was given to Amgad Elmahdi for his paper "A System Dynamics Approach and Sustainability Indicator Modelling for the Coleambally Irrigation System."

Amgad earned a B.Sc. in Botany and Chemistry at Mansoura University in Egypt. He holds M.Sc. degrees in both Limnology and in Land and Water Management. He is currently a Ph.D. student in the Department of Civil and Environmental Engineering at the University of Melbourne. His thesis topic is "Improving the Seasonality of Flows in the Murrumbidgee River through Better Irrigation Demand Management and Water Trading". He has several recent publications dealing with applications of GIS technology to water management issues. He is also active in university affairs, having recently been elected to the University of Melbourne Postgraduate Association Council.



11th International Interdisciplinary Conference on the Environment

CALL FOR PARTICIPANTS. The 11th International Interdisciplinary Conference on the Environment will be held in Orlando, Florida, June 23 - 25, 2005, at Sheraton Studio City. The Conference is sponsored by the Interdisciplinary Environmental Association, and welcomes scholarship in cross-disciplinary or interdisciplinary environmental studies in any academic field. Students are also encouraged to present their research with a nomination by a faculty member.

The closing date to receive abstracts for participation is April 30, 2005. Submitted papers may be evaluated for possible publication in the *Interdisciplinary Environmental Review*.

For more information, visit
<http://cars.desu.edu/faculty/mreiter/iea.htm>

The Craigville Conference Center is in the midst of a small private village with unique Cape Cod cottages, fresh water ponds, wooded areas, and private beach on Nantucket Sound. The quiet and undisturbed beauty make it a perfect setting for a friendly gathering such as ours. Five congenial and rustic guest houses will accommodate us (in single and double rooms, most with private baths, some with ocean, marsh and pond views) within easy walking distance to the ocean. The conference rate will include lodging and hearty meals (including a traditional lobster banquet) served in a dining room overlooking the Red Lily Pond, which is the home of abundant wildlife. The theme and the committee to work with Catherine Roberts in organizing the conference have yet to be determined.

June 19 - 22, 2007

Cape Cod, Massachusetts, USA

Details Just Announced:

2007 World Conference on Resource Modelling

Bergen, Norway

2006 World Conference on Resource Modelling

Plan Ahead!



Beres & Beres, Co-editors
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