



The CCB-bulletin, no 11, 21 October 2003  
<http://www.wageningen-ur.nl/ccb/>

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## UPCOMING EVENTS

1. DE ECONOMISCHE WAARDE VAN NATUUR EN MONDIALE MILIEUPROBLEMATIEK  
CCB LECTURE ECOLOGICAL ECONOMICS AND GLOBAL CHANGE  
(24 Oktober, Alterra, Wageningen)
2. ENVIRONMENTAL CHANGE AND MALARIA RISK  
global and local implications  
(12-14 November 2003, WICC, Wageningen)

## NEWS

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1. CCB LEZING: DE ECONOMISCHE WAARDE VAN SYSTEEM AARDE  
ECOLOGICAL ECONOMICS AND GLOBAL CHANGE  
(24 Oktober, Alterra, Wageningen)

Guestlecture: Roberto Costanza, Professor of Ecological Economics, The University of Vermont, USA  
PLACE: Alterra-WEST, Droevendaalsesteeg, ZAAL 1, between 12:00-14:00 o'clock)

PLEASE SEND A SHORT MESSAGE TO THE CCB SECRETARIAT IF YOU WOULD LIKE TO COME: Ann-Marie Ryan: <mailto:Ann-marie.ryan@wur.nl>>

Introduction:

The services of ecological systems and the natural capital stocks that produce them are critical to the functioning of the Earth's life-support system. They contribute to human welfare, both directly and indirectly and therefore represent part of the total economic value of the Earth System (Costanza et al., 1997). Many processes operate in the Earth system. One can distinguish processes in the ocean, the atmosphere and on land. The Earth's climate, including the hydrological cycle, encompasses both the abiotic and the living world, the terrestrial and marine biosphere. The land surface - atmosphere interface is important for the functioning of the Earth System, through interactions via energy and momentum fluxes, as well as through the biogeochemical cycles. Additionally, humans alter biophysical processes. Global environmental changes give rise to multiple stresses that interact with each other as well as with stresses of more localized origin to impact upon people, places and systems, including both human and environmental systems. It is clear, the value of the world's ecosystem and our natural capital is influenced by global change.

Ecological economics is a new cross-disciplinary approach to understanding and managing the ecology and economics of our world for sustainability, on local, regional, and global scales. Robert Costanza has sought to protect biological diversity and achieve long-term sustainability by integrating ecology and economics. His plans include using the tools of environmental

dispute resolution to improve problem solving where both economics and ecological forces threaten biological diversity.

More info:

About Costanza's institute: <http://www.uvm.edu/giee/>

Biography Costanza: <http://www.snre.umich.edu/emi/events/bios/costanza.htm>

Network Ecological Economics: <http://www.fsd.nl/naturevaluation/>

Literature:

Costanza, R., R. d'Arge, R. de Groot, S. Farber, M. Grasso, B. Hannon, S. Naeem, K. Limburg, J. Paruelo, R.V. O'Neill, R. Raskin, P. Sutton and M. Van den Belt. 1997. The value of the world's ecosystem services and natural capital. *Nature* 387:253-260.

Costanza R., 2000. Visions of alternative (unpredictable) futures and their use in policy analysis. *Conservation Ecology* 4(1):5. URL: <http://www.consecol.org/vol4/iss1/art5>

## 2. Workshop Environmental change and malaria risk: global and local implications (12-14 November 2003, WICC, Wageningen)

More info: <http://frontis.dlo.nl/cms/web/2003/20031112/info.php3?wsid=9>

Organized by

- Frontis - Wageningen International Nucleus for Strategic Expertise
- The Laboratory of Entomology, Wageningen University and Research Centre
- The International Centre for Integrative Studies, University Maastricht

Rationale

Malaria is one of the most serious public health problems in the world and the disease is on the increase, due in part to increasing drug and insecticide resistance, but also to decreasing health infrastructure (Miller et al. *Nature* 415 (2002) 673-679). Furthermore, environmental and demographic changes have resulted in dramatic increases in transmission in areas previously free of the disease. The spatial scale of these impacts on malaria transmission can be local, such as deforestation, agricultural changes, breakdown in public health measures, population movements from rural areas to cities, or global/regional in nature, such as climate change, migration of large numbers of people due to war or civil conflicts, and wide-spread antibiotic resistance of the malaria parasite (Hay et al. *Nature* 415 (2002) 905-909; Patz et al. *Nature* 420 (2002) 627-628). Also the time scale in which the effects take place differs from short term (e.g. daily rural-urban commuting) to long-term (e.g. human induced climate changes).

Reassessment of the global malaria situation undertaken at the Amsterdam Conference in 1992 led to the development of a pragmatic control strategy based on a Primary Health Care approach. Its aims are to: a) reduce mortality and the negative social and economic consequences of the disease b) prevent epidemics and c) protect malaria free areas. Such a control strategy requires recognition of the underlying variability in the epidemiology of the disease, the potential for modification, availability of resources and the need to adapt malaria control planning to local conditions. So there is a critical need to evaluate the integrated ecological and epidemiological information, field data, and surveillance in the field impact.

Until recently, predictions on malaria distribution and malaria risk depended largely on the collection of empirical data, including data from health records and parasitological, entomological and climate studies. The resulting malaria patterns depended to a large extent on the effectiveness of control efforts, together with socio-economic and ecological developments. There are many mathematical modelling approaches to malaria which have been useful in revealing important aspects of the transmission cycle. However, new mathematical tools based on evolutionary processes have appeared during the last decade which are eminently suitable for modelling adaptation and spatial processes. In assessing the impact of both global and local changes, the modelling of adaptation to changes (e.g. resistance development of malaria mosquito and parasite) and modelling of complex adaptive processes themselves provide a crucial tool for scanning the future.

### Objectives

The principle goal of the workshop is to assess the state of the art of integrative modelling for the prediction of malaria risk as determined by socio-economical, environmental and climatological factors. Examples of risk assessment of other vector-borne diseases will be discussed as well for a better understanding of malaria risk assessment. The workshop will reflect on and integrate various scientific disciplines, such as epidemiology, entomology, mathematics, and tropical medicine. Furthermore, the workshop will discuss the implications of environmental changes on a local scale by means of evaluating case studies that provide the linkage between empirical research and model-studies.

Programme (full programme can be requested by the conference coordinator Willem Takken) Lectures and discussions will be held in the Wageningen International Congress Centre (WICC). Staff and PhD students of Maastricht and Wageningen University can attend the lectures. The discussions will be held in the same place, but on invitation only. Hotel accommodation is available in the Congress Centre. The address of the WICC is:

Wageningen International Congress Centre,  
Lawickse Allee 9,  
6701 AN Wageningen,  
The Netherlands  
Tel +31 (0)317 49 01 33  
Fax +31 (0)317 42 62 43  
E-mail [reception@wicc-wir.nl](mailto:reception@wicc-wir.nl)

### Publication

All invited participants are requested to send their contribution to the scientific co-ordinator before 1 November 2003. Contact will be made with an international publisher for publication of the papers and the results of the discussions. An editorial committee will review the papers before publishing.

### Organizing Committee

W. Takken (Lab. Entomology, Wageningen University), P. Martens (ICIS, Maastricht University), R. Bogers & P. van Boetzelaar (FRONTIS, Wageningen University and Research Centre) (e-mail: [p.vanboetzelaar@wur.nl](mailto:p.vanboetzelaar@wur.nl))

Scientific Co-ordinator  
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Fax +31 317 484821

## Registration

Speakers have been selected on invitation only. Other scientists interested to participate in the workshop are requested to inform Dr. W. Takken ([mwillem.takken@wur.nl](mailto:mwillem.takken@wur.nl)) about their participation. Participation is possible only after registration with the organizers. Registered participants will receive a written invitation, which is considered the entry pass to the workshop. When registering, please provide your full name, function and postal address.

## Frontis

Wageningen International Nucleus for Strategic Expertise is part of Wageningen University and Research Centre. Frontis was created in June 2001 and is aimed at giving an impulse to scientific progress by bringing together scientists in the fields of agriculture, environmental and related sciences in an atmosphere of open discussion and interaction with colleagues from all over the world. Frontis wants to achieve this through symposia, workshops, master classes, lectures and sabbaticals. More information about Frontis can be found on the website [www.wur.nl/frontis/](http://www.wur.nl/frontis/)

## CCB Colofon:

The CCB-Bulletin is a news bulletin for researchers in the field of global environmental change from Wageningen University and Research Centre, as well as for people who are interested. The bulletin is provided by the Climate Change and Biosphere Research Centre (CCB - Wageningen UR). This bulletin board is intended for information exchange, like announcements of workshops, conferences, job opportunities and education courses in relation to global change research. It will be sent to you every 3 weeks, in case of vacancies we may use it ad-hoc.

Would you like to add a news item or a changes in E-MAILADRES or you want to be removed from this newsbulletin ?

Please, contact us by e-mail: Jeroen Veraart : [Jeroen.veraart@wur.nl](mailto:Jeroen.veraart@wur.nl)

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