

# Consortium on Law and Values in Health, Environment & the Life Sciences

## Faculty Proposal Cover Page

Applicant Name: David A Andow, dandow@umn.edu Date: 31 Jan 2007  
Project Title: Improving the International Capacity for Ecological Risk Assessment of Genetically Engineered Crops  
Department: Entomology College: CFANS  
Dept. Head's name: Mark Ascerno Dept Head's email: mascerno@umn.edu  
Dean's name Allen Levine Dean's email: aslevine@umn.edu  
How did you hear about this funding opportunity? email

### Funding

Amount of funding requested: \$10,000

[Include a brief statement of what you will use the funds for without going into budget details]

This proposal is to improve the capacity for ecological risk assessment (ERA) of genetically engineered crops in Latin America and Vietnam. To achieve this, we will transfer the secretariat of the GMO ERA Project from Zurich to the University of Minnesota. The new secretariat will coordinate the signing of MOUs with international parties, assume all communications functions with the 356 core members and 676 interested parties of the Project, and organize and promote the teaching tools that are being developed and used by the Project. The funding will support the new secretariat during this critical period of transition.

### Approvals

*Check all appropriate approvals required for your proposal. Approvals must be obtained prior to receipt of funding. If you have applied for approval but have not yet received it, indicate that below.*

<input type="checkbox"/> IRB	Date submitted:	<u>N/A</u>	Number:	<u>                    </u>
<input type="checkbox"/> IACUC	Date submitted:	<u>N/A</u>	Number:	<u>                    </u>
<input type="checkbox"/> Other	Explain:	<u>N/A</u>		<u>                    </u>

### For Use by the Consortium Office

- The proposal is 1000 words or less excluding budget, biographies, references & citations.  
The proposal includes a work plan with a timeline using months or quarters to identify work to be done and completion dates.
- The proposal includes a 1-2 paragraph biography of the applicant and all co-investigators.  
The budget form is complete including the funds sought for this project, other pending applications for this project, and the amount/source of matching or other funds.
- All necessary approvals are pending or received.
- For proposals for curricular innovation, a letter of support from the applicant's department head or dean is included.

Consortium on Law and Values in Health, Environment the Life Sciences

Budget for Faculty Proposals

**Project Title: Improving the International Capacity for Ecological Risk Assessment of Genetically Engineered Crops**

**Instructions:** add rows for multiple personnel.

Category	Description & justification	Requested funding	Matching/other funding	
		Amount	Amount	Source
Personnel <i>Explain what hourly wage &amp; fringe are based on-- departmental, community or other rate?</i>	Salary = 512 hrs x 13.79 hrly wage, 16 weeks, 80% time	7,060.00		
	Fringe rate: 36.10%	2,549.00		
	What work will this person do? Oversee the MOU process, develop and distribute communications materials, organize and promote teaching tools			
	<b>Subtotal</b>	<b>9,609.00</b>	<b>\$0</b>	
Speaker Honoraria	<b>___ speakers x \$ _____ honorarium</b>			
Supplies & Services	Office supplies: additional material and mailing costs associated with producing publicity material (\$4000 from SDC)	391	\$4,000	Swiss Agency for Development and Cooperation (SDC) 2005-2007
Equipment <i>Equipment costs are allowable only if the justification clearly shows that the equipment is necessary for the project. Include explanation of what will happen to equipment at completion of project.</i>	None			
Travel <i>Travel costs must include a description of the purpose of the travel, start and stop dates of travel, transportation costs, housing costs, and allowable per diem (use University rates found at <a href="http://travel/umn.edu">http://travel/umn.edu</a>).</i>	Travel to Zurich, Switzerland, Campinas, Brazil and Hanoi, Vietnam for training and meeting primary collaborators	0	\$6,000	SDC 2005-2007
	<b>Subtotal research supplies, equipment, travel, other</b>	<b>\$10,000</b>	<b>\$10,000</b>	
Established funding	SDC (2005-2007)		\$696,000	
Prospective funding	United Nations Environment Program - Global Environment Facility (UNEP-GEF) Implementation Project to Vietnam (2007-2010)		\$3,000,000	
Prospective funding	World Bank - GEF (WB-GEF) Regional Project (2007-2010)		\$15,000,000	
<b>TOTAL BUDGET</b>		<b>10,000.00</b>		

## **Improving the International Capacity for Ecological Risk Assessment of Genetically Engineered Crops**

(997 words)

Genetic engineering remains a hotly contested technology internationally, despite its widespread use in US agriculture. One of the reasons for this continued dispute is concern over the environmental safety of these genetically-modified (GM) crops, especially in regions of high biodiversity, such as tropical South America and southeast Asia (UNCED, Agenda 21, 1992). There is wide recognition that the regulatory and scientific capacity for conducting ecological risk assessments (ERA) of GM crops needs to be strengthened throughout the non-OECD countries to meet their obligations under the SPS Agreement of the WTO (1994) and the Cartagena Protocol on Biosafety (CPB) of Living Modified Organisms of the Convention on Biodiversity (CBD, 1992).

The GMO ERA Project is an innovative “experiment” to organize internationally dispersed, public sector, scientific expertise to build capacity internationally and develop tools to support ERA of GM crops, with a particular emphasis in Brazil and Vietnam. Our ultimate goal is to build the capacity of Latin American and southeast Asian scientists to generate scientific information for ERA, and implement scientific methodologies into the regulatory process in these countries. We request support from the Consortium on Law and Values in Health, Environment & the Life Sciences to transfer the GMO ERA Project (<http://www.gmo-guidelines.info>) to the University of Minnesota.

The GMO ERA Project has published two ERA case studies (GM maize in Kenya and GM cotton in Brazil; Hilbeck et al. 2004, 2005) and has a third in preparation (Vietnam). Courtesy of the United Nations, copies of these case studies were provided to the signatory countries to the CPB. Two additional accomplishments are (1) contributing to the first regulatory approval of a GM crop in Brazil by compiling information, organizing scientific expertise in Brazil, and promoting transparent scientific methodologies, and (2) assisting development of the regulatory oversight system in the Ministry of Agriculture and Rural Development (MARD) in Vietnam by working with the relevant officials to help draft the policy.

This proposal will provide a transition for the GMO ERA Project as we move from 5 years of funding from the Swiss Agency for Development and Cooperation (SDC) to funding associated with Latin America and Vietnam. Specifically, this proposal will help us increase support for project outputs in Latin America and Vietnam, both administratively and in human capital, and move the project secretariat to the University of Minnesota. The SDC supported the project for ~\$1.3M and maintained the project secretariat in Zürich. With the recent reorganization of the SDC, the project cannot be renewed, the Zürich secretariat will be dispersed, and there is no budget to move the secretariat to UMN. However, in 2007, a \$15M 3-year World Bank-Global Environment Facility (WB-GEF) project will be initiated in Latin America, and a \$3M 3-year UNEP-GEF project will be initiated in Vietnam. We were involved in the development of both of these projects, and participants have assured our continued involvement. Moreover, the Vietnamese government will be making considerable funding available for Vietnamese scientists to conduct research on ERA of GM crops, and the Vice Minister of MARD has invited me to

participate on behalf of the UMN in a Memoranda of Understanding (MOU) to support the development of this research agenda. In collaboration with colleagues at Embrapa (Brazil), we are preparing a \$750K 3-year proposal to the InterAmerican Bank to support the next phase of the GMO ERA Project (including supporting the secretariat at the University of Minnesota) anticipated for fall of 2007. Thus, the present proposal will be leveraging \$1.3M of past and present funding and at least \$18M in future funding.

This proposal will support the critical transition of the project to the University of Minnesota. Under this proposal, the UMN secretariat will be established and will gradually replace the Zurich secretariat in promoting engagement with the project and increasing support for project outputs in Latin America and Vietnam. The key member of the new UMN secretariat is presently working as the project communications manager and she will be trained to take on a broader role in the future. Her training costs are covered by the SDC funding, which include a visit to Zürich and participation in events during 2007 in Brazil and Vietnam.

One of the main activities under this proposal will be to formalize relationships between the UMN secretariat and other parties through the signing of MOUs. We plan to sign MOUs with the UNEP-GEF project and MARD in Vietnam, and the WB-GEF project in Latin America. In addition, we will transfer the GMO ERA Project web site, member databases and shared worksite from Zürich to UMN.

Communications activities will continue under this proposal, including newsletters and updates of the project website. Currently the project has 356 core group members (public sector scientists), 70% of whom are from non-OECD countries. The 676 mailing list members include the private sector. The project website receives about 40 visitors per day, which doubles after the newsletters are delivered. Newsletters are posted on the project website and can be seen at <http://www.gmo-guidelines.info/public/publications/newsletters.html>.

The new secretariat will also assist in the development and promotion of teaching tools to train scientists and regulators in GMO ERA methodologies. About 60 project members are collaborating in the development of these teaching tools, which include powerpoint presentations with illustrations of concepts, course outlines, navigational aids, handouts, small group exercises, key definitions and references. We will recruit additional experts to help develop these tools. As the tools are developed during 2007, we will develop promotional materials to publicize them.

**Work plan:** 4 months, June - September 2007

Write and send core newsletter (monthly) and mailing list newsletter (July and September)

Website updates (weekly)

Recruit expertise to assist development of teaching tools (ongoing)

## **June**

Develop MOUs with MARD and UNEP-GEF Project in Vietnam

Develop brochure to promote teaching tools

## **July**

Finalize MOUs with Vietnam  
Develop MOUs with WB-GEF project  
Produce brochures

## **August**

Send brochures to relevant audiences  
Transfer website, databases and worksite to UMN

## **September**

Complete tasks  
Compile list of addresses to receive project's Vietnam case study book

## **References**

CBD. 2006. Cartagena Protocol on Biosafety. Text of the Protocol.  
<http://www.biodiv.org/biosafety/protocol.asp> Accessed 28 December 2006.

Hilbeck, A. and D.A. Andow (eds). 2004. *Environmental Risk Assessment of Transgenic Organisms: A Case Study of Bt Maize in Kenya*. CABI: Wallingford, UK. xvii + 281 pp.

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UNCED, 2002. Agenda 21, Earth Summit, United Nation Conference on Environment and Development. Rio de Janeiro, Brazil, 3-14 June 2002.  
<http://www.un.org/esa/sustdev/documents/agenda21/index.htm>. Accessed 28 December 2006.

WTO. 2006. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). [http://www.wto.org/English/tratop\\_e/sps\\_e/spsagr\\_e.htm](http://www.wto.org/English/tratop_e/sps_e/spsagr_e.htm) Accessed 28 December 2006.

## Biography: David Andow

David Andow is a Distinguished McKnight University Professor in the Department of Entomology, College of Food, Agricultural and Natural Resources Sciences (CFANS). He was named a King/Chavez/Parks Visiting Professor at the University of Michigan, a McMaster Fellow by the Commonwealth Scientific & Industrial Research Organization in Australia, a JSPS Fellow twice by the Japanese Society for the Promotion of Science, and an EMBRAPA Fellow by the Brazilian Agricultural Research Corporation in Brazil.

During the past 4 years, he has been invited to participate in numerous international activities, of which only the most prominent are mentioned here. He was retained by the World Trade Organization as a technical and scientific expert to the Dispute Resolution Panel on *European Communities – Measures Affecting the Approval and Marketing of Biotech Products (DS291, DS292, DS293)*. He is presently a lead author on the World Bank International Assessment of Agricultural Science and Technology for Development (IAASTD). He was a coauthor on the NAFTA – Commission for Environmental Cooperation (CEC) Article 13 Report “Maize and biodiversity, the effects of transgenic maize in Mexico: Key findings and recommendations” and the IPGRI (International Plant Genetic Resources Institute) report “Technical issues associated with the development of CGIAR policies to address the possibility of adventitious presence of transgenes in CGIAR *ex situ* collections” (which concerned what could be done to keep the world’s germplasm banks free from contamination by GMOs). He was a member of the US National Academy of Sciences, US National Research Council (NRC) Standing Committee on Agricultural Biotechnology, Health, and the Environment, which published seven studies (he was a coauthor on three of these).

He has organized 18 symposia, 5 international workshops, administered grants totaling >\$7.4M (of which only three are presently active, unfortunately), given 173 invited presentations (including 35 in the past 3 years), and published 99 peer-reviewed publications (23 in the past 3 years), edited 11 books (2 in the past 3 years), and 74 book chapters (18 in the past 3 years).

He is known internationally for use of ecological and evolutionary principles to make major conceptual breakthroughs in the environmental sciences. His work is motivated by a deep desire to apply intellectual and scientific rigor to issues of broad social relevance and to use these findings to influence the future of society. The focus of his work has been a deep examination of the technologies associated with food production systems, developing and applying ecological and evolutionary concepts to encourage technologies that maintain the integrity of the environment while at the same time improving human food security. His work has influenced the development of many areas, including genetically modified organisms, the role of biodiversity in agriculture, exotic species invasions, and sustainable agriculture.

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