Environmental Science and Policy Program

Well sampling to track groundwater contamination at Wurtsmith Air Force Base in Iosco County, Michigan.
DEAN’S MESSAGE

Environmental Science and Policy Program

I am pleased to introduce this edition of the Graduate Post! We have a special feature on the Environmental Science and Policy Program at MSU. The doctoral specialization began this Fall semester and the overall program began just a year ago. ESPP represents the most all-encompassing research focus and graduate specialization at Michigan State University, with faculty participating from twelve colleges. Because of the broad interest in ESPP, we also include an interview with Provost and President-Designate Lou Anna K. Simon who initiated the discussions and the focused approach that lead to the establishment of this Program. The courses in the ESPP doctoral specialization provide an interdisciplinary approach to connecting research in the physical, biological, and social sciences to develop a sound scientific basis for policy. The humanities connection leads to an understanding of the role of values and ethics in making policy. There are also opportunities for “media training” and developing broad communication skills, as well as understanding (and assisting) the role of government in policy decisions. Visit their website for more information: http://www.environment.msu.edu/.

Also highlighted in this edition is the Carnegie Initiative on the Doctorate (CID). This program is national in scope with interested programs submitting an application and then invited to participate. I am pleased that five MSU units (Department of English, Department of History, Neuroscience Program, Department of Teacher Education and the Division of Science and Math Education) were chosen by Carnegie to participate. Each unit has its own focus on doctoral education and all include discussions amongst faculty and graduate students to understand a variety of issues and work at improvements. The Departments of English and History are planning a national conference at MSU of CID participants to discuss the issue of academic integration of students during the critical dissertation-writing years and its effect on improving doctoral completion. Updates and lessons learned from all the CID participating units will be a topic in a future Graduate Post.

Finally, I enthusiastically announce the implementation of Career Selection and Professional Skill Development series of workshops for graduate students. Under the leadership of Rique Campa, Graduate School Faculty-in-Residence and Judith Stoddart, Graduate School Fellowships Coordinator, and including Associate Deans Tony Nunez and Yevonne Smith, TA Program Director, Kevin Johnston, and Career and Placement Specialist for Doctoral Students, Matt Helm (who will be featured in the Spring 2005 Graduate Post), this series brings graduate students from across the campus together to learn about mentoring, academic interviewing and exciting careers in industry, government, and non-profit sectors. The Graduate School staff will evaluate and assess these programs for effectiveness and appreciate any suggestions you might have for improvement (and any volunteers for participation!). For more information please visit: http://grad.msu.edu/professional.htm.

Karen L. Klamparinen

REMARKER: The Graduate Handbook Template project is well underway in most units. Each graduate program must have an updated Graduate Handbook that includes the recommendations in the Research Mentoring Task Force Report and the allied recommendations from the faculty on the University Graduate Council (03-04) by September 2005.

You can find the Graduate Handbook Template (http://www.grad.msu.edu/staff/ght.htm) and the Research Mentoring Task Force report (http://grad.msu.edu/staff/mentoring.htm) on the Graduate School’s homepage: http://grad.msu.edu/. Please call or email Associate Dean Tony Nunez or Dr. Les Manderscheid in the Graduate School for more information.
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The Graduate Post

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The Environmental Science and Policy Program:
Connecting to the Future

The Environmental Science and Policy Program (ESPP), housed in Giltner Hall on the MSU campus in East Lansing, is one of several University-wide initiatives seeking to respond to the problems of the twenty-first century in innovative, dynamic ways. ESPP represents an institutional initiative and model that bridges time-tested models of disciplinarity with new experiments in academic research and communication. As an umbrella organization, ESPP encompasses such diverse programs as Land Use, Production and Food Systems Ecology, Biogeochemistry, Environmental and Resource Economics, Invasive Species, and Water and Aquatic Sciences. In successfully bridging these disciplines, ESPP represents strong MSU leadership in the ongoing synthesis of disciplinarity and interdisciplinarity.

In February of 2004, MSU President Peter McPherson announced that “basic and applied research… must provide the foundation for a strategic research agenda.” “Their blending,” McPherson added, “creates a synergy that addresses fundamental contemporary issues. Those issues range from chronic wasting disease and TB, to land and water-use.”

On another occasion, at the annual meeting of the American Associate for the Advancement of Science (AAAS), scientists suggested that “The future of environmental policy lies in embracing ambiguity—in the understanding that the days of dreaming of isolated fixes to problems are over.”

“Blending,” “synergy,” “ambiguity”—these keywords signal a new set of institutional challenges and priorities at Michigan State University in the new millennium. In the era of the World Wide Web, globalization, and local fiscal constraints, administrators and deans at MSU have begun academic reorganizations and the development of new units and programs with an eye towards the impact that more disciplinarity can have. This reorganization and development effort, it is hoped, will not only benefit the particular departments and specialties, but also graduate education in environmental science at MSU and MSU’s international reputation as a pioneer in the environmental science research and policy. The Environmental Science and Policy Program embodies all of these institutional and educational concerns. Additionally, ESPP offers a prototype that other colleges may choose to emulate in the future. This model represents a fresh, university-wide approach to research, policy, and graduate education in the environmental sciences. It also signals new trends in the production, organization, and dissemination of knowledge.

INTERDISCIPLINARITY AND PUBLIC POLICY

Dr. Marietta Baba, dean and professor in the College of Social Science, describes well the breadth and significance of ESPP. “ESPP is one of the most important strategic initiatives underway at MSU today. This program builds on the strengths of 140 scientists funded to do research on the environment across many disciplines, and brings together our best minds to provide an optimum learning experience for graduate students. ESPP focuses and integrates these interdisciplinary resources in a way that has not been possible previously, creating new ways of understanding environmental problems that will lead to tomorrow’s most innovative solutions.”

Dean Baba emphasizes ESPP’s strong communicative quality and its commitment to linking the possibilities of communication to academic research and scientific progress. She notes that research on the environment is drawn from the expertise of those who are not typically housed in environmental science programs. While the usual departments are represented in ESPP’s long list of participating faculty—“Crop and Soil Sciences” and “Agricultural Economics,” for example—also included are faculty from the liberal arts, such as Philosophy, and the social sciences, such as History. “Environmental Science and Policy” takes on a more dynamic meaning as ESPP spreads its intellectual influence and enthusiasm across campus and across disciplines, linking philosophy, anthropology, and political science, for example, to the traditional environmental sciences.

ESPP embraces what one might call the ethos of the “inter-.” Connectivity and communication are central to its self-understanding and future development. ESPP asserts that the environmental sciences of the future must be scientifically equipped to deal with the hard environmental questions yet institutionally flexible enough to draw effectively on all of its intellectual and scientific resources. Both pieces are necessary for the new efforts in environmental science and policy.

Dr. Tom Dietz, Director of ESPP, recently stressed the relation between the scientific commitment to a single discipline and the linking of multiple disciplines across the larger institution: “To meet the challenges of environmental policy in business and government we need a new kind of scientist. They will continue to need the scientific depth and rigor that comes from traditional fields. But they also need a breadth of understanding that the traditional fields don’t supply.” This additional “breadth of understanding” is the key for

1 See the ESPP website: http://www.environment.msu.edu
http://newsroom.msu.edu/site/indexer/1871/content.htm.

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administrators, faculty, and students in their attempts to fashion research agendas that respond fruitfully to economic and policy needs, in both the private and public sectors.

ESPP’s primary focus is on research and graduate education, although the program also hopes to promote outreach and undergraduate education on the environment. ESPP is working with faculty to identify Signature Program Areas in environmental research and policy at MSU. These are areas of great importance to the state, nation, and the world where MSU has strong faculty expertise. They include such areas as Biogeochemistry, Climate Change Assessment, Environmental and Resource Economics, Environmental Statistics and Modeling, Environmental Toxicology, Invasive Species, Land Use, Movement of Toxics in the Environment, Production and Food Systems Ecology, Water and Values, Risk and Decision-Making. Some of these are long-standing areas of excellence at MSU while others are emerging areas that are being developed as incubators for future excellence. ESPP will be developing plans for connecting MSU areas of excellence, enhancing its strengths, encouraging strong graduate offerings to reflect these areas and making sure that MSU expertise is accessible to public and private sector decision makers.

ESPP hopes to eventually have 10 elected and 6 appointed faculty advisors, which would make up between 20-40% of the whole network of nearly 150 ESPP faculty, including faculty from the signature programs. Dietz calls this distribution of faculty across departments a “flat organizational structure” because it does not automatically entail the kinds of hierarchies one might find in traditional departmental structures. Instead, the “flat” model allows fruitful exchange between departments and faculty members without subjecting them to a strict, centralized plan. This matrix represents ESPP’s vision of a new, innovative environmental research and policy program. It “builds on MSU’s strengths without increasing the structure,” says Dietz. These strengths refer in large part to the signature programs listed above that are already well-established and enjoy international reputations for excellence in scientific research. Part of ESPP’s function is to provide a kind of institutional interface whereby these established programs can better communicate with each other, and collaborate where shared interests are identified. In this way, ESPP takes advantage of the depth of knowledge that each discipline provides and connects them in a larger institutional and scientific context.

Nothing illustrates ESPP’s organizational structure better than the World Wide Web. Like the Web, ESPP is minimally centralized and provides the connectivity for greater communication among constituent parts. Visit ESPP’s website at http://www.environment.msu.edu.

Scientific knowledge has long benefited from intense focus on some particular branch of knowledge. Now, communication among the diverse specializations is seen as increasingly important in connecting with research policy decisions. One could call this ESPP’s “prime directive.” “It is necessary to focus on the interactions of different policies,” says Jianguo “Jack” Liu, MSU’s Rachel Carson Chair in Ecological Sustainability. “Each policy may look really good, but if you put them together, they might have some unexpected negative impacts. We are learning to change the way we make policy, and the ways in which we evaluate policy.” At the recent annual meeting of the American Associate of the Advancement of Science (AAAS), Liu discussed the work that he and his colleagues had done at the Wolong Nature Reserve in the Sichuan Province of southwestern China. In the course of their research, Liu discovered that environmental policies designed to achieve some particular end sometimes had drastically different outcomes than intended. In particular, Liu mentioned how policies intended to help communities shift from consumption of wood fuel to electricity, in conjunction with other policies, actually ended up having the opposite effect, reinforcing people’s dependence on wood fuel. The lesson learned was that for effective policy-making and research to happen, the lines of communication and collaboration must be significantly broadened. ESPP addresses this demand by improving communication between scientific researchers and policy makers.

Tom Baerwald, a senior scientist and program director at the National Science Foundation, had this to say about interdisciplinarity and MSU’s approach to linking interdisciplinarity and environmental science: “Understanding the complex interactions between people and their natural and built environments requires scientific analysis and synthesis that engage scientists and engineers to think more broadly and innovatively than they have had to think in the past. We have evaluated many exciting proposals in recent biocomplexity competitions and Michigan State researchers have been among the leaders in this process—both as researchers proposing projects and as reviewers evaluating them.”

MSU is continuing to make significant strides in its efforts to establish itself as a national and international leader in the area of environmental policy and research. It has done this for years through the time-tested model of research accomplishments by individual researchers working in relative isolation. But it continues the push the envelope on research and policy by developing innovative institutional approaches such as the ESPP, whereby individuals may interact and communicate more freely and effectively. As a result of such approaches, research and policy decisions benefit in remarkable and unprecedented ways.

**ESP and Graduate Education**

Equally impressive as its work among faculty and policy makers is ESPP’s commitment to developing future scientists through its graduate program. The institutional organization of ESPP finds its analogue in the Environmental Science Program specialization (ESP), the ESPP’s graduate education program. The Doctoral Specialization in
Environmental Science and Policy, which began in the fall of 2004, follows a similar organizational philosophy as ESP in its joint emphasis on disciplinarity and interdisciplinarity. ESP calls this the “T-model”.

In the 21st century, environmental professionals will need both interdisciplinary breadth and disciplinary depth. Disciplinary depth is the pillar of the “T” that provides command of a literature in detail and the meticulous skills required to conduct sound research. Interdisciplinary breadth is the crossbar of the “T”, providing language and conceptual frameworks that allow communication across disciplines. Together, these develop professionals who understand the context of their research and can work effectively in multidisciplinary teams.

One can easily see how the “T-model” employed in the ESP specialization reflects the larger ESP institutional structure. While the ESP educational philosophy stops short of encyclopedic ambitions, through its horizontal, interdisciplinary focus it does intend to educate scientists to be generalists in their outlooks and approaches to science without sacrificing anything of the disciplinary rigor necessary for useful, cutting edge scientific research and policy.

This philosophy is most obviously seen in the four-course sequence that Ph.D. students must complete for the ESP specialization. In the fall of 2004, ESP is offering its first course, ESP 801, “Physical, Chemical, and Biological Processes of the Environment.” The remaining three courses—ESP 803, 804, and 805—will become available in the spring and fall of 2005, and the spring of 2006, respectively. These latter courses go under the titles of “Human Systems and Environment” (ESP 802), “Human and Ecological Health Assessment and Management” (ESP 803), and “Environmental Applications and Analysis” (ESP 804). This course sequence is designed to bridge the Ph.D. candidate’s particular environmental scientific discipline with the general “field” of environmental science. It provides the conceptual means by which scientists of different environmental and non-environmental disciplines can determine intellectual and scientific overlap between disciplines. This in turn will lead to better informed policy decisions about natural and social environments, and their relations. ESP is committed above all to the production and circulation of environmental scientific knowledge. ESP is committed to training scientists to be efficient producers and conduits of that knowledge.

COMMUNITY OUTREACH: ESP AT HOME AND ABROAD

Beyond the confines of Giltner Hall, ESP administrators, faculty, and students have gotten involved in several community and government initiatives. In April of 2004, MSU environmental science faculty formed MSU-WATER (Watershed Action Through Education and Research) and teamed up with the Lansing School District for a general education project on watersheds, storm water management, and other environmentally-related issues and topics. In this program, MSU students work directly with Lansing high school students to advance the cause of public education on the environment. One could call this a truly “grass roots” effort.

That same month, MSU and the Michigan Department of Environmental Quality (MDEQ) agreed to form the Partnership for Environmental Excellence and Research (PEER). The partnership is designed to let the MDEQ take advantage of MSU’s vast intellectual resources as it takes on those environmental issues most important to the people of Michigan. Once again, communication and networking are the keys to a successful research and policy agenda. On MSU’s partnership with the MDEQ, Dr. Dietz had this to say:

This partnership is important to the university’s environmental research agenda. The partnership also provides a vital connection for strategic communication of important environmental research data to MDEQ staff, policy makers, legislators, and citizens as well as opportunities for feedback from the users of our research data and information.

ESP’s direct involvement with public policy works in a two-fold way, as Dietz says: ESP’s sources of expertise help the MDEQ make well-informed, responsible decisions, and the MDEQ helps ESP determine their own research agenda. This is a good example of how Dietz’s “flat” organizational structure is perhaps better designed than traditional, departmental models to take on ambitious public and private partnerships. While in the past MSU has often worked with public and private concerns, never before has it been able to marshal such a range of intellectual and scientific resources for the public good.

The Environmental Science and Policy Program at Michigan State University turns its face towards the future of environmental science and studies. Not content with business-as-usual organizational structures, ESP takes the best of what MSU has to offer in the environmental and non-environmental sciences and make them better. ESP connects the disciplines together in such a way that directly benefits environmental scientific research itself, the training of future scientists, and the people of Michigan and, indeed, the world.

COLLEGES PARTICIPATING IN ESPP

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ESPP Leadership: Dr. Tom Dietz

Since 2003, Dr. Thomas Dietz has been Director of the recently established Environmental Science and Policy Program at MSU. Dr. Dietz is also Associate Dean for Environmental Science and Policy in the Colleges of Agriculture and Natural Resources, Natural Science, and Social Science. In addition, he is Professor of Sociology and Crop and Soil Sciences at MSU.

Dr. Dietz brings nearly 25 years of experience in the field of environmental science and policy to Michigan State. Before his recruitment to MSU, Dr. Dietz held several positions at George Mason University between the years 1985 and 2002. Before that he was a research scientist and professor at George Washington University, among other positions. At George Mason, in addition to other responsibilities, he was Founding Co-Director of the Department of Environmental Science and Policy (2000-01), and Director and Founder of the Northern Virginia Survey Research Laboratory (1988-94). Dr. Dietz received his Bachelor’s Degree from Kent State University and his Ph.D. in Ecology from the University of California, Davis.

Dr. Dietz is a highly active researcher and prolific writer. Besides publishing several dozen articles in a variety of social science journals, he has co-written or edited eight books. He is currently co-editing a book called The Human Dimensions of Global Environmental Change, forthcoming from the MIT Press.

Over the years, Dr. Dietz has received substantial research support from such sources as the U.S. National Science Foundation and the U.S. Environmental Protection Agency. Some of his recent studies have focused on climate change, the relation of culture and environmental value, and the problem of local-decision making regarding environmental matters.

Dr. Dietz has appeared on NPR’s Science Friday as a panel expert. On two occasions, he has served as delegate to the Vermont Democratic Convention. And he is a recently elected member of the Washington D.C.-based Cosmos Club.

Michigan State University and the Environmental Science and Policy Program have found in Dr. Dietz a seasoned professional and distinguished scholar whose experience and hard work will prove to be of inestimable value to the University and the State of Michigan.

“The College of Natural Science strongly supported the establishment of the Environmental Science and Policy Program (ESPP), which will effectively marshal the widely dispersed intellectual capacity in this area at MSU. We were pleased to help recruit ESPP Director Tom Dietz, who is an Associate Dean in CSS, CANR and CNS, to our campus. Tom’s leadership will be crucial in bringing existing programs and interested faculty together under the ESPP “umbrella,” and helping us establish a new graduate program that will serve students with both natural science and social science backgrounds, and attract additional outstanding graduate students to MSU.”

Dr. George E. Leroi, Dean
College of Natural Science

“The Environmental Science and Policy Program integrates basic and applied research among disciplines ranging from the physical and biological sciences to social and behavioral sciences. The program brings together all aspects of environmental studies across Michigan State University, leveraging our resources and offering a systemic approach to environmental issues.”

Dr. Jeffrey Armstrong, Dean
College of Agriculture and Natural Resources

“ESPP is one of the most important strategic initiatives underway at MSU today. This program builds on the strengths of 140 scientists funded to do research on the environment across many disciplines, and brings together our best minds to provide an optimum learning experience for graduate students. ESPP focuses and integrates these interdisciplinary resources in a way that has not been possible previously, creating new ways of understanding environmental problems that will lead to tomorrow’s most innovative solutions.”

Dr. Marietta Baba, Dean
College of Social Science

“Environmental Science and Policy is a unifying program that will require the interaction of many faculty from many disciplines for it to be successful. I am excited about what we can accomplish at MSU and under Tom Dietz’s leadership, we should have a very impactful program.”

Dr. Ian Gray
Vice President for Research and Graduate Studies
The Origins of the Environmental Science and Policy Program: An Interview with Provost and President-Designate Lou Anna K. Simon

Lou Anna K. Simon is provost and vice president for academic affairs at Michigan State University and will serve as the 20th president of MSU, effective January 1, 2005.

Graduate Post: How did the Environmental Science and Policy Program begin?

Dr. Simon: Graduate Dean Karen Klomparens and I were doing an environmental scan—to use that phrase in the strategic planning sense—of what our competition was doing: how MSU ranked nationally in the environmental sciences graduate programs; what visibility we had. This was something that Karen and I were also discussing with Director Ian Gray, now Vice President for Research and Graduate Studies, and Associate Director Jan Bokemeier of the Michigan Agricultural Experiment Station (MAES), related to environmental research themes. And within the entire environmental science area, broadly defined, we saw that we had a number of faculty members of national and international distinction. We had projects, centers, activities, that were well-funded and in their own right were receiving national attention.

But we also realized that despite some success, we didn’t have the kind of comprehensive, overarching Ph.D. experience in environmental science at MSU that would position our students to be nationally competitive and to become national leaders over the next 20-25 years.

So it seemed that the component that we were missing in order to address this absence was centerpiece Ph.D. program.

Graduate Post: When did you begin to pull this new program together?

Dr. Simon: This probably began four years ago and was one of those slow gestation processes. I met with the deans for Environmental Sciences: Social Science, Natural Science, Agriculture and Natural Resources, and Engineering.

There was consensus that we had great strength and that this was the direction that we needed to go. Then the real hard work began: we took those observations and began to meet with groups of faculty that were engaged in environmental science, in order to get their ideas, to figure out what resources we would need to fill some of the gaps, and to lay out a plan for what we needed to do.

That entire process resulted in a report that outlined ways in which we could better organize and strengthen the Environmental Science and Policy Program, and make it a signature program for Michigan State University—not simply a signature program for a single college, but a signature program for the entire university.

The historical role of land-grant universities has been to blend the concepts of access, economic development, and quality of life. As we deal with the challenges of the 21st century at a state level, a national level, and international level, we can see that the melding of those three concepts both occurs and fits very well...
within a signature program of Environmental Science and Policy.

It’s the cross-cutting model that permits us to continue to excel in areas where we’d already achieved distinction—to allow our individual nodes, these stars, to shine—and at the same time creates the synergy across colleges for the overall program and national and international visibility.

And of course it also was the impetus for establishing a Ph.D. specialization that was broadly developed, and not narrowly defined.

The idea for an associate dean of ESPP really emerged because it was important that each of the core participating colleges—Social Science, Natural Science and Agriculture and Natural Resources—took ownership of this initiative. We wanted to make sure that the cross-cutting nature of the initiative wasn’t just supported by central administration, but that it was integral to the success of each. The colleges must have a shared responsibility for the overall initiative in the same way that each of the centers of excellence—the nodes—were a part of and the responsibility of each individual college. That way we hoped that it wouldn’t turn into a competition between the individual nodes and the initiative, because the success of the initiative would accrue to the credit of the departments and of the colleges, just as did the success of the individual nodes.

Graduate Post:

So the colleges were asked to think of themselves in two ways—as their own entity, and also part of the whole endeavor....

Dr. Simon:

Yes, and the three deans are responsible for taking leadership for the whole of the initiative and for looking after its collective interest, not simply the interest of their own college. And Deans Baba, Leroi, and Armstrong stepped up to that challenge. I think that gave us—particularly in these difficult budgetary times—the maximum degree of latitude to develop the intellectual agenda, to have it be internationally competitive, while building on the work of the faculty who are the actual leaders of the program.

And going back to the land-grant philosophy at this historical moment—as we begin to celebrate our sesquicentennial—not only do we see the connection to quality of life that is reflected in the environmental sciences, we also are concerned about taking cutting-edge knowledge and moving it as rapidly as possible into the public domain so that its impact is felt around the world.

Graduate Post:

What’s in it for those programs that are already outstanding in their own right?

Dr. Simon:

If you look at how rankings are done for environmental science, the fact that we had this or that brilliant individual program didn’t make MSU nationally ranked in environmental science.

I’ve offered the theory that if, collectively, our overall program would be viewed as stronger than any of its individual nodes, then that reputation would reflect on and raise the status of each of the individual nodes. Environmental science and policy, as it’s been evolving nationally and programmatically, has become a much more of a holistic set of activities. You no longer receive sufficient recognition or distinction in the environmental sciences on the basis of individual centers of activities that can do a few things well. Those activities are expected if you’re an AAU (Association of American Universities) institution. People take that for granted and expect it of a place like Michigan State. But it doesn’t get you on the national radar in the environmental sciences as one of the best if you only excel at one of these narrowly-defined things.

So the question was how would we distinguish ourselves among a whole set of universities that each has its own excellent individual nodes. We determined that we had to find opportunities to link up our nodes and to build, then use the resulting synergies that would create across the institution to raise not only the image, but the overall quality of the work we do at MSU.

Also important, we then could provide one of the best opportunities for graduate students. The individual research nodes would continue to do their work, and at the same time we would be able to provide our students with a genuine interdisciplinary experience that would ground them academically in their own nodes, while offering them the broader perspective that would prepare them to be the interdisciplinary leaders of the future. And that opens up a variety of research possibilities that better positions them for their careers.

So the idea of cross-cutting was not just about creating research synergy, it was to provide a really special graduate experience. And that’s why one of the first
objectives identified by Professor Dietz and the team was to work on the Ph.D. specialization. That would be one of the unique pieces that came from what evolved into a cross-college model. After that there will be other grant and contract activities, just from the natural interaction.

That’s a relatively unique approach nationally. What people normally would do would be to create a single unit called environmental sciences and end up with the same stand-alone “silo effect” as if it were a department, but maybe a little easier to manage. Our approach has a caretaking, stewardship role that allows us to balance individual and institutional objectives. If we can get that balance right, it will have enormous benefits for both our students and for the overall research program at Michigan State. The risk is in the balance.

**Graduate Post:**

Are there any trade-offs that you’ve had to make in pursuing this?

**Dr. Simon:**

Well, I don’t think the accurate word is “trade-offs.” There’s a real delicate balance here how you promote the nodes and how you promote the collective, and I don’t see it as a trade-off as much as a balancing act. It’s like any fine tuning of a delicate instrument. It’s always hard to have it perfectly tuned all the time, and so there has to be a special tending of this initiative so that we’re not sacrificing one piece at the expense of another, and we’re really getting the advantages of both the strength of the nodes and the synergy of the network.

And Professor Thomas Dietz is considering how we make that time lag, that transition between creating the knowledge and putting it to work where it can make a difference to our society, as short as possible. That’s very much in the spirit of why we were founded 150 years ago.

**Graduate Post:**

How would you like to see this program develop?

**Dr. Simon:**

Several things:

First, I would very much like to see the Ph.D. specialization viewed nationally as one of the most exciting, interesting programs for students who want to pursue careers in environmental science and policy. Students in our Ph.D. program are really having great experiences in ways that take advantage of MSU’s unique assets.

Second, I don’t want to predict the specific research programs or the nodes or how they’ll evolve. The faculty are really the ones in position to take leadership on the intellectual agenda. But I would hope that when people come here to do an external review, they would see that ESPP has unique characteristics that are more than just the sum of its parts—in terms of the capacity to provide experiences for students, the capacity for external grant and contract activity, and the capacity to make a real difference with the knowledge being generated—not just locally but internationally—as a result of our careful balancing and the synergies we create.

Third, when people look back and assess the history of MSU, they see ESPP as being one of the signature programs that helped us define a 21st century land-grant university.

Our challenge and my personal passion—especially as we celebrate our sesquicentennial and think about our history and the land-grant philosophy on which we were founded—is to make sure that MSU continues to offer a world of possibilities to our students from all backgrounds. One of our historic strengths has always been our ability to look ahead and figure out what the needs of the future are likely to be and then, how we can meet them.

And that’s what we’re doing with ESPP.

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**Graduate Training Grants**

**CONTRIBUTED BY JANET ROHLER**

**Office of the Vice President for Research and Graduate Studies**

For the 16th year, MSU’s Center for Integrative Toxicology has a training grant from the National Institute of Environmental Health Sciences to support doctoral students. Students participate in a degree-granting program in biomedical sciences, such as food science, pharmacology, biochemistry, or zoology, in addition to toxicology.

"Because of this multidisciplinary approach, our graduates are sought out for prominent positions in government, industry, research, and academia,” said Robert Roth, who directs the Environmental and Integrative Toxicological Sciences training program. “They are helping to solve complex and critical environmental problems around the world.” The highly competitive grant defines MSU as a premier place to study the toxicological sciences.
The Carnegie Initiative on the Doctorate: Helping MSU Graduate Education Set the Pace

Since the summer of 2003, five units at MSU—Division of Science and Math Education, Department of Teacher Education, Department of English, Department of History, and Neurosciences Program—have been involved in the Carnegie Initiative on the Doctorate (CID). The CID is a five-year selective research program designed to help American universities evaluate the quality and purpose of their doctoral programs. Michigan State University’s involvement in the CID signals a renewed commitment by it and other national universities to innovation and development in doctoral education in the face of important global challenges.

Origins of the CID

The CID represents a national cooperative effort among research universities to redress the state of doctoral studies in the U.S. academy. First proposed in 2001, the CID is one of several high-profile responses by the Carnegie Foundation to a series of studies and reports over the last decade that suggest that doctoral training has not kept pace with the two-fold challenge of a rapidly changing world society, on the one hand, and a dynamic, competitive, and often confusing profession, on the other. Based in Menlo Park, CA, the CID is designed to put like disciplines and programs in dialogue with each other. More chances for dialogue increase the possibility for innovative policies in a volatile and exciting profession.

George Walker and Chris Golde, Senior Scholars at the Carnegie Foundation and facilitators of the CID, found in a series of studies “that Ph.D.’s are often ill-prepared to function effectively in the settings where they find themselves working, whether within the academy or outside it.” And they forecast that “in many disciplines the intellectual and research character of professional work will continue to experience dramatic change. The time is ripe to propose and experiment with enriched forms of doctoral education.”

Toward this end, the CID has identified a set of questions or “first principles” it thinks the disciplines ought to pursue in thinking about doctoral education: “What is the purpose of doctoral education?”; “Are the ‘best and brightest’ being attracted to doctoral study or are they drawn to other opportunities?”; and, “How can additional experiences be incorporated into doctoral preparation without taking time away from research and scholarship and without increasing time to degree?”

For the CID, these questions represent a thorough-going reevaluation of the foundations of doctoral education. While each discipline at MSU faces its own set of administrative and academic concerns, together they share a commitment to defining questions of purpose and opportunity in the context of graduate study. What the CID does is to provide participants with a communication platform that encourages them to conceptualize their educational missions in broader institutional environments, beyond the familiar confines of the home department. The CID’s goal is to help doctoral education keep pace with evolving, highly competitive academic, public, and commercial environments. Enhanced opportunities for intra- and inter-departmental communication around the wide range of issues affecting graduate student training is central to the CID’s mission and one of the keys to a healthy competitive atmosphere among schools and other enterprises.

MSU and the CID

After a lengthy application process, five departments from MSU were accepted into the CID in 2003. The Departments of History and English, called “allies” in the CID structure, and Neuroscience, Math Education, and Teacher Education, called “partners,” form the core of MSU’s participation. By the summer of 2003, participants were gathering in Menlo Park to take on a comprehensive agenda. Among the convention’s goals were the following: sharing ideas about what works well and plans for the future; speculating on various refinements that might take place in departments; re-affirming commitment to the mission of the CID; beginning development of future collaborative research, grant proposals, and other forms of networking. For its part, the CID intended to “turn a scholarly eye to the discipline- and department-based deliberations and changes, and understand the unique character of each discipline and department.” (See the “Initial Report of the Summer 2003 Convenings” - http://www.carnegiefoundation.org/CID/CID_Convenings_Synthesis_Report03.pdf)

The CID is successful to the extent that allies and partners learn to identify their specific needs and goals as they engage other programs and departments from leading universities in the U.S. CID begins from a disciplinary perspective. This bottom-up structure affirms what departments and disciplines already do well but also challenges them to open themselves to other programs in the ongoing effort to develop and improve. The CID shies away from processes that would attempt to foist predetermined policies on allies and partners, dictating what changes ought to take place. Without a proactive, creative contribution by participating disciplines, the CID cannot flourish.

1 For more information, see the CID website: http://www.carnegiefoundation.org/CID/resources.htm. For a comprehensive bibliography of recent studies, see “Overview of Doctoral Education Studies and Reports: 1990 – present.”
The CID membership list boasts the names of some of the best public and private universities in the country; besides MSU, the list includes University of Michigan, University of Chicago, Ohio State University, University of Wisconsin, University of Colorado, and others. The CID solicits those disciplines and departments that already have high-profile programs, sets them in dialogue with one another, and publishes its results for a broader dissemination and application among all universities.

A common result of such a method is that scholars come away with a clearer idea of what policy changes might benefit their home programs, even when those programs are already recognized for excellence. MSU’s Dr. Robert Floden (Teacher Education) asks, for example, if the Department of Teacher Education already has a strong national reputation, “why change?” Floden cites four areas where the CID can assist Teacher Ed: in the details of comprehensive examinations, the streamlining of the admissions process, surveying recent graduates, and curriculum development in the doctoral program. The CID gives Floden and his colleagues the opportunity to formally engage other administrators on these and other institutional policies. The hope is that through on-going dialogue, administrators can develop their graduate programs to meet the institutional and social demands of the 21st century.

**The Matter of Stewardship**

The CID represents a happily agonistic space where scholars and administrators willingly struggle over the future of higher education. Which is to say that participants decide, to some degree, what they want future scholars and administrators in their fields to look like. Part of the CID’s goal is to lay the intellectual and institutional groundwork that enables young Ph.D.’s to step into the academic fold with a clear sense of how they can best contribute to a national and international educational mission. This begins to get at the matter of stewardship.

Of stewardship, Golde and Walker write: “we believe the answer [to the question of purpose] is to educate and prepare those to whom we can entrust the vigor, quality, and integrity of the field.” “Such a leader,” they continue, “has developed the habits of mind and ability to do three things well: creatively generate new knowledge, critically conserve valuable and useful ideas, and responsibly transform those understandings through writing, teaching, and application.”

Stewardship, according to Golde and Walker, is comprised of three elements: generation, conservation, and transformation. Approaching the Ph.D. as essentially “a research degree,” they question whether Ph.D. programs often “deliberately consider what experiences teach students to become excellent researchers.” If being an excellent researcher means possessing the skills to “assess, critique, and defend knowledge claims,” Golde and Walker suggest that a more intentional approach in developing these skills will be necessary to produce the kind of steward-scholar they envisage.

The second element, conservation, names that activity in which scholars learn to separate the wheat from the chaff in the history of their discipline—what knowledge to keep, what to reject; how, in Golde and Walker’s words, to maintain “the continuity, stability, and vitality of the field.” Additionally, conservation requires that scholars understand the place and role of their discipline vis-à-vis all of the other disciplines in the university.

The third element, transformation, implies that scholars know how to teach “in the broadest sense of the word,” that is effectively communicate to a wide range of audiences the value of their knowledge. This, in turn, implies that scholars are familiar with those contexts in which their knowledge takes on value. Finally, transformation means that scholars know “how to communicate across traditional disciplinary boundaries.”

George Walker has this to say about the role of the steward in the CID mission: “The steward was never the owner of the home. The steward was the chief servant. Some thought that idea was too subaltern. However, we’re not saying that someone is beneath someone else but that everyone is called by something higher—the discipline itself. Once you begin thinking about the whole process, it really becomes about changing attitudes. The graduate students of the morning are the faculty members of the afternoon. And faculty will inevitably be affected through interaction with graduate students. It’s this very type of discussion that we wanted to provoke.”

George Walker, Senior Scholar, Carnegie Foundation

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2 See “Preparing Stewards of the Discipline” at the CID website.
graduate students. This is one of the great hopes of the CID. They sum up the institutional outcome of successful stewardship with the acronym PART:

A high quality doctoral program is characterized by being Purposeful (clearly directed at well understood outcomes), Assessed (built-in strategies for learning about how well the program is doing), the result of Reflection, and Transparent to the various groups involved in the endeavor.3

Faculty and administrators connected to the CID project express nothing but optimism about its future. Everyone this reporter spoke with about the CID expressed the utmost confidence that it would generate positive policy results for the departments and disciplines involved. And by all accounts, the CID represents a timely opportunity to engage the worlds in which we live and doctoral education’s role in those worlds.

Jim Gallagher (Teacher Education), for example, who was part of a recent National Science Foundation study on leadership development in math and science education, fears that “future science educators are not being prepared to address…important challenges that educators of science teachers and science teachers themselves face.” “To me,” says Gallagher, “this represents a major deficiency that can be addressed by CID, and because MSU faculty members in the Department of Teacher Education are on the forefront in teaching science…to all students, we are in a position to aid in the advance of doctoral education of new leaders for science education.”

Professor of English, Dr. Judith Stoddart, The Graduate School’s point person for CID programs, says that the CID encourages departments to ask “How can we be much more reflective about what we do” in the kind of training that is offered to graduate students? “Any opportunity to think more creatively about what you do and to give it a national focus is important,” Stoddart says.

3 See “CID Initial Report” at the CID website.

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**Graduate School Development Activities**

*BARBARA BALL-MCClURe*

*Director of Development*

*The Graduate School*

The dedication of the John A. Hannah statue in front of the Administration Building took place on September 17th as one of the kick-off events for the MSU Sesquicentennial. Dr. Hannah brought growth to the campus in many ways, including the acquisition of land, constructing new buildings, and a commitment to an international dimension. Now, the Campaign for MSU is focusing on building endowments to support undergraduate scholarships, faculty, programs, and, of course, graduate fellowships.

All of you understand the importance of attracting high caliber graduate students to Michigan State University, and the one important way to do this is with generous fellowships. As The Honorable Dee Cook, one of the members of the MSU Board of Trustees recently said, “Stability for MSU equals endowment”. No matter what happens with outside funding in the future, we can rely on endowments to support students, faculty, and programs years into the future.

For more information about giving to the Campaign for MSU and endowment at Michigan State University, please contact, Barbara Ball-McClure, Director of Development for The Graduate School at 1-800-232-4MSU, ext. 220 or ballmccl@msu.edu, or write me at:

**The Graduate School Development Office**

**110 Linton Hall**

**Michigan State University**

**East Lansing, Michigan 48824-1044**
Career Selection and Professional Skill Development
A New Workshop Series

The Graduate School (TGS) at Michigan State University (MSU) has a history of sponsoring workshop programs for its 8,400 graduate and graduate-professional students to enhance their research and teaching experiences both while they are at MSU and as they move into professional positions. Currently, programs offered include: Responsible Conduct of Research, Conflict Resolution, The Teaching Assistant Program, and the Dissertation/Thesis Completion Workshops. While all of these programs are in high demand annually, they are not able to cover the breadth of topics that students require for career and professional development. Because of these needs, TGS is sponsoring a new workshop series on Career Selection and Professional Skill Development.

The goal of this workshop series is to help students develop a better understanding of the skills and decision-making needed to help them meet their career and professional objectives. Throughout this workshop series students will interact with successful, nationally known professionals in academia, industry, state and federal agencies, and nonprofit organizations to gain a greater understanding of what it will take to enable them to meet their respective career and professional objectives. This workshop series is primarily for doctoral students as they transition into seeking professional careers. Each workshop is a full day in length to facilitate discussion among students and workshop panel members, and to provide hands on skill sessions. Morning sessions are organized as panel discussions while students spend afternoons in concurrent breakout sessions getting applied advice on specific issues associated with their professional development.

The first of the four workshops was held on September 25th and was on Building and Maintaining Mentoring Relationships: Building a Network for Professional Development. The program attracted graduate students from 37 departments and addressed topics such as: identifying individual learning styles, meeting diverse student needs, and being a mentor. Drs. John Dirkx, Matt Helm, Ken Poff, Yvonne Smith, Judith Stoddart, and Dozier Thornton helped make the workshop a success.

Please mark your calendars for the following workshops.

October 30, 2004
Securing Academic Positions at Two- and Four-Year Institutions

FEATURED PRESENTERS
Dr. Carol Hurlburt (Chair, Science Department, Lansing Community College)
Dr. Karen Klomparens (Dean, TGS, MSU)
Dr. Michael Stob (Dean, Calvin College)
Dr. Bill Wiener (Dean, The Graduate College, Western Michigan University)

What type of academic position would you like to have after completing your degree? Do you want to teach, do research, develop and conduct outreach programs, or a little of each? What kinds of institutions best fit your interests? What are the expectations for applications at different kinds of institutions, and what are the potential career trajectories?

This workshop will focus on academic cultures at a variety of institutions: community colleges, liberal art colleges, colleges with religious affiliations, universities with historically specialized missions, and research extensive universities. What are the expectations at these institutions, from the job interview to the tenure process? Panel members in the morning session will include administrators and faculty members from a variety of institutions who will talk about the process of applying and interviewing for academic positions, expectations for new faculty, and advancement opportunities and the tenure and promotion process.

Afternoon breakout sessions will focus on information related to specific disciplines. Workshop participants will have the opportunity to decipher job ads and to observe mock interviews of faculty candidates for positions in the humanities, social sciences, and natural sciences at two- and four-year institutions. Interviewers will be faculty from a variety of institutions, who will explain which candidate “got the job,” and why. Following the interviews, participants will have opportunities to interact with the interview panels to discuss the strengths of candidates, what to do and what not to do in various types of interviews, and what to do to make your application more competitive.
April 9, 2005
Translating Academic Success into Careers in Agencies, Industry, and Academia

FEATURED PRESENTERS
Dr. Bill Holland (attendance pending)
Ms. Rebecca Humphries (Director, Michigan Department of Natural Resources)
Dr. Patty Payette (Education Program Coordinator, Provost’s Office, MSU)

AFTERNOON BREAKOUT SESSION:
Developing Your Curriculum Vitae, Resumes, and Interviewing Skills for Success

You have worked for years to learn the “tricks of the trade” of your discipline and the academy. How will those skills and your education help you negotiate jobs in government, industry or in administrative positions inside the university? What translates well, and what will you have to adapt to new settings? This workshop is designed primarily for doctoral students who are considering traveling beyond the tenure-track or post-doc route. Whether you are beginning your degree or about to complete it, what do you need to know before you send out a CV?

Three panelists in the morning who have negotiated these transitions will tell you what your professors often don’t know and can’t answer. From a range of backgrounds (humanities, social, and natural sciences), they will talk about their career moves, and offer practical advice and strategies on learning a new culture and set of assumptions. Topics will include how to effectively present what you do know, how to identify what you don’t know, how to present yourself in a resume and an interview, and how to adjust to expectations in different settings. The part of the workshop will include small group discussion and dialogue with the panelists.

The afternoon session will include an opportunity for workshop participants to interact with employers from industry and agencies on “tricks of the trade” in developing curriculum vitas, resumes, and building your interviewing skills to get the job you want.

Summer 2005
Where to Look for Nontraditional Federal Jobs and How to Land Them

FEATURED PRESENTERS AND WORKSHOP DATE
To Be Announced

Now that you are about to graduate, what would you like to do with your degree? You don’t want to teach in a university or be a researcher, have you thought about positions in federal agencies? Panel members who have been or are currently employed by such agencies such as the National Science Foundation, Center for Disease Control, Department of Defense, and the Animal and Plant Health Inspection Service will discuss with participants how to find these jobs, expectations required, how the skills you’ve developed completing a graduate degree will prepare you for employment in these agencies, and how employment in federal agencies may make you more competitive for future job opportunities.

Workshop Registration:
The Graduate School
gradwrsp@msu.edu

For further information on this workshop series, please contact one of the following:

Dr. Rique Campa
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campa@msu.edu

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The Graduate School
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MISSION OF THE GRADUATE SCHOOL
To serve as an advocate for graduate education to the University and beyond and to enhance the quality of graduate education at MSU in all its diverse dimensions

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