



Provost and Vice President for Academic Affairs

April 24, 2008

Dr. Dorothy Zinsmeister
Board of Regents of the University System of Georgia
270 Washington Street, SW
Atlanta, GA 30334-1450

Dear Dr. Zinsmeister and Awards Selection Committee:

I am particularly pleased to nominate Dr. Matthew Laposata as the Kennesaw State University (KSU) nominee for the Regent's Individual Award for the Scholarship of Teaching and Learning. Dr. Laposata combines a deep commitment to pedagogical innovation in the general education science sequence with a substantial track record of scholarship on the impact of his innovations on student learning and motivation, both within and outside the classroom.

As you will see when you review his materials, Dr. Laposata has dedicated his career to teaching in the science general education curriculum at KSU. Like many outstanding teachers, he has focused on developing innovative activities and strategies for engaging students in the course material, particularly from the perspective of its application to the students' everyday lives as well as its connection to critical societal environmental and research issues (i.e., civic engagement, ethics). It is also noteworthy that he is adapting and developing similar techniques for elementary classroom science education.

However, Dr. Laposta is also a model for the scholarship of teaching and learning (SoTL). As you know, SoTL is more than simply scholarly teaching; it includes research on student learning associated with teaching innovations and dissemination of the results. Dr. Laposata consistently combines implementation of innovative pedagogies with assessment of their impact on student motivation, engagement and learning. I believe that his success in demonstrating evidence of their effectiveness is evidenced by the numerous grants he has received, including several substantial funding awards from the National Science Foundation. Further, Dr. Lapasota has disseminated his research and techniques through professional peer-reviewed presentations and publications. In addition, his teaching modules and techniques are available through several highly respected online libraries.

I strongly endorse Dr. Lapaosta as a candidate for the 2008 Regents Individual Award for the Scholarship of Teaching and Learning.

Sincerely,

Lendley Black
Provost, Kennesaw State University

Matthew Laposata, Ph.D.
Narrative
2008 Regents' Scholarship of Teaching and Learning Award

After being selected as Kennesaw State University's (KSU) representative for the 2008 Regents' Award for the Scholarship of Teaching and Learning, I took some time to reflect on my scholarship endeavors of the past several years to prepare for the writing of this narrative. In doing so, I came to a simple conclusion: I didn't seek out my emphasis on the scholarship of teaching and learning - *it came to me*. Allow me to explain.

I began my career at KSU in Fall 1999 with little prior work in the scholarship of teaching and learning. As an undergraduate biology student, I studied the ecology and distribution of the "freshwater jellyfish" in lakes in western Pennsylvania. As a Master's student, my work concerned the behavioral interactions of snakes and field mice. My doctoral studies examined how effluent from wastewater treatment plants affects populations of frogs and salamanders. But all of that changed after I arrived at KSU and I began what has become a pattern of work in the scholarship of teaching and learning – *seeing a need in teaching and learning and creating educational materials to meet that need*. Through hard work, attention to detail, and a desire to improve my teaching and the resources available to other instructors, I have compiled an extensive body of work during my tenure at KSU. It includes: \$529,802 in funding through 8 grant awards, with \$510,332 of this total from external sources; 5 published articles in peer-reviewed journals since 2002; 29 presentations on teaching/learning topics at local, state, national, and international conferences; and an innovative textbook project in environmental science with a major publisher. This productivity has been recognized within KSU with the 2003 Scholarship Award for General Education and the College of Science and Mathematics' e-Learning Award in 2001, and now with my nomination for this award. As the activities that comprise this work each have a "story to tell", I've opted to present my work in this narrative by showing the needs I have identified in teaching and learning in my discipline and the work undertaken to address them.

The Need: A comprehensive group of laboratory exercises/course activities for introductory, non-majors environmental science courses

One of my first assignments at KSU was to spearhead revisions to the two-semester General Education science sequence in Interdisciplinary Science to increase student engagement in the course material. After selecting environmental science as the "vehicle" for teaching foundational science principles, we needed to develop a laboratory program for one of our courses to support this new focus. We found, however, that comprehensive laboratory exercises were not available for environmental science as they were for the traditional science disciplines. In this deficiency we saw a glaring curricular need and set about meeting it. My colleagues and I created a set of sample course activities for introductory environmental science with a KSU award and used these activities to secure a "proof of concept" award (2 years, \$74,985) from the National Science Foundation's (NSF) Course, Curriculum, and Laboratory Improvement (CCLI) program in 2000. After creating and assessing additional activities, we partnered with collaborators at University of Southern Mississippi, Bowling Green State University (OH), and Community College of Baltimore County (MD) and secured a "full development" award (3 years, \$322,244) from the CCLI program for the project.

The *Environmental Science Activities for the 21st Century* (ESA21) project developed over 50 course activities for use in high school and college-level courses (<http://esa21.kennesaw.edu>). A screen capture of one of the site's pages is provided in this packet as a supplement. The activities connect students with topics in environmental science through interactive simulations, hands-on activities, and "personalized" exercises that show the relevance of science in their everyday lives. The cornerstone of the activities is an emphasis on lifestyle analysis where students use online environmental "calculators" to quantify their personal contributions to environmental impacts, compare their impacts to averages, and investigate ways to reduce impacts through lifestyle changes.

The activities were extensively assessed at KSU and other institutions and were found to be extremely successful in positively affecting student attitudes about science, civic engagement, environmental sustainability, and scientific process (Pratte and Laposata 2005). For example, students reported that after using the activities they were more likely to engage in solving environmental problems through voting in elections, actively recycling, buying a more fuel-efficient vehicle, and buying a more energy-efficient home or improving their existing home. Positive movement was also observed in student attitudes about and interest in science, and students indicated increased confidence in critically evaluating scientific claims in the media.

The project gained national recognition through its extensive dissemination at national and international conferences, a publication in the widely-distributed *Journal of College Science Teaching* of the National Science Teacher's Association, and in respected online libraries of curricular materials such as the Multimedia Educational Resources for Learning and Online Teaching (MERLOT - <http://www.merlot.org/merlot/>), National Science Digital Library (NSDL - <http://nsdl.org/>), and Digital Library for Earth Systems Education (DLESE - <http://www.dlese.org/library/>). The project's dissemination was also aided by KSU's involvement in the NSF-funded *Science Education for New Civic Engagements and Responsibilities* (SENCER) program (ongoing since 1998) which seeks to reform undergraduate science education by stressing increased civic engagement in science courses.

Statistics from the project's web page demonstrate its impact on science instruction across the United States and internationally. The ESA21 web site received a staggering 1.925 million hits in 2006 and grew to 2.230 million hits in 2007 – clear evidence of its widespread use. The international recognition of the project is evidenced by the fact that up to 10% of the site's traffic comes from outside the United States, with highest usage in Canada, the United Kingdom, Australia, and Poland.

The impact of this project was not limited to the college level. In 2005, we extended the reach of the ESA21 materials by adapting select activities for use at the middle/high school level through a year-long program for science teachers funded by an Improving Teacher Quality Block Grant (1 year, \$32,165). The ESA21 materials have proven particularly valuable to Advanced Placement (AP) environmental science teachers and we are investigating adapting ESA21 exercises for this audience to enhance advanced science instruction at the high school level.

The Need: Exercises that incorporate ethics into the environmental science curriculum

While ethical issues abound in environmental science, there exists a general paucity of curricular materials that utilize these issues in a targeted manner to affect student learning, attitudes, and ethical development. One way I have addressed this need is by incorporating ethical questions into activities created for the ESA21 project. For example, after students complete an activity that calculates their personal contributions of ozone (smog)-forming

compounds to the atmosphere, they are informed of the health impacts of ozone and asked to consider the ethical implications that their emissions may cause respiratory distress in other human beings. Such questions have proven to be highly effective in promoting student introspection on environmental issues, especially when faced with decisions concerning lifestyle changes that reduce their contributions to environmental impacts.

I have also contributed to ethical education in environmental science by publishing two ethical case studies for use in introductory science courses. Each uses an ethical dilemma to introduce basic content in environmental science and to engage students in discussions of the ethical implications of decisions that impact society and the environment.

The Need: An introductory environmental science textbook that effectively embraces technology to increase student comprehension of foundational principles and engage them with science

In my position at KSU, I teach exclusively within the General Education science sequence and have had the opportunity to instruct thousands of students in introductory science courses. During that time, I have learned the approaches that are successful and those that are not with the wide diversity of students in General Education courses. While several textbooks in introductory environmental science are available, I feel that all of them fall short in one respect or another in meeting the needs of all students in my courses.

Several years ago I partnered with Pearson Publishers to create a digital textbook project that would contain the content and tools to help the diversity of students in introductory science courses maximize their opportunities for course success. The *iEnvironment* project utilizes digital technologies to: present material in a dynamic, engaging manner; supply students with low levels of science preparation with abundant supplemental content on basic science; incorporate interactive elements to reinforce key concepts and introduce material; manipulate and interpret environmental data; conduct environmental lifestyle analyses and investigate changes using environmental “calculators; facilitate collaborative exercises and online discussions of controversial issues through the communication capabilities of the Internet; and provide students with frequent opportunities for formative feedback to assist with content mastery. I am particularly excited by this project, as I feel its use will help instructors better meet the needs of students with drastically differing levels of science preparation and will facilitate increased student engagement with issues in environmental science by “personalizing” the course experience. The project is anticipated to be complete in late 2009 or early 2010.

The Need: Curricular materials that demonstrate that energy-efficient, environmentally “friendly” residences are currently economically and technologically feasible

I have seen over my years of teaching introductory courses that many students mistakenly believe that it is currently economically and/or technologically infeasible to create highly energy-efficient, “environmentally friendly” homes. To help correct this misconception, I am coordinating a collaboration between KSU and Cadmus Construction, which is currently building a development of highly-energy efficient, water-efficient, “net zero electricity use” homes in Roswell, Georgia (<http://www.weatherfordplace.com>). The homes contain “environmental sensors” that stream data onto the web on each home’s electricity use, solar panel electrical production, passive solar hot water heating, and other factors.

I have secured a commitment of \$25,000 from Cadmus Construction (\$12,500 awarded to date) that will be used to create a collection of course activities around the data collected from

these homes. Activities for environmental science courses will demonstrate how these homes differ from traditional homes in construction and performance, and will “let the data speak for itself” to show students how these technologies perform under differing conditions. These data will also be used in teacher preparation courses to teach basic science principles though relevant, “real world” examples of science. The activities will be tested in courses at KSU and used in grant applications for expanded curriculum development to grant programs of the National Science Foundation, Environmental Protection Agency, or the Department of Energy.

I have seen in my experiences a grant writer and grant reviewer that possessing rigorously assessed sample materials (like those we aim to produce for this project) significantly improves a grant application’s chances for funding in the increasingly competitive granting arena for curricular projects. In addition to my successes in securing funding from NSF’s CCLI program for curriculum projects, I also served as a grant reviewer for the program three times since 2005. These experiences not only improved my skills as grant writer and evaluator, but showed me that pilot projects such as this one are an important first step on the road to a successful project.

The Need: To provide pedagogical tools to connect students with environmental science through highly-relevant issues of local importance

Another project entering the pilot stage is a collaborative venture between KSU and Green Media Toolshed (GMT), administrators of the highly popular “Scorecard” web site (<http://www.scorecard.org>) that provides visitors data on local environmental parameters such as air quality and water quality. The site receives around 200,000 visitors every month and is utilized by students, educators, journalists, and regulatory agencies.

But while the site provides users with valuable environmental information, it lacks activities and background content that enable these data to be effectively utilized in classroom settings. I have partnered with GMT and secured funding from an internal KSU grant program to create sample activities for introductory environmental science courses that enable students to see environmental conditions where they live and how those conditions compare with other locations in the United States. By personalizing these environmental data, students will be able to better evaluate threats to their health and local ecosystems, and better connect with course content. The activities will be tested in courses at KSU and, if they prove as successful as anticipated, will lead to KSU and GMT submitting a collaborative grant proposal in 2009. A support letter for the project from GMT director Martin Kearns is included as a supplement.

The Need: Improved science instruction in at the elementary school level through increased use of inquiry teaching approaches

In addition to my scholarship endeavors in environmental science, I have worked with a colleague in early childhood education (Dr. Thomas Brown) on using digital technologies to promote the use of inquiry science teaching approaches at the elementary level. In inquiry science exercises, students examine scientific principles on their own by making observations, proposing explanations, evaluating hypotheses, conducting experiments, drawing conclusions, and communicating their findings. Many elementary school teachers avoid using inquiry activities, however, as they are unsure of the questions they’ll receive in these open-ended exercises. They also fear poor content knowledge will limit their teaching abilities. Hence, they tend to use more predictable, but less effective, traditional classroom science activities.

The *Technology-Enhanced Activity Modules for Science* (TEAMS) project (<http://teams.kennesaw.edu>) promotes the use of inquiry science in the elementary classroom by utilizing digital technologies to directly address teacher concerns that limit their use. A screen capture of the site's main page is provided in this packet as a supplement. Like my other major projects, TEAMS began with an internal grant award that produced sample materials that were then utilized to secure a "proof of concept" award from NSF's CCLI program (2 years, \$68,438). The project's five activity modules provide engaging science content "refreshers" to increase teachers' knowledge base and their confidence in implementing inquiry activities. Digital video clips of a "virtual mentor" conducting the exercise and of elementary students completing the exercise in a classroom setting show teachers what to expect, and significantly reduce the uncertainty of inquiry exercises.

The activity modules have been assessed in courses for pre-service teachers at KSU and have been highly effective in improving pre-service teacher attitudes about and interest in inquiry science methods. Qualitative data has shown that students (pre-service teachers) have experienced positive gains in content knowledge, and the final assessment efforts (Fall 2008 and Spring 2009) will assess these gains using pre- and post-tests of science content. This project will be submitted for full implementation to NSF's CCLI program in May 2009.

The Need: Promoting successful and efficient uses of technology in the college classroom

The effective use of technology in higher education is a common thread running through my work, and I have made numerous presentations (including an invited presentation at the system-wide University System of Georgia Teaching and Learning Conference in 2001) and authored a publication on topics related to the effective use of computer-based technologies in the college classroom (all listed in attached CV). Not all uses of technology are advantageous and/or efficient, and in these presentations I aim to assist colleagues in identifying appropriate uses of technology based on my extensive experience and research in this area.

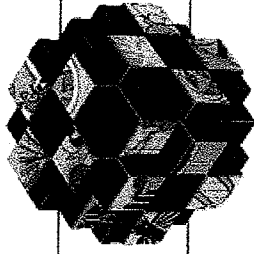
Conclusion:

As this narrative demonstrates, during my tenure at KSU I have engaged in multiple projects and endeavors within the scholarship of teaching and learning that have positively impacted the education and development of students at KSU and other institutions across the country and around the world. My scholarship record also demonstrates steady productivity across years, a successful record of securing external funding, extensive dissemination of work, and a commitment to finding new teaching approaches to meet student needs.

Lastly, and importantly, I am particularly proud of the fact that the majority of my work in the scholarship of teaching and learning focuses on developing materials for a General Education audience. While teaching this diverse group of students can sometimes be challenging, the rewards can be substantial. After all, while the students in General Education courses are not likely to become future scientists, but they will become tomorrow's politicians, business owners, and voters. Increasing science literacy in these students is therefore imperative for the future of our country and something worthy of significant effort.

Reference Cited:

Pratte, J. M. and M. M. Laposata. 2005. The ESA21 Project: A Model for Civic Engagement. *Journal of College Science Teaching* 35:39-43.



ESA21

Environmental Science Activities for the 21st Century

- MODULAR PROGRAM
- AGRICULTURE / FOOD
- ATMOSPHERIC POLLUTION
- NUCLEAR ENERGY
- BASIC SCIENCE
- BIOLOGICAL CYCLES
- RENEWABLE ENERGY
- WATERWATER POLLUTION
- FOSSIL FUELS

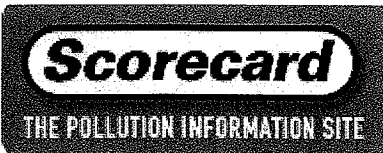
Modules

From this page, you can access the activities grouped in modules around environmental topics. Each module investigates the topic in depth by discussing the various factors that affect it. The concluding activity in each module looks at how an individual either impacts or is impacted by the particular topic. As an example, the module on nuclear energy starts with a discussion of what nuclear radiation is, proceeds to describe how a nuclear reactor operates, and concludes with each person calculating the amount of personal radiation exposure received during the course of a normal year.

The time required to complete each module varies from 2-5 weeks to complete in a normal classroom/lab setting, depending upon how many activities constitute the module. To see how these modules might be grouped together around a much larger topic, click on the Pod link.

Support for this work is provided by the
National Science Foundation's Course, Curriculum, and Laboratory Improvement program
under grants DUE-0068723 and DUE-0231171.

- [HOME](#)
- [PROJECT DESCRIPTION](#)
- [PODS](#)
- [MODULES](#)
- [ACTIVITIES](#)
- [INSTRUCTOR RESOURCES](#)
- [ASSESSMENT](#)
- [ACKNOWLEDGEMENTS](#)
- [COPYRIGHT](#)
- [PROJECT SCOPE](#)
- [CONTACT INFO](#)



Faculty Developments and Awards Committee
FY 2009 Incentive Funding Awards for Scholarship
Kennesaw State University

October 30, 2007

Dear Proposal Reviewers,

Green Media Toolshed is excited to partner with Dr. Laposata on this project and lends it support and resources to the proposed development of curricular materials centered on the *Scorecard* web site (www.scorecard.org).

Over the past 6 years, *Scorecard* has become a heavily used source for environmental information. The site is the top-ranked pollution site in Yahoo Directory and the top-ranked pollution resource on Google. Over 25,000 web sites now link to *Scorecard* for environmental information and the site is prominently represented on major environmental sites on the Internet. *Scorecard* receives more Internet traffic than EPA's information distribution web site. The site received 196,618 visits last month and those visitors viewed 839,997 pages in September 2007 alone. The information on *Scorecard* is used by environmental organizations, local governmental agencies, health advocacy groups, and mainstream media outlets for a diversity of purposes, making it one of the most prominent environmental sites on the Internet today.

The creation of curricular materials that utilize *Scorecard* would broaden the applications of the site's resources by reaching out to students at the college and high-school levels from across the United States. These activities would not only enlighten students to the environmental conditions in their local area, but would instill tomorrow's politicians, teachers, and business leaders with important information on environmental hazards and their potential impacts on human health and ecosystem sustainability. We feel that such a project has great potential for securing additional funding and are committed to partnering with Dr. Laposata on this pilot project and any grant proposals that follow.

We hope you will give him the support he needs to move forward. We look forward to working on this project.

Sincerely,

Martin Kearns
Executive Director, Green Media Toolshed.
202-464-5352

TEAMS: Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back

Forward

Stop

Home

Search

Favorites

Links

Address http://teams.kennesaw.edu/

TEAMS

Technology-Enhanced Activity Modules for Science

http://teams.kennesaw.edu

home page

project overview

activity modules


project updates

discussion board

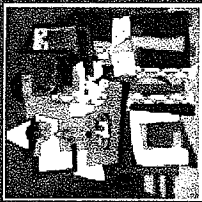
project team

contact us

Activity Modules



Play the "shell game" and amaze students



Activities that let students "see" sounds

Welcome

Welcome to the Technology Enhanced Activity Modules for Science (TEAMS) Project. This National Science Foundation-supported initiative at Kennesaw State University is designed to ...

Navigating the site

Use the menu on the left to visit the various sections within the TEAMS web site. Read the project description and technology requirements, view the activity modules, see what's new with the project, and share feedback with fellow users and the development team.

Support for this project is provided by the Course, Curriculum, and Laboratory Improvement Program of the National Science Foundation through award 042882.

Done

Start

Trusted sites

4:43 PM

Matthew Laposata, Ph.D.
Condensed Curriculum Vitae – Activities in Scholarship of Teaching and Learning
2008 Regents' Scholarship of Teaching and Learning Award

EDUCATION:

Ph.D., Ecology, Conservation Biology Option, The Pennsylvania State University (1998)
M.S., Biology, Bowling Green State University (1994)
B.S., Biology Education, Indiana University of Pennsylvania (1992)

POSITIONS HELD:

Assistant/Associate Professor of Environmental Science, Kennesaw State University (1999 – present)

- General Education Science Sequence Coordinator (2003 - present)
- ESA21 Project Co-Director, <http://esa21.kennesaw.edu>, (2001 – present)
- TEAMS Project Co-Director, <http://teams.kennesaw.edu>, (2005 – present)

Instructor, Department of Biology, The Pennsylvania State University (1998 – 1999)

Graduate Teaching/Research Assistant, The Pennsylvania State University (1995 – 1998)

Graduate Teaching Assistant, Bowling Green State University (1993 – 1994)

AWARDS AND HONORS:

Scholarship Award for General Education, Kennesaw State University (2003)

e-Learning Award, College of Science and Mathematics, Kennesaw State University (2001)

FUNDING RECEIVED:

- 2008 Matthew Laposata, "Weatherford Place: Tomorrow's Homes Today", Cadmus Construction LLC, Roswell, GA, \$12,500 (50% of \$25,000 commitment)
- 2007 Matthew Laposata, "Project Scorecard", Incentive Funding Awards for Scholarship, Kennesaw State University, \$7,071
- 2005 John Pratte and Matthew Laposata, "ESA21: The Next Generation", Improving Teacher Quality Block Grant, \$32,165.
- 2005 Matthew Laposata and Tom Brown, "Technology Enhanced Activity Modules for Science (TEAMS)", National Science Foundation (Course, Curriculum, and Laboratory Improvement Program), \$68,438.
- 2002 John Pratte, Chris Fox, Matthew Laposata, Kenneth Rhinehart, and Charlene Waggoner, "ESA 21: Environmental Science Activities for the 21st Century", National Science Foundation (Course, Curriculum, and Laboratory Improvement Program), \$322,244.
- 2002 Tom Brown, Matthew Laposata, and Stephen Rahn, "Technology Enhanced Activity Modules for Science (TEAMS)", Kennesaw State University Incentive Grant, \$7,400.
- 2000 John Pratte, Marina Koether, Matthew Laposata, and Gail Schiffer, "General Education Environmental Science: An Interdisciplinary Laboratory Program for the 21st Century", National Science Foundation (Course, Curriculum, and Laboratory Improvement Program), \$74,985.
- 2000 Gail Schiffer, Matthew Laposata, and Marina Koether, "On-line, Real-world Environmental Science Exercises", Master Teaching Award, Kennesaw State University, \$4,999.

PEER-REVIEWED PUBLICATIONS:

- Laposata, M. 2007. An Environmental Dilemma: A Case Study in International Immigration. *Science Education and Civic Engagement: An International Journal* 1:72-75.
- Pratte, J. M. and M. M. Laposata. 2005. The ESA21 Project: A Model for Civic Engagement. *Journal of College Science Teaching* 35:39-43.
- Laposata, M. and J. Pratte. 2005. The ESA21 Project: Environmental Science Activities for the 21st Century. *Tested Studies for Laboratory Teaching, Volume 26*: 402-405. *Proceedings of the 26th Workshop/Conference of the Association for Biology Laboratory Education (ABLE)* (M.A. O'Donnell, Editor).
- Laposata, M. M. 2005. Randy's Return: A Case Study in Food Safety Regulation. *Crossroads: Research in Ethical Leadership* 2005:62-68.
- Laposata, M. M., T. Howick, and M. J. Dias. 2002. Current events and technology: TV and radio on the web. *Science Scope* 25:82-85.

In Preparation:

- Laposata, M. M., M. Dias, S. McCullagh, R. Matson, S. Reese, and W. McCoy. Comparing perceptions of the nature of science and evolution in science majors and non-science majors.
- Laposata, M.M. and T. Brown. The TEAMS Project: Promoting inquiry science through digital technologies.

PRESENTATIONS:

- Feb. 2008 Matthew Laposata and Tom Brown. "TEAMS: Technology-Enhanced Activity Modules for Science", 2008 Forum on Teaching and Learning in Higher Education, Auburn University, Auburn, AL.
- Aug. 2007 Matthew Laposata and Tom Brown. "The TEAMS Project: Advancing Elementary Level Inquiry Science Teaching with Technology (poster)", MERLOT 7th Annual International Conference, New Orleans, LA.
- Apr. 2007 Tom Brown and Matthew Laposata. "The TEAMS Project: Technology Enhanced Activity Modules to Improve Science Learning", National Science Teachers Association Annual Conference, St. Louis, MO.
- Jan. 2007 Matthew Laposata. "Environmental Science Activities for the 21st Century", Liberal Education and Democracy's Big Questions, Association of American Colleges and Universities, New Orleans, LA.
- Nov. 2006 Matthew Laposata. "Environmental Science Activities for the 21st Century" (poster), American Water Resources Association Annual Meeting, Baltimore, MD.
- Sep. 2006 Matthew Laposata. "ESA21: Environmental Science Activities for the 21st Century", Southeastern Scholarship Conference on E-Learning, Macon State College, Macon, GA.
- Aug. 2006 Matthew Laposata and John Pratte. "Environmental Science Activities for the 21st Century" (poster), Campus Technology Conference 2006, Boston, MA.

- Aug. 2005 John Pratte and Matthew Laposata. "Environmental Science Activities for the 21st Century" (poster), SENCER Summer Symposium 2005, Santa Clara University, San Jose, CA.
- Apr. 2005 Matthew M. Laposata and John Pratte. "ESA21: Environmental Science Activities for the 21st Century" (poster), Pedagogies of Engagement, Association of American Colleges and Universities, Bethesda, MD.
- June 2004 Matthew Laposata, John Pratte, Charlene Waggoner, Kenneth Rhinehart, and Chris Fox. "Environmental Science Activities for the 21st Century", Association of Biology Laboratory Education Conference, Bowling Green State University, Bowling Green, OH.
- Apr. 2004 John Pratte and Matthew Laposata. "Environmental Science Activities for the 21st Century", National Science Teachers Association National Meeting, Atlanta, GA.
- Oct. 2003 Matthew Laposata and John Pratte. "The ESA21 Project", SENCER Regional Meeting, Charleston, SC.
- Aug. 2003 John Pratte and Matthew Laposata. "Science 1101 Online: NSF-Funded Curriculum Developments" (Invited Session Presentation), Sharing and Connecting Across Campus: Spotlighting Faculty, College & Campus Initiatives, Kennesaw State University, Kennesaw, GA.
- Mar. 2003 Matthew Laposata and John Pratte. "ESA21: Environmental Science Activities for the 21st Century", Georgia Academy of Science, Reinhardt College, Waleska, GA.
- Oct. 2001 Matthew Laposata. "Practical Uses for Technology in College Courses" (Invited Session Presentation), University System of Georgia Teaching and Learning Conference, Georgia Center for Continuing Education, Athens, GA.
- Oct. 2001 Matthew Laposata, John Pratte, Gail Schiffer, and Marina Koether. "Connecting with the Environment: A Novel Approach to Lab". Kennesaw State University e-Learning group, Kennesaw, GA.
- Aug. 2001 Matthew Laposata, John Pratte, Gail Schiffer, and Marina Koether. "Connecting with the Environment: A Novel Approach to Lab" (poster), SENCER Summer Symposium 2001, Santa Clara University, San Jose, CA.
- Apr. 2001 Matthew Laposata. "Practical Uses for Technology in Science Courses" (Invited Workshop Presentation). The Teaching of Science: New Approaches, Kennesaw State University, Kennesaw, GA.
- Apr. 2001 John Pratte, Matthew Laposata, Gail Schiffer, and Marina Koether. "General Education Environmental Science: An Interdisciplinary Laboratory Program for the 21st Century" (poster). Fourth Annual Celebration of Scholars and Artists, Kennesaw State University, Kennesaw, GA.
- Mar. 2001 Matthew Laposata. "Using Streaming Video Clips from ABC News in Your Course" (poster). Kennesaw State University E-Learning Retreat, Dillard, GA.
- Mar. 2001 John Pratte, Matthew Laposata, Gail Schiffer and Marina Koether. "Environmental Science Laboratory", Society for College Science Teachers at the annual conference of the National Science Teachers' Association, St. Louis, MO.
- Mar. 2001 Matthew Laposata. "Technology and Teaching: Three Examples" (Invited Presentation), KSU General Education Council for Faculty Development seminar series, Kennesaw State University, Kennesaw, GA.
- Mar. 2001 Matthew Laposata. "PDF files: A College Professor's Best Friend". Georgia Academy of Science, Coastal Georgia Community College, Brunswick, GA.

- Feb. 2001 John Pratte, Matthew Laposata, and Gail Schiffer. "General Education Environmental Science: An Interdisciplinary Laboratory Program for the 21st Century" (poster). Best Practices in General Education and Its Assessment, Association of American Colleges and Universities, Atlanta, GA.
- June 2000 Matthew Laposata. "Using Student Web Presentations in Large-enrollment Courses" (web poster). National Educational Computing Conference 2000, Atlanta, GA.
- Apr. 2000 Matthew Laposata, John Pratte, and Gail Schiffer. "Educating the Masses: Science Education at Kennesaw State University" (poster). Rethinking Scientific Literacy in the Age of Diversity and Specialization, Association of American Colleges and Universities, Charleston, SC.
- Apr. 2000 Gail Schiffer, D. Don Davis, Pamela Rhyne, and Matthew Laposata. "Beyond PowerPoint: Effective Uses of Technology for Teaching". Society for College Science Teachers, Annual Conference of the National Science Teachers' Association, Orlando, FL.
- Mar. 2000 Matthew Laposata. "A 'True' Course Web Site". Georgia Academy of Science, Valdosta State University, Valdosta, GA.
- Feb. 2000 Matthew Laposata. "Completing the Circle: Using Student Web Presentations in College Courses". Georgia Conference on College and University Teaching, Kennesaw State University, Kennesaw, GA.



Biology and Physics
College of Science and Mathematics

Dr. Zinsmeister:

I am writing in support of Dr. Matthew Laposata's nomination for the 2008 Regents' Scholarship of Teaching and Learning Award. Dr. Laposata and I have been colleagues in the Department of Biology of Physics at Kennesaw State University from the time of his appointment as an Assistant Professor in 1999 until the present. In that time, I have had the opportunity to interact with Matt in a variety of different settings and have developed a deep and abiding respect for his intellect, initiative, collegiality and professionalism.

Many of us have the ability to take our own unique combination of skills and abilities and use them to guide students through our areas of specialty. We pat ourselves on the back for our mastery in teaching, but we often find that the tricks and techniques we use to get a concept "just right" in the eyes and minds of our students fail to deliver in the hands of a colleague. Something about the way we deliver the material or the timing we use to ask the key question just does not work. The select few who are truly masters of their trade have the ability to develop teaching materials that transcend the quirks and foibles of the individual instructor and speak to the largest group of students in ways that capture the imagination and engage the mind. Dr. Laposata has this, a unique ability that allows him to assess the curricular needs of both students and faculty, develop tools and technology to address those needs, and deliver them in a form that is readily accessible to both the teacher and learner. It is this ability to see both sides of the pedagogical coin that sets Dr. Laposata apart from his peers.

This ability to create accessible materials is best demonstrated by a brief review of the circumstances Dr. Laposata encountered on his arrival at Kennesaw State. Dr. Laposata was hired to replace Dr. Gail Schiffer, the lead faculty member directing the natural sciences component of our core curriculum. Most students that are not majoring in one of the natural sciences come to the core science curriculum grudgingly with the prevailing attitude being "I hated biology and chemistry in high school and I will continue to hate it in college". Prior to Dr. Laposata's arrival, the core science curriculum at Kennesaw had converged on a two course "general sciences" sequence focusing on scientific literacy. It was developed using a team-based approach, pairing faculty with differing disciplinary backgrounds. The materials developed for the course relied heavily on inquiry-based modules best delivered in small to moderate-sized classes in small group settings. Given student predispositions to dislike science content, appreciation for scientific reasoning and an understanding of the limitations of science were key elements. Although the course was initially delivered by faculty from chemistry, physics and biology, at the time of Matt's arrival all of the sections in the

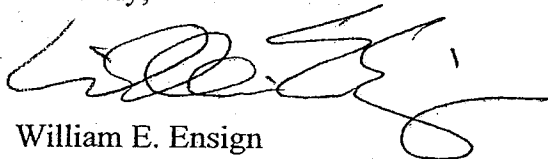
course were being covered by biology faculty. His hiring also came at a time of particularly rapid growth in our student population. Unfortunately, faculty resources failed to track the growth in student numbers, resulting in rapidly increasing class sizes and the highest student to faculty ratio among comprehensive universities in the University system. Management of the large number of students our department served through the core sequence required a move from the smaller class format with paired instructors (25-50 students per section) to a large lecture format (>150 students per section) with a single instructor. All of the faculty teaching the core science sequence had developed their approach to the course utilizing the inquiry-based modules and were comfortable with the group-based pedagogies. As a result, concern about the effect of increased class sizes on course outcomes was common and faculty morale was low. The final element in this perfect storm of curricular activity was an on-going discussion about whether the core sequence should take an environmental focus. To summarize, Dr. Laposata arrived with a freshly stamped Ph.D and stepped into a position where he had to develop materials that would be delivered to a student population that was at best ambivalent and at worst antagonistic towards the subject matter. The materials would also have to please a disgruntled faculty who were being asked to teach in ways and under conditions they considered to be pedagogically unsound.

I provide this background material to give context to Dr. Laposata's achievements. I have little doubt that you have had the opportunity to review the materials he has developed for our core science sequence. I am certain you have seen the list of nationally recognized publications and presentations that have resulted from his work. I can also assume that you are aware of his skills, abilities and successes in the area of grantsmanship. What is not apparent from the typical list of achievements offered in a curriculum vita is the degree to which the materials Dr. Laposata developed for our core science sequence work for all parties involved. I taught the core science sequence at Kennesaw since my arrival in 1997 and have had the opportunity to observe all of the transitions I described above. The original materials developed by Dr. Schiffer and her colleagues worked well in the smaller class setting for which they were designed. Given the broad nature of the content, each of the faculty delivering the course were able to capitalize on their own disciplinary expertise to successfully engage the non-science majors. As class sizes grew and our ability to individually engage students declined, student engagement also declined. A key element in this shift was our inability to effectively interact with students in the hands-on labs associated with the first course in the sequence. A second problem was a disconnect between these labs and the developing environmental focus of the course. Dr. Laposata's approach to solving this problem, a series of lab and web-based exercises that applied basic scientific concepts to everyday environmental decisions addressed both of these issues. The onus for student engagement shifted away from the individual skills and abilities of the faculty member teaching the course to the material being offered. Since each of the activities developed addressed an everyday, commonplace environmental concern, students could no longer ask the dreaded question "When am I ever going to use this?" The basic content in the modules was accessible to anyone with a graduate degree in the sciences and provided ample room for development of individual lecture materials to support the lab modules. I have not had the opportunity to teach our introductory sequence since 2005, but I have

continued to observe both student reactions and faculty response to the course. In all instances, the feedback I receive is positive.

Given the circumstances he encountered when he arrived on campus, it would have been easy for Dr. Laposata to seek out curricular material and approaches that had been used elsewhere. Instead, he consciously chose to pursue an approach that addressed both the needs of faculty and students. I would argue that his success in this regard supports my original contention, that Dr. Laposata is unique among his peers in his ability to structure curricular materials in a way that transcends the specific teaching or learning styles of individual faculty or students. Dr. Laposata is a valued colleague and, based on my observation of his exemplary performance in the circumstances described above, deserving of the Regents' Award for the Scholarship of Teaching and Learning. If I can provide any additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Ensign', with a long horizontal flourish extending to the right.

William E. Ensign
Associate Professor of Biology

March 29, 2008

P.O. Box 419
State University, AR 72467-0419

Phone:
870-972-3086

Fax:
870-972-3089

www.astate.edu

Jonesboro, Arkansas

Dr. Dorothy Zinsmeister
Assistant Vice Chancellor for Academic Affairs
University System of Georgia
270 Washington Street, SW
Atlanta, GA 30334-1450

Dear Dr. Zinsmeister,

This is a letter of recommendation for Dr. Matt Laposata of Kennesaw State University for the 2008 USG Regents' Scholarship of Teaching and Learning Award. I cannot think of a better person for this honor, and I wholeheartedly endorse his candidacy.

I have known Matt since he was hired to be co-director of the general education science sequence at Kennesaw State back in 1999. Over the years, we have worked closely on re-designing that sequence and creating a laboratory curriculum that is now used by students all over the U.S. and the world. I have attended his classes, listened to his presentations to students and faculty, talked with his students, and read through the mountain of curricular materials that he has created over the years. Working this closely with Matt has allowed me to get to fully evaluate his contributions to education, and to be able to compare them in a well-informed manner with those of others. In my opinion, he is one of the best teachers at the collegiate level.

Matt is one of the rare breed of faculty in the sciences. He is articulate, engaging, and humorous, with a classroom persona to which students respond overwhelmingly in a positive manner. His students find him incredibly approachable, both in and out of the classroom. The large positive response to his teaching is in spite of the fact that he has not reduced the rigor in his classroom.

If these attributes were the only thing that Matt did in regards to teaching, they would be enough to put him in the upper echelon of post-secondary science teachers. What really separates Matt from many of his colleagues is the way in which he uses realistic assessment of his students' learning and attitudinal changes to guide the teaching approaches that he uses in his classes. This has allowed Matt to be able to retain the best of standard pedagogical techniques used for decades while infusing his teaching with new technologies that have greatly aided his students. He has avoided the mistakes that are commonly made these days, such as throwing out all standard teaching styles to rush headlong to a promised "technological nirvana" without any data to support such a move

or to go the opposite direction and ignore any new innovations without testing to see if they either improve learning or change students' attitudes.

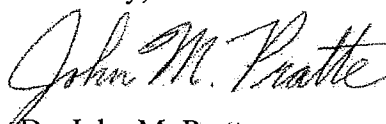
The reason that Matt would be an excellent choice for this award is that the pedagogical improvements to science education he has made extend beyond his own classroom, as he has always shared all of his ideas and findings with the rest of the world through various venues. He posts all of his materials to the Internet and lists the various web addresses for these amongst numerous digital libraries such as DLESE and MERLOT. He has further disseminated the results of his work with countless presentations at conferences and workshops and with publications in peer-reviewed journals over the last seven years. This has allowed a very large audience of colleagues to evaluate his work and decide upon its worth.

Over the years, their response has been one of approval. Teachers and instructors across the U.S. have found his research to be of great value, as they have adopted his materials for their own classrooms. As an example, there have been several universities that have adopted the activities and methodologies of the Environmental Science Activities for the 21st Century (ESA21) Project by applying for and being successful in receiving adaptation grants from the National Science Foundation. Furthermore, his work is used as an example of a quality pedagogical approach by many others in presentations at conferences and workshops. As one of the people who is listed as having the instructor's manual for the activities used in the ESA21 Project, I can attest to this, as I receive 10-20 requests for it from instructors across the country whenever someone shows these in a presentation or workshop. In fact, I alone have received a batch of eight e-mails in just the last week asking for this manual after one such event, and I expect to receive numerous more over the coming week, as the NSTA National Conference took place this last weekend.

Matt's work is the embodiment of what is meant by the scholarship of teaching and learning, and you could not find a better honoree for this award than him. His enthusiasm, energy, and ability to further the education of students serve as a great model for all of us in sciences.

If you have any questions, please do not hesitate to contact me at 870-972-3298.

Sincerely,



Dr. John M. Pratte