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School of Civil and Environmental Engineering

Date: February 1, 2014

To: CETL Awards Committee

From: Reginald DesRoches, Ph.D.  
Karen and John Huff School Chair and Professor

Re: Nomination of Michael Rodgers, Ph.D. for CETL Undergraduate Educator Award

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It is my distinct pleasure to enthusiastically nominate Dr. Michael Rodgers, a Principal Research Scientist jointly appointed between our School and the Georgia Tech Research Institute, for the CETL Undergraduate Educator Award. Dr. Rodgers has demonstrated the highest dedication to undergraduate teaching and mentorship for decades. This award is richly deserved.

As you will see in his nomination letters his ultimate achievement has been the *Senior Capstone Design* course. *Senior Capstone Design* is more than just a core course required of all of our undergraduates, this course is the centerpiece of our student performance evaluation for ABET accreditation. Having Dr. Rodgers at the helm of this critical course has been a blessing. His unending dedication to this course has been nothing short of astounding. Dr. Rodgers has taken the initiative to blend real-world projects into the course. He has sought out sponsoring engineering firms and agencies to provide real projects. Dr. Rodgers coordinates the interaction between the professional engineering staff at the sponsoring firms and the student teams and provides the teams with both technical support and encouragement. Coordinating up to 20 teams during some semesters (every team has a unique project each working with a different sponsor) is absolutely extraordinary. Very few instructors on campus have a comparable real-world impact on our students.

Dr. Rodgers' dedication to the students is exceptional. For example, at the end of the semester he attends all of the oral project presentations at the home location of the sponsoring firm. Some of these firms are in Savannah and throughout the state, hence requiring substantial travel time and effort. Further, he is available for student group consultation throughout the semester, spending many late nights with the students in the lab. This dedication is witnessed by his outstanding student evaluations. Over the last several years, student ratings for his enthusiasm, accessibility, ability to explain complex material, and overall effectiveness as an instructor have ranged from 4.6 to 5.0 in this demanding course with enrollment ranging from sixty-five to one hundred students. Comments in the CIOS surveys and exit interviews with our students consistently speak of "boundless knowledge", "incredible willingness to help", and "making a difficult subject interesting".

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While his accomplishment in the *Senior Capstone Design* course alone would merit this award, Dr. Rodgers' dedication goes far beyond. I personally believe one of his most important contributions has been mentoring future generations of educators. Over the past several years he has mentored four separate Ph.D. students as they instructed undergraduate courses. Franklin Gbologah, Alex Samoylov, Olga Kemenova, and Mary Katherine Watson have instructed courses in Civil Engineering Systems (CEE 3000), Probability and Statistics (CEE 3770), and Capstone Design (CEE 4090). By investing his time and effort in these students, Dr. Rodgers has meaningfully impacted undergraduate education for decades to come.

Dr. Rodgers' impact on undergraduate education is not limited to teaching and mentoring students. He actively conducts educational research in conjunction with his regular research program. In the past several years he has supervised two Ph.D. students whose primary research activities are in undergraduate engineering education. Roger Purcell (a current student) is researching the interaction, strengths, and weakness of online versus in-person courses and Mary Katherine Watson (completed 2013, currently an assistant professor at the Citadel) evaluated sustainability knowledge based on student perceptions and concept mapping scores. In just the last two years Dr. Rodgers has co-authored six education related journal and conference papers. Last year, a paper by Mary Katherine Watson, Dr. Caroline Noyes (Office of Assessment), and Dr. Rodgers analyzing the knowledge of sustainable engineering practices among senior capstone design students won the 2012 ***Thomas C. Evans Award for Outstanding Instructional Paper*** from the Southeastern Section of the American Society for Engineering Education.

While not directly related to this award, I also wish to highlight that Dr. Rodgers somehow has amazingly found time to demonstrate his dedication to education at the graduate level as well. In the last few years, he has developed four courses: PUBP 6300 - Earth Systems, CEE 8802 - Advanced Research Methods, CEE 8801 - Research Methods, and CEE 6625 - Transportation, Energy and Air Quality. He has also advised 16 Ph.D students and well over 25 M.S. students while at Georgia Tech.

On a more personal note, I would like to acknowledge the sincere privilege it has been for me to work with Dr. Rodgers. Over time, I have come to know many faculty members. Mike's dedication to undergraduate teaching stands above the rest. Through his actions, and in my conversations with him, it is evident that he sees education as a calling. He personally invests in his classes and students. He is deeply committed to each and every student. He believes in the education mission of the Institute and spends every day attempting to further that mission. We are blessed to have such an outstanding educator in our School and I sincerely hope that your committee agrees.

# Nomination of Dr. Michael O. Rodgers for 2014 CETL Undergraduate Educator Award

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## Teaching Statement for Mike Rodgers

I come from a family of educators. My maternal grandfather was a college professor and a school headmaster. An uncle was a long time dean and provost at a small college. My mother and mother-in-law were an elementary school teacher and librarian respectively. Countless other relatives were involved in education either as teachers or in some other capacity. In my family, teaching and learning from others is a way-of-life. Family dinner conversations invariably turned into a discussion of something new that someone had learned that day.

Based on this upbringing, it is perhaps not surprising that my view of education is heavily skewed toward a concept of lifetime learning. In fact, I would say that the core of my educational philosophy is that, whether we acknowledge it or not, *we are always teaching* and, likewise, *we are always learning*. While this may be formalized in a classroom setting, in reality every interaction that we have with others, every book that we read and every activity that we undertake represents an opportunity for obtaining knowledge for ourselves (learning) or sharing our knowledge with others (teaching). As evidence, I point out the almost universal parental experience, of which my wife and I have shared on more than one occasion, of observing that their children had learned things from interacting with them that they were certainly not intending to teach!

In our modern world, where information regarding almost any subject is readily available, what is the justification for the university? I believe that university derives virtually all of its “value added” through the experiences that it offers its students and opportunities that it provides for interaction between faculty members, between faculty and students and between the students themselves. Of these, I believe that the relationship between faculty and students is the most difficult to maintain successfully. The asymmetry in age, experiences and knowledge of a particular subject can all serve to inhibit this relationship. It is a rare student that can summon up the courage to take the lead in overcoming these barriers and thus I believe that it is incumbent on the faculty member to do what he or she can to foster a healthy relationship with their students.

I often find that the best teaching opportunities, especially in the Senior Capstone Design course that I teach, often come outside the traditional classroom. Barriers to learning that can present themselves in the afternoon lecture hall often disappear in the computer lab late into the evening and tremendous amounts of information can be transferred in a relatively short time. I find these moments a rewarding experience as I believe anyone who loves teaching would. If I have been successful as an educator, and I hope that I have, I believe that I can attribute it this emphasis on maintenance of a healthy relationship with my future colleagues both inside and outside of the classroom.

## Illustrations of Dr. Michael Rodgers' Teaching Excellence and Impact on Student Learning.

### Undergraduate Teaching Assessments: (CIOS scores from last four years)

<i>Term</i>	<i>Course Number</i>	<i>Course Title</i>	<i>Student Enrollment</i>	<i>CIOS Survey Responses</i>	<i>Question 10 "Instructor was an Effective Teacher"<sup>1</sup></i>
Spring 2014	CEE 4090	Senior Capstone Design	92	n/a	n/a
Fall 2013	CEE 4090	Senior Capstone Design	47	21	4.67
Fall 2013	CEE 4610	Multimodal Transport	33	14	4.57
Spring 2013	CEE 4090	Senior Capstone Design	88	33	4.70
Fall 2012	CEE 4090	Senior Capstone Design (co-instructor)	67	30	4.65
Fall 2012	CEE 4090IP	Senior Capstone Design (Intl Plan)	1	1	5.0
Spring 2012	CEE 4090	Senior Capstone Design	98	48	4.63
Fall 2011	CEE 4090	Senior Capstone Design	86	29	4.62
Spring 2011	CEE 4090	Senior Capstone Design	99	38	4.7
Fall 2010	CEE 4090	Senior Capstone Design	58	18	4.0
Summer 2010	CEE 3000	Civil Eng. Systems	43	14	4.1
Spring 2010	CEE 4090	Senior Capstone Design	97	49	4.5
Fall 2009	CEE 4090	Senior Capstone Design	63	26	4.8

*In addition to the above, Dr. Rodgers supervised 8 Undergraduate Research Students over this period.*

### Supervision of Graduate Students Teaching Undergraduate Courses (last three years)

Summer 2013	CEE	3000	Civil Engineering Systems	Franklin Gbologah
Spring 2013	CEE	3000	Civil Engineering Systems	Alex Samoylov
Fall 2012	CEE	3770	Probability and Statistics	Olga Kemenova
Summer 2012	CEE	3000	Civil Engineering Systems	Alex Samoylov
Spring 2012	CEE	4090	Capstone Design (Sustainability)	M.K. Watson
Fall 2011	CEE	4090	Capstone Design (Sustainability)	M.K. Watson
Summer 2011	CEE	3000	Civil Engineering Systems	Alex Samoylov
Spring 2011	CEE	3770	Probability and Statistics	Olga Kemenova

### Undergraduate Curriculum Development (last ten years)

*CEE 4090 Senior Capstone Design:* Developed course to meet new ABET 2000 requirements for a project-oriented senior capstone experience. Developed procedures for external sponsorship of projects including performance evaluation. Developed assessment methods currently used for ABET required assessment of student performance including rubric for evaluation of both groups and individuals.

*CEE 4610 Multimodal Transportation:* Jointly developed course with Dr. Kari Watkins to provide an overview of transportation from a modal perspective. Course covers design and operations of facilities for bike and pedestrian, roadway, railroad, inland marine, maritime and short sea shipping and aviation.

<sup>1</sup> Interpolated median with a maximum of 5 = "Strongly Agree"

**Education Related Publications and Presentations (last two years):**

Watson, M.K., Pelkey, J.G., Noyes, C., & Rodgers, M.O. Analyzing the Structure and Content of Student Sustainability Knowledge using Traditional, Holistic, and Categorical Concept Map Scoring Methods. Submitted to: *Journal of Engineering Education*.

Watson, M.K., R. Lozano, C. Noyes and M.O. Rodgers, Assessing curriculum contribution to sustainability more holistically: Experiences from the integration of curricula assessment and students’ perceptions at the Georgia Institute of Technology, *Journal of Cleaner Production*, Elsevier, vol. **61**, pp. 106-116 (2013).

Watson, M.K., C. Noyes, M.O. Rodgers, (Accepted for Publication), Student Perceptions of Sustainability Education in Civil and Environmental Engineering at the Georgia Institute of Technology, *Journal of Professional Issues in Engineering Education and Practice*, American Society of Civil Engineers, (2013).

Watson, M.K., Barella, E., Wall, T., Noyes, C., & Rodgers, M.O. Development of a sustainable design rubric to assess student abilities to apply sustainability principles in engineering design. American Society for Engineering Education Annual Conference, Atlanta, GA. (2013)

Watson, M.K., Pelkey, J.G., Noyes, C., & Rodgers, M.O., Evaluating sustainability knowledge based on student perceptions and concept mapping scores. American Society for Engineering Education Southeastern Section Annual Conference, Cookeville, TN. (2013)

Watson, M.K., Noyes, C., & Rodgers, M.O. (2012). *Analyzing the Structure of Student Sustainability Knowledge Using Traditional and Holistic Concept Map Scoring Methods*. Georgia Scholarship of STEM Teaching and Learning Conference, Statesboro, GA. **Received Thomas C. Evans Best Instructional Paper Award.**

Watson, M.K., Noyes, C., & Rodgers, M.O. (2012). Development of a Guided-Inquiry Module for Teaching Sustainability ‘Through the Cycle’. *American Society for Engineering Education Southeastern Section Annual Conference*, Starkville, MS.

**Example Direct Impact on Student learning**

The following tables are exemplary of direct impacts on student learning. They demonstrate both technical and non-technical skills across the breath of Civil Engineering within the Capstone design course.

**ABET Evaluation Criteria for Which Senior Capstone Design Contribute**

<b>Relationship Between Student Outcomes and Evaluation Products</b>					
<b>ABET CEE Student Outcomes</b>	<b>SOQ</b>	<b>Intermediate Deliv.</b>	<b>Final Written Report</b>	<b>Final Oral Presentation</b>	<b>Individual Student Reviews</b>
<b>1. Civil &amp; Environmental Engineering Context</b>	X		X		
<b>2. Fundamental Knowledge</b>			X	X	
<b>3. Engineering Skill</b>		X	X	X	
<b>5. Oral Presentation Skills</b>				X	
<b>6. Written Presentation Skills</b>	X		X		
<b>7. Teamwork</b>					X
<b>8. Engineering Ethics</b>	X		X		
<b>9. Professionalism</b>	X		X	X	
<b>10. Integration &amp; Synthesis</b>			X	X	
<b>11. Breadth of Knowledge</b>	X			X	

**Correlation Between Senior CEE Technical Areas and Typical Student Projects (Projects from Spring Semester 2012)**

**Correlation Between Student Projects and Civil & Environmental Engineering Technical Areas**

<b>Project</b>	<b>Structures</b>	<b>Transportation</b>	<b>Construction</b>	<b>Hydro</b>	<b>Geotechnical</b>	<b>Environmental</b>
System Interchange	XX	XXX	XX		X	X
GRTA Park/Ride		XXX	XX	XX	XX	
Historical Bridge Replacement	XXX	X	X			X
Dam Rehabilitation	X		X	XXX		XX
Holly Springs Roundabout		XXX	X			
Sandy Plains Safety		XXX	XX			
Commercial Site Development	X	X		XX	XXX	X
Gwinnett LID			X	XX		XXX
Atlanta Botanical Garden Roof	XXX		XX			X
Sigman Road at Sarasota		XXX	X	X	XX	
Forsyth Multi-Use Path	X	XXX	X			XX
Emory Storm Water	X		X	XXX	XX	X
Lullwater Bridge Construction Analysis	XX	XX	XXX	X	X	X
PEACH Roads Program Analysis	X	XX	XX			XXX
Mobile Source Emissions Evaluation		XX				XXX
Sandersville Public Safety Complex		X	X	XX	XXX	XX
Sandersville Fire Station Design	XXX	X	XX			X
Settingdown Creek Bridge	XX	XXX	X	X		XX
Ridgewalk Value Engineering		XXX	XX			
Office/Warehouse Development	X	X	X	XX	XXX	

**Legend:** XXX = primary area of interest; XX = substantial content; X = limited content; no mark = minimal or no content

January 28<sup>th</sup>, 2014

SUBJECT: Dr. Michael Rodgers CETL Undergraduate Educator Award Letter of Recommendation

Dear CETL Honors Awards Committee:

I stand in awe of Dr. Michael Rodgers. As an educator he is the role model that I seek to emulate. I have never known another faculty member that expends so much time and energy on teaching and mentoring students. In my interactions with Dr. Rodgers it is clear that to him teaching is not just his job, it is his mission. He treats his interactions with every student as a personal investment in their future. I often wonder how he is able to maintain his effort and passion, wishing I could achieve just half his level. So, it is with greatest pleasure and admiration that I offer this recommendation letter in support of Dr. Michael Rodgers for the CETL Undergraduate Educator Award. Dr. Rodgers is truly a rare and exceptional teacher.

Since I have known him Dr. Rodgers has instructed the Civil and Environmental Capstone Design course. This course typically contains 70 to 100 students, divided into 15 to 20 groups. Dr. Rodgers has designed the course to provide a capstone learning experience that resembles the “real world” as closely as possible. For instance every group must go through a competitive project selection process where they respond to a request for qualifications. Through this process each group receives a different project. Every project is a real world project sponsored by a local agencies or company. Some projects are actual projects that have been undertaken by the sponsor while others are exploratory project, i.e. projects the sponsor is considering undertaking. To obtain these projects Dr. Rodgers will work with over a dozen companies and agencies, and potentially twice that many contacts, with much of this leg work prior to the beginning of the semester. This process alone is immensely time consuming. He vets each projects, assisting the companies in properly scoping the work effort to that reasonable for a Capstone project. He will then work with every sponsor and student group throughout the semester, helping guide the students through their projects. Dr. Rodgers has familiarized himself with design standards across Civil and Environmental Engineering, working with students on highway design, structural bridge design, waste water treatment, environmental impacts, retaining walls, demolition, etc. Over the last several weeks of the semester the groups present their projects to the sponsors at the sponsor’s location. Sponsors are spread throughout the state. Dr. Rodgers will spend a solid two weeks (nights and weekends included!) traveling the state to attend the student presentations. Numerous times I have been asked to be on the committee of faculty experts who meet to review the projects. I am consistently amazed at the quality of completed projects and the depth of knowledge Dr. Rodgers has about each project, each group, and each student in the class.

I have spoken with other universities (faculty and department chairs) at length about our Capstone Design course. They are constantly amazed (and envious!) at our course, expressing a desire to implement a version similar to ours. However, in every case they have shared a belief that they could never get someone to step up to undertake the tremendous effort involved. I have come to



firmly believe that Dr. Rodgers dedication and effort is not only exceptional and unique at Georgia Tech but across universities.

Dr. Rodgers teaching is not limited to Capstone Design. He regularly teaches 4 to 6 classes a year, while running a large, active research program. I believe he carries a larger teaching load than almost every faculty member in Civil and Environmental Engineering. He is not required to do this, he chooses to do this. I have spoken with him at length about his teaching. He brings a passion and desire to teaching that is rare among faculty. If half our faculty had just half his passion for teaching Georgia Tech would become unquestionably the nation's top university.

On a more personal note I would also like to highlight Dr. Rodger's teaching and mentoring beyond his courses. I have learned more from Dr. Rodgers than any other person over my entire academic career. His understanding of fundamental and advanced principles is beyond that of anyone I have known and his willingness to share this knowledge is endless. He acts as a mentor to many faculty, graduate, and undergraduate students on their research and classes. He is truly a rare individual in this regard.

It has been my privilege to know Dr. Rodgers. My only regret is that I never had the opportunity to be a student in one of his courses. He is an exceptional teacher and mentor. I can think of no one more deserving of the CETL Undergraduate Educator Award. If you have any questions or require any additional information please do not hesitate to contact me.

Best regards,



Michael Hunter, Ph.D.,  
Director Georgia Transportation Institute &  
Director National Center for Transportation Systems Productivity and Management (U.S. DOT)  
Associate Professor

January 24, 2014

Dear CETL Honors Award Committee,

I am writing to give my highest recommended for Dr. Michael Rodgers, who is being nominated for the Undergraduate Educator Award. I have been co-teaching senior design with Mike since I started at Tech three years ago and we are now in our sixth semester of co-teaching. As someone who witnesses his mentoring and interaction with students on a daily basis, I cannot imagine someone more deserving of this award.

I first met Mike as a faculty candidate when he learned that I had a passion to teach senior design. I personally feel that this semester-long project course that accounts for 75% of our accreditation goals from ABET is the most important course these students will undertake and teaching it correctly is critical to the program. It became clear from our first interaction that Mike shared my passion 100% and had thoroughly thought through how a course like this should take place. Amongst his other teaching responsibilities, Mike had been teaching senior design for two semesters each year for nearly ten years when we first met. It was in this first meeting that he explained the intricacies of the senior design program that he has designed for Civil Engineering at Georgia Tech.

On the first day of the course, the students self-select into groups and immediately begin to develop professional resumes and a corporate identity to respond to a real Request for Qualifications (RFQ) that has been issued by a local agency. In the first three weeks, Mike steers each of 16 – 20 groups in the course toward a Statement of Qualifications (SOQ) that is on par with the best SOQ's that I have seen produced in ten years of working as a consultant in industry. By using a team of graders representing industry, the faculty and the agency issuing the RFQ, the student groups are ranked to determine an order in which they will chose their semester-long projects.

At this point, the students list their preferences amongst the list of projects that Mike has assembled through weeks of communicating with potential sponsors. Each of the 20 – 24 projects that are presented to the students have an outside contact with an agency or consulting firm who has previously been involved in the process. These sponsors mentor the student groups in addition to the instructors and the faculty within the school. It is a testament to Mike, that in my interactions with each of these sponsors, they cannot speak highly enough about their previous experience with senior design. They are especially impressed with the guidance that Mike gives to the students and the format of the course used to prepare them for the “real world”. These sponsors volunteer to work with the program semester after semester, many of them because they are former graduates of the program and have witnessed its value years after having completed their own senior design project.

After the projects have been selected, Mike holds kick-off meetings with each student group to give them their outside contacts and get them started. The remainder of the semester is spent meeting with groups on a weekly basis to identify additional needed resources to complete their work. I have met with Mike and the students as his co-instructor and I am continually impressed with his detailed knowledge of Civil Engineering manuals, figures and practices. He will rattle off exactly the right amount of information to set students back on the correct path without giving them the answer. Then, after a semester of working on their projects to produce a design plan, the students present these final products to their sponsors on site rather than just in the classroom.

It is in the throes of the final week before these presentations that Mike's mentoring of students really shines. Mike spends three or more hours every evening doing rounds amongst the student groups in the computer lab to answer last minute questions and help them prepare. As he describes it, this time is the best investment he can make in their futures, because of all the "teachable moments" that their last minute panics bring. He is absolutely correct. These are students who have finally realized that they are about to enter the real world and this is their last opportunity to interact with someone who has been there and can help them demonstrate their knowledge in their final presentation.

On one other occasion, I worked at a university where this type of senior design format is used. At Seattle University, there is a team of six people who oversee a similar size senior design program to do the work that one man – Mike – undertakes semester after semester at Georgia Tech. He oversees this program with passion, tending to the process itself with purpose and tending to the students involved with care and concern. I could go on for pages about how impressed I am with the interactions with students, but I think it is more appropriate to let one of the students speak for them.

"Things that work for this course include the professors, the challenge, the value in the hard work required, and the opportunity to see how a real world project might play out. You guys are great and I respect you both a lot. You were approachable and helpful when we needed it. This project was truly a challenge. In retrospect, it has changed my life. I really feel like I can go up against something complicated that I know very little about and teach myself what is required to be successful in my endeavor."

Finally, I would be remiss if I do not mention the personal mentoring that Mike has undertaken with me, a young professor just beginning her teaching career. He has explained the senior design process and his thinking in detail, while encouraging me to take on exactly enough of the course to be challenged a little more each semester. He is patient and purposeful in every interaction and has slowly prepared me to take over a program that many consider to be his baby, so that it can continue to thrive for another generation.

After attending Georgia Tech as an undergrad, two universities as a graduate student and teaching at a fourth during graduate school, I have witnessed many educators in action. Among them, there is not a single person that I feel would be more highly deserving of this award. If you have any questions about my recommendation, please contact me at [kari.watkins@ce.gatech.edu](mailto:kari.watkins@ce.gatech.edu) or (206) 250-4415.

Thank you,



Dr. Kari Edison Watkins, PhD, PE  
Assistant Professor

January 30, 2014

To Whom It May Concern:

**Subject: Support of Dr. Michael Rodger's Nomination for the CETL Undergraduate Educator Award**

In the School of Civil and Environmental Engineering (CEE), Dr. Michael Rodgers is one of those individuals who makes significant, steady and silent contributions – both to undergraduate and graduate education, and to CEE's research program through Ph.D. student advising. I am very pleased to write this letter to support his nomination for the CETL Undergraduate Educator Award. This award will be an excellent recognition of his significant contributions to the CEE Undergraduate Program through the Senior Design capstone course.

Dr. Rodgers has taught the Senior Design capstone course for several years. An enormous undertaking, CEE Senior Design brings all the prior design coursework and experience of our students to a real-world context. Students work in teams that function as consulting engineers. All projects are real projects of interest to participating sponsors who agree to provide professional engineering and architectural support to the student teams working on their respective projects. Sponsors include private consultants, universities and colleges, the federal government, state, county and local governments, non-governmental organizations (NGOs) and other organizations. The student teams work with the main instructor, as well as a technical communications instructor and the project sponsors, to develop a design that meets the defined scope and specifications. At the end of the semester, each team is required to present the sponsor with a final written report and to make a final oral presentation at the sponsor's facility.

This course is an important piece of the CEE undergraduate curriculum as it is the integrative design experience for our students before they enter the real world. The instructor of record must not only be well versed at interacting with the sponsors to bring them on board and involve them meaningfully in the course; s/he must also be able to lead the students on a wide range of projects as they develop their capabilities with applying their knowledge in a team-based and integrative design experience. Much effort and experience goes into making this course work well. Over the years, Dr. Rodgers has not only diligently worked to provide our students with a very good capstone design experience; he has also worked systematically improve the course, at times engaging with the Undergraduate Curriculum Committee. Furthermore, he has worked closely with Dr. Lisa Rosenstein, CEE's Communication Specialist, to include a formal and integrative technical communications component in the course. Our students have benefitted very well from the capstone experience as evidenced by the feedback they have provided on the course over the years.

I wholeheartedly support Dr. Rodgers nomination for the CETL Undergraduate Educator Award. He has made important contributions to the School of CEE through his work with the systematic development, delivery and assessment the Senior Design course. His work continues to have a positive impact on the quality of CEE's undergraduate curriculum and experience, and by extension, the College of Engineering and the Institute.

Sincerely yours,



**Adjo Amekudzi Kennedy, Ph.D., Professor** | Email: [adjo.amekudzi@ce.gatech.edu](mailto:adjo.amekudzi@ce.gatech.edu) | Tel: 404-894-0404

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January 28, 2014

Dear CETL Awards Committee:

I first met Dr. Michael Rodgers when he walked into Senior Design when I was an undergraduate here at Georgia Tech. The room was full of frightened seniors who had heard that the class was going to be more work than we'd ever done before, but he walked up the podium and in a voice that always seems more like he's telling a story than giving a lecture he calmly walked us through how the rest of the semester was going to run. Dr. Rodgers immediately impressed all of us with his seemingly boundless knowledge, his measured temperament, and his ability to keep a bunch of frantic seniors on track and reassure us that we were competent enough to finish the project. It seemed like he had an answer to every question we could pose, and whenever we were stuck, he always seemed to have a book or know a person we could contact to get back on track.

Since coming to graduate school, I've gotten to work with Dr. Rodgers on several research projects and take a few more classes with him, and several things have become apparent: first, he really *does* have an answer to every question. I am consistently astounded by just how much Dr. Rodgers knows, from optics to environmental controls to just knowing who the county engineer is in Sandersville, it's hard to find a question he doesn't know how to answer. Secondly, it's astounding how much effort goes into planning and running senior design that I never noticed as a student. He does an incredible job of organizing outside engineering firms, consultants, and clients in a way that seems seamless to the students in the course. It gives the seniors real time to focus on the design in Senior Design. And the week of final reports, he doesn't ever miss a single group's presentation, which is impressive considering how many aren't just far from Atlanta, but out of state.

Hundreds of students have gone through his senior design class on their way out of Tech, and Dr. Rodgers has truly done an amazing job of mentoring them and helping them bring together years' of knowledge into real project. Here are what some of his former students have to say:

*I had Dr. Rodgers for the Civil and Environmental Engineering Senior Design Course. His dedication to my group and to the completion of our project led to a successful design. Dr. Rodgers wants to see all of his students succeed and he goes out of his way to make accommodations for his students. For example, he provided his cell phone number and house phone number to get in touch with him and he scheduled sessions with an AutoCAD Civil 3D representative to answer our questions. Also in the closing weeks of our project, Dr. Rodgers would circulate between computer labs to help answer questions until late at night. An impressive skill of Dr. Rodgers is that he could answer most of our questions if not direct us to the proper manual of where we could find the answer. My group would ask him about the ADA standards for a multi-use path or the cost of paving materials and he could provide the answer of the top of his head. After my presentation for senior design, he told everyone in my group that if we ever needed a letter of recommendation he could provide one. Offering to write a letter of recommendation unprompted demonstrates Dr. Rodgers' dedication to his students does not end even when the course is over.*

Laura Schmitt

*In my undergraduate senior design experience, I have seen firsthand Dr. Michael Rodgers' dedication to his students. I remember on the first day of senior design, he wrote his personal phone number up on the whiteboard and told everyone in the class that we were welcomed to call him at any time if we had any questions. He was also there during the last few nights when my group and I were trying to finish our project, and not only for our group but for every single group that was in the SEB and Mason buildings on those nights. Dr. Rodgers always welcomed my questions and he would always go above and beyond with his answers, sometimes to a point where I no longer have an idea of what he is talking about. His vast knowledge about almost everything is a distinct characteristic, having come from a Physics background, and he was never shy about explaining to me what he knows. Lastly, I also saw his dedication to us during my group's final presentation when he was actually at the site a lot earlier than any of us were. He was there to welcome us and ask us if we were ready and to show us where to go. For my great experience in senior design, I am very grateful to Dr. Rodgers.*

Popa Pratyaksa

*During my time at Georgia Tech I've had the benefit of having Dr. Michael Rodgers as a professor for 3 courses. With all honesty, I would have to say that he is the professor that best explains the course material in a real-world context, allowing the students to directly apply acquired knowledge in actual engineering applications. This was evident in senior design, where students were given the opportunity to collaborate on real projects and work alongside industry professionals. A vital advantage of having Dr. Rodgers' guidance throughout that process was being able to ask for his expert input, and benefit from his years of advising senior design sponsors and students alike. In the next 2 courses I took with Dr. Rodgers, at the graduate level, he was able to expand on the value of our work as engineers, actively encouraging us to question the information we receive, and even the results we produce. His famous quote, "models are to be used, but never trusted" serves as a daily reminder to be cautious with models, statistics, and figures. With this in mind we—as scientists and engineers—are able to enhance the quality of our work, knowing that we have meticulously examined the validity of our work, and comprehend the limitations of its use. Only a professor of Dr. Rodgers' caliber is able to impart on his students this type of knowledge—lifelong tools that lead to a better understanding of the interactions, and information we encounter on our professional journeys.*

Giacomo Cernjul

*There are three things I remember about Dr. Rodgers: his diet cherry Dr. Pepper, his great sense of humor, and his ability to make a complicated topic interesting. I participated in the International Plan during my undergraduate degree, and knowing I had to give my senior design presentation in an entirely different language at the end of the term was daunting. When my group initially started on our project, we constantly ran into dead-ends and were not really sure how to progress. However, Dr. Rodgers always had an answer for our questions and presented the problems we had in ways that made the project much more interesting. Our project was a bridge reconstruction and because my interests were more focused in transportation operations this was especially helpful. Initially, I felt uninterested and ill-prepared to work on our project, but with Dr. Rodgers' assistance, I realized how interdependent the fields of civil engineering are and became much more involved by the end. His ability to make the project interesting also made translating the presentation at the end much easier. I was able to come up with different ways to present the project and explain the underlying concepts in ways I wouldn't have thought of.*

*Dr. Rodgers' sense of humor also makes interacting with him a pleasant experience. He's very witty and if it seems you are nervous or second-guessing yourself when trying to ask questions, he notices. He tries to motivate his students to ask questions, and more importantly, make them feel comfortable when asking them. That is what makes him such a great professor. This personally helped a lot when transitioning from undergraduate to graduate school. I felt more prepared and willing to ask for help from people instead of struggling with a problem on my own.*

Laura Stahley

For years, Dr. Rodgers has worked tirelessly to make senior design the educational experience that every engineering student deserves: a showcase of their work with the support they need to succeed. By carefully organizing all of the back-end for the course, guiding students with his incredible knowledge base and straightforward lectures, and reassuring students that they were capable of producing quality work. Dr. Rodgers' commitment to students and undergraduate education is incredible, and I strongly recommend him for the CETL Undergraduate Educator Award.

Sincerely,



Aaron Greenwood  
Ph.D. Student, School of Civil and Environmental Engineering



January 31, 2014

**Reference: CETL Undergraduate Educator Award**

I am honored to write this letter of recommendation for Dr. Mike Rodgers.

Twice a year the Georgia Department of Transportation is able to engage Georgia Tech Seniors through the Capstone Project Program managed by Dr. Rodgers, to get new and independent evaluations of real transportation engineering challenges in Georgia. The fresh look at issues, alternatives and costs has proven to be a valuable service to the Department as we look for innovative ways to solve our transportation problems.

Through his persistence, Dr. Rodgers' is able to move GDOT staff to think about new challenges we have with all aspects of transportation engineering, including corridor studies, capacity analysis, roadway geometric design, structural design, hydraulics, and the full range of environmental issues that must be considered. The result is a comprehensive list of projects available to seniors that will require a well-rounded understanding of civil engineering disciplines.

The exceptional level of professionalism and skill displayed by seniors during these presentations is apparent and noticeable, and Dr. Rodgers is to be commended for the instruction and advice given. Ultimately, through the planning and leadership of Dr. Rodgers, the exposure of our future leaders in transportation to real engineering issues is invaluable to their success in the real world.

I can say with complete confidence that Dr. Rodgers has had a positive influence on many students in engineering and transportation and his example is respected and acknowledged every day. Subsequently, I highly recommend Dr. Rodgers for the "CETL Undergraduate Educator Award".

If you have any questions, please feel free to contact me at (404) 631-1600.

Sincerely,

A handwritten signature in blue ink that reads "Brent A. Story".

Brent A. Story, P.E.  
State Design Policy Engineer