

January 11, 2015

To CETL Award Committee:

I am writing this letter to register my hearty recommendation for Dr. Raghu Pucha, Academic Professional School of Mechanical Engineering, to be nominated for the *CETL Geoffrey G. Eichholz Faculty Teaching Award*. As a Chair for the school, I have witnessed Dr. Pucha's dedication and commitment to excellence in teaching and upholding the highest of integrity and academic standards. Dr. Pucha's excellent teaching style and experience has been gained since Fall 2004 through the consistent instruction (over 3000 students to date) in two CAD courses ME/CEE 1770: *Introduction to Engineering Graphics and Visualization* and ME 4041: *Interactive Computer Graphics and CAD*. Reading over the criteria required to nominate a faculty for this award, I firmly maintain that Dr. Pucha embodies the standard. His teaching excellence, which is well known among our undergrad students as well as his peers; his innovative learning centered class room methodologies; scholarly interest and commitment to excellence in undergrad teaching and learning in core courses; his unique ability to engage, challenge and support students, his influence on students' lives beyond classroom which is evident from many student comments over the years make him worthy of the honor of receiving this *Award*.

Dr. Pucha's main priority has always been his students. He has consistently received outstanding student reviews for providing them with challenging and engaging classroom instruction and obtained excellent *Interpolated Median Values* through GT CIOS survey results. His impact on their lives is obvious by their glowing survey responses, which chronicle not only their opinion of his teaching but always mention his accessibility and availability and concern and respect for individual student learning needs. As one Fall 2006 student can be quoted as saying, "*Dr. Pucha, Thank you for all of your help and patience with me. I learned so much, and this course definitely built character. Thank you for showing genuine concern and desire for us to succeed*".

Dr. Pucha conducted research on the impact of case study methodology on student learning funded by the *LITEE National Dissemination Grant Competition and NSF* (Spring 2009). Dr. Pucha implemented innovative problem-based and collaborative learning methodologies in his large classes with formative assessment to continuously improve and personalize his students' learning experience. Dr. Pucha has been integral in implementing *peer-assisted learning strategies* in the classroom. He was one of an exclusive group of faculty selected to participate in the Inaugural 2008 *Class of 1969 Teaching Scholars Program*, CETL, based on his dedication to improving student learning initiatives. Dr. Pucha used *undergraduates teaching other undergraduates* methodology by inviting his previous students to interact with his current students on selected topics. Many students mentioned in the course surveys – how their learning attitudes changed inspired by Dr. Pucha's teaching methodologies. As one Fall 2010 student can be quoted, as saying "*Absolutely loved this class I felt like I learned more than the scope of the course through the instructor's refreshing approach. I loved how learning the concept was more than the grade because I was more motivated to learn and retain that*".

It is very clear that Dr. Pucha is providing a perfect platform for our undergrad students to become a lifelong learners with his inspiring and engaging teaching approach, Dr. Pucha's teaching style in inspiring success in his students was publicly acknowledged by Georgia Tech President **Dr. G.P. "Bud" Peterson** on April 23, 2010:

<http://smartech.gatech.edu/bitstream/handle/1853/36586/4-2310Dean%20Griffin%20Day.pdf?sequence=1>

when Dr. Pucha was selected to attend the "Dean Griffin Day" program, an honor that underscores his contribution to our reputed institution.

Dr. Pucha strongly believes in the continuous improvement in his courses and in his delivery methodologies. He participated as a George W Woodruff School of Mechanical Engineering *Teaching Fellow* for Spring 2014: a semester long workshop with peers on implementing various innovative teaching strategies in the class room and discuss their reflection. In summer 2014 he was actively involved in the CETL course design studio workshop to understand the challenges associated with curriculum changes and redesigning courses. Dr. Pucha is also an active member of *ME 1770 course working group*. This group consists of ME, IE faculty and members of CETL and CEISMC that is looking into various curriculum development aspects to integrate design, model and build aspects in measuring its impact on student lifelong learning skills.

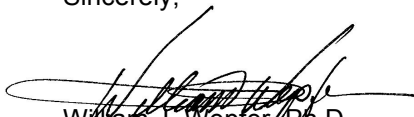
Dr. Pucha is a widely-respected subject matter expert in the fields of analysis and manufacturing of advanced materials and CAD. Dr. Pucha has coauthored over 60 research papers in peer-reviewed journals, book articles and conference proceedings. In addition to fulltime teaching, Dr. Pucha effectively uses his research experience in mentoring many undergraduate students through undergraduate research programs such as SURE, PURA and research for credit.

Dr. Pucha has been honored several times for his service with the “*Excellence in Teaching*” recognition through “*Thank-a-teacher*” program of CETL. He has a *wall* in his office covered with *Thank-a-teacher* certificates from many of his appreciative students. Dr. Pucha’s embodies a refreshing humility that is a nice balance with his confidence and self-assured manner. His firm grasp on his discipline cultivates trust in him by his students. Dr. Pucha’s love for the subject matter, his dedication to the student body with a knack of continually connected to them, his desire to motivate them to pursue their dreams, while at the same time always maintaining the highest level of integrity and excellence, make him an example to both colleagues and students alike of what a true educator should be. As one student of Fall 2013 can be quoted as saying “*Dr. Pucha’s greatest strength is his teaching style. Out of all of my professors at GT he has been one of the most inspirational professors I have had. The way he facilitates learning is unique. He takes time even with a large number of students and examines their work for fundamentals and certain techniques. He is helping students prepare for real world challenges for future engineers. He is a vital asset to the GT faculty*”

In summary, I believe that Dr. Raghu Pucha is an excellent example of the type of educator that Georgia Tech should recognize and reward. He is a gifted teacher who has had a tremendous positive impact on our undergraduate students, who will make up the changing engineering workforce of the coming years. As an *instructor* he has enhanced our institution and helped to sustain the competitive reputation Georgia Tech has worked so hard to maintain over the years. I want conclude this nomination letter with a recent course survey comment from a student of Dr. Pucha. “*Dr. Pucha is an excellent instructor. Communicates material in an engaging and exciting way. I learned a huge amount from Dr. Pucha, not only about the use of CAD tools and design process, but also how to think and tackle REAL problems like an engineer. Dr. Pucha makes a huge impact on his students, and they are better prepared for their academic and professional careers after taking his class. This man makes engineers.*”

I strongly recommend his nomination for the *CETL Geoffrey G. Eichholz Faculty Teaching Award*.

Sincerely,



William J. Wepler, Ph.D.

Eugene C. Gwaltney, Jr. School Chair and Professor

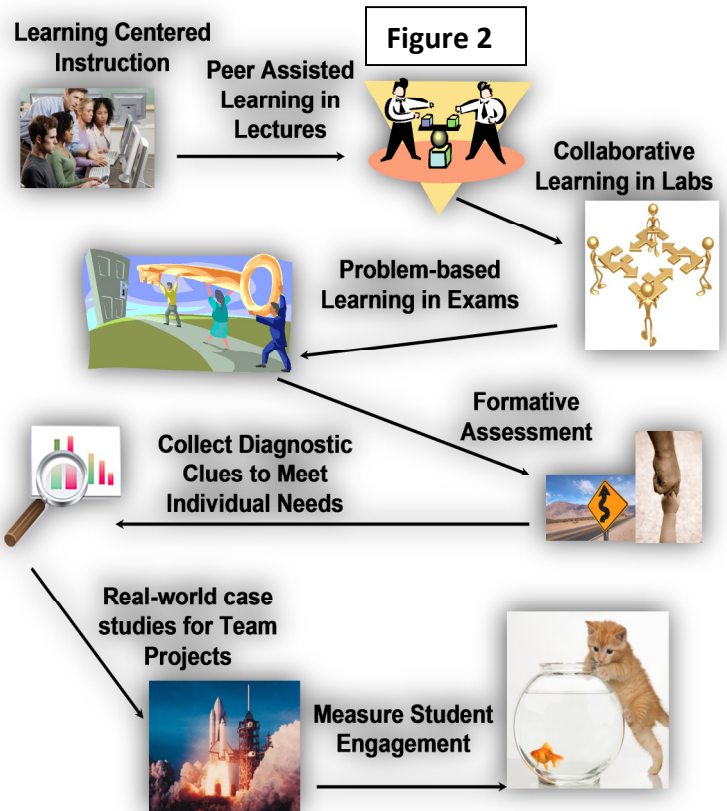
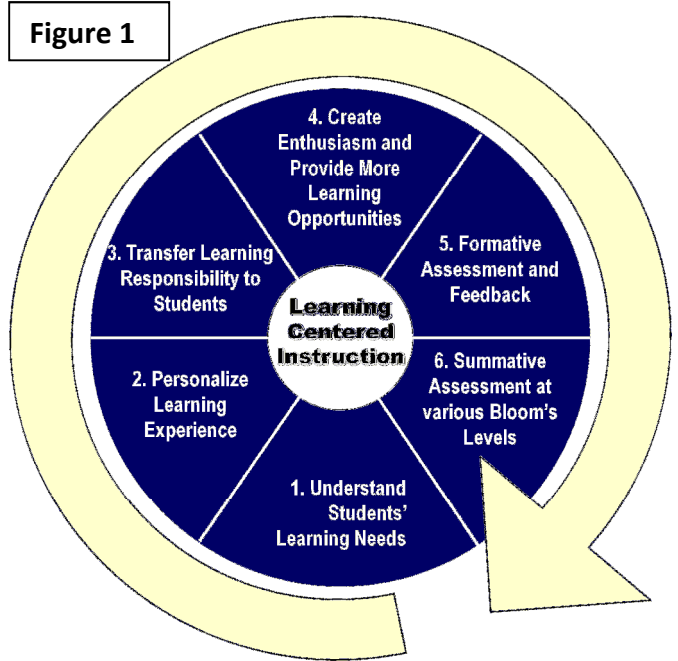
Reflective Statement on Teaching – Raghu Pucha

Today, we are what our education has made of us. Tomorrow, we shall be what our education will make of us. The “Gurukul” concept of ancient Indian culture, for example, facilitated the transfer of knowledge, social skills and human values by a single “Guru” to his students. The “Guru” in those days, not only used to teach the vocational skills needed based on the economic needs of the society, but also pay attention to inculcate social and ethical values in his disciples. With continuous increase in human needs, desire for knowledge and systematic compartmentalization of knowledge, the concept of teaching / learning process has continuously evolved over generations. However the fundamental role and responsibility of Guru / Teacher / Instructor is very much the same over the decades.

One’s own teaching philosophy may evolve over time with experience. When I first taught basic mechanics and design courses during my PhD, I did not think much about my teaching philosophy. I simply kept explaining, until I understood the subject matter. I only knew at that time that I had a passion for teaching. My 13 years of teaching experience (10 years at Georgia Tech) has given me a matured perspective on my teaching philosophy, teaching strategies and their reflection.

I teach with the goal of reaching every student in the class through enthusiasm and expertise by providing depth of knowledge in the subject matter with a global perspective. The essential components of my teaching philosophy (Figure 1) to achieve this goal include:

- (1) Understand and respect student learning needs,
- (2) Personalize students’ learning experiences,
- (3) Transfer learning responsibility to students,
- (4) Create more learning opportunities in understanding fundamentals,
- (5) Sufficient formative assessment and feedback before testing their knowledge,
- and finally (6) Challenge students with summative assessment at various Bloom’s taxonomy levels.

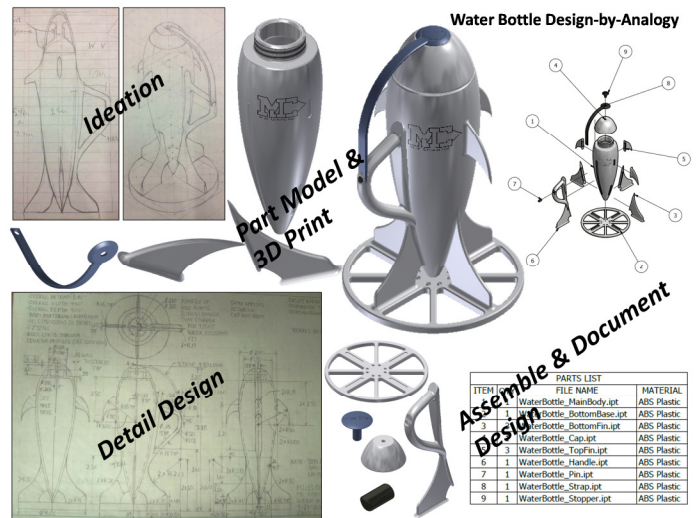


Impact on Students’ Learning

The learning-centered instructional approach I have been using follows a natural cycle of learning that, according to Kolb’s (1975) model includes: (a) abstract conceptualization, (b) active experimentation / application, (c) concrete experience, and (d) reflective observation. Some of the process oriented activities (Figure 2) in this approach and its impact on students’ learning are briefly discussed here.

Peer Assisted Learning in Lectures: Teacher-centered instruction imposes a moratorium upon students’ vocational development by forcing them to assume the role of student. *An undergraduate teaching other undergraduates* is one of the most effective methods for achieving both cognitive and attitudinal goals of undergraduate education. Student-faculty teamwork in teaching and learning capitalizes on student ability to be powerful role models and agents of change in the classroom. This concept is implemented by arranging lectures on specific topics from selected undergraduate students who have taken the course in the earlier semesters. These selected UG students act as *point of contact* throughout the semester answering e-mail queries of current students. This approach is well received by students with a renewed sense of connectedness, reducing the learning time on some topics in the curriculum in improving the quality of team projects.

Figure 3



Problem-based Learning:

“*Learning is the product of both cognitive and social interaction arrived at through authentic problem solving*”. This strategy is employed by introducing open-ended reverse engineered product design projects. To demonstrate the concepts learned in the Sketching, and 3D CAD aspects of the course, students are given a product to develop unique designs using the visualization tools learned. They start with reverse engineering approach with an opportunity to improve up on their unique initial designs. Students showed increased involvement and owning the responsibility and pride of their work (Figure 3: Water bottle design. See <https://seelio.com/g/gatech-me1770-fall2014> for more creative designs).

Formative Assessment: Formative assessment provides the information needed to fine-tune teaching and learning while they are happening. The feedback from learning activities is used to adapt the teaching to meet the learner’s needs. It is the bidirectional process between teacher and student to enhance, recognize and respond to the learning. This concept is used through assessing students’ work in LAB activities on various concepts in the course. For example, the students are asked to sketch a 3D isometric view of an object given the multi-views of the geometry to consolidate their visualization skills. Students’ work was analyzed based on four important concepts required for visualization of the particular 3D geometry and the diagnostic information was used in meeting the individual learning needs of students.

Collaborative Learning in Labs: In Collaborative learning, groups of students work together in searching for understanding, meaning or solutions or in creating an artifact of their learning. Collaborative learning methods are implemented in the Lab activities. Each week, two lectures are followed by a 3 hour Lab. In the Lab, students sit together as groups and work on lab activities in a collaborative environment. It is mandatory that each student peer-review, critic and discuss their work before the TAs provide their assessment and feedback. The lab activities are graded after peer reviews and two assessments from TAs. The collaborative environment with peer-reviews followed by assessments from TAs before grading the work provide many learning opportunities to students in consolidating the concepts learned in the lecture.

Real-world Case Studies for Integrative Thinking: Learning Engineering Graphics through real world case study and problem-solving strategies can foster the required integrative thinking for tomorrow’s engineers. This is implemented in ME 1770 and ME 4041 team projects by conducting classroom research on the impact of case study methodology on student learning – LITEE National Dissemination Grant Competition, sponsored by NSF DUE # 0442531. <http://www.litee.org>
See YouTube channel for student projects: <https://www.youtube.com/user/1770GT/videos>

Interaction with CETL, and my own experiments in the class room and their reflections taught me that

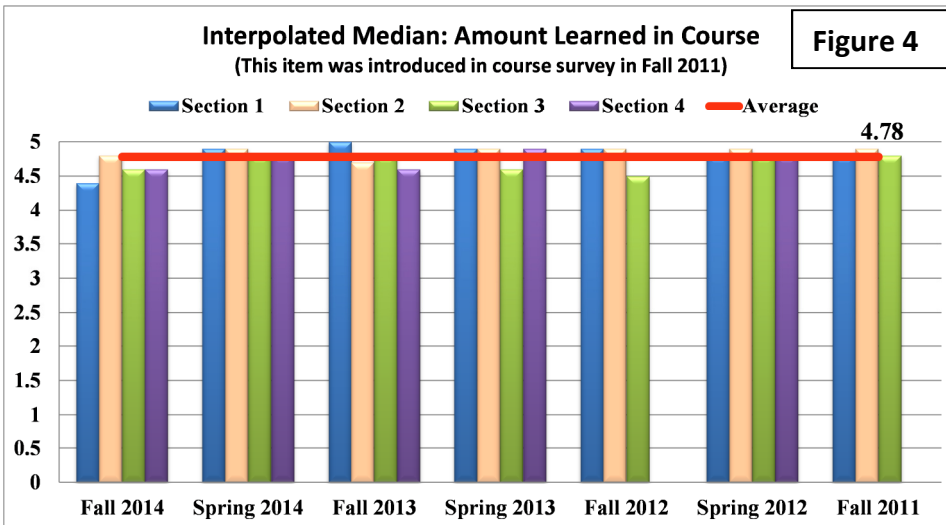
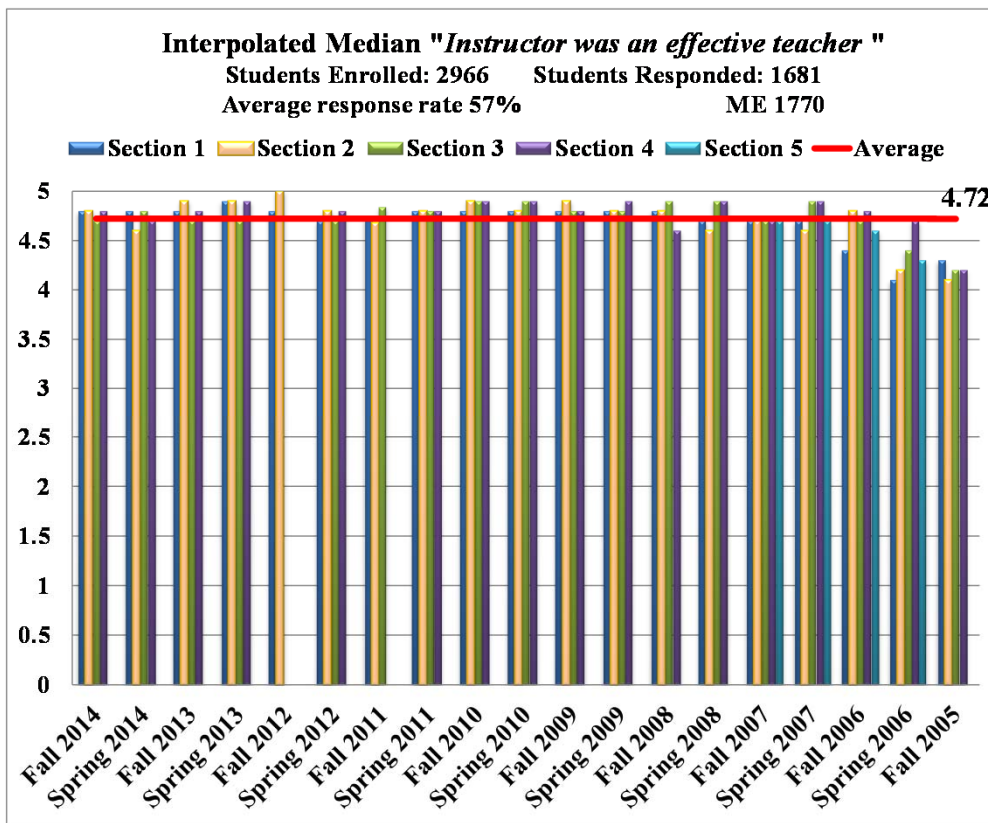


Figure 4

the instructor should act like a facilitator in the class room by transferring the learning responsibility to students. Among the various learning centered instruction methodologies I use in the classroom today, the formative assessment method with a feedback, meeting the individual needs of students is very effective. Students really

appreciate the assessment of their initial work and quickly get motivated through additional opportunities provided to learn the subject (Figure 4). Our students are constantly on emotional roller coaster due to stress coming from course work and other peer pressure related issues. As an instructor, in addition to providing engaging instruction, I am keen on individual attention to nurture and personalize their learning experience. This aspect has tremendous impact on students’ learning attitudes as evident from many student comments in course surveys.

“Dr. Pucha personally influenced me to strive to meet my fullest potential and he helped me realize how important this class is for my future career as an engineer. My work ethic and confidence improved as a result of taking his class.” - Student comment in Course Survey: Fall 2007

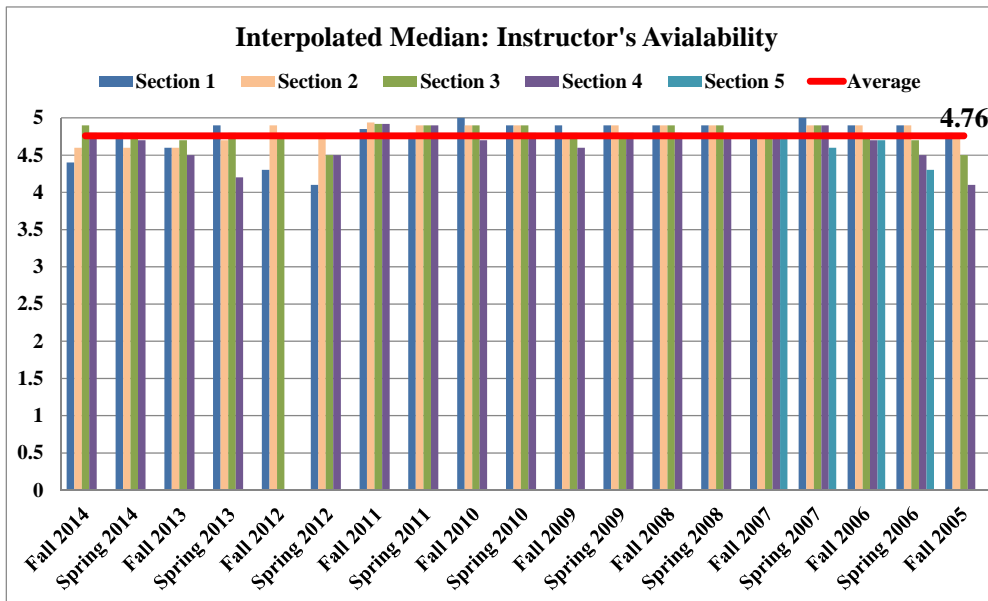


"Dr. Pucha is an excellent instructor. Communicates material in an engaging and exciting way. His sense of humor keeps students entertained even at 8am. I learned a huge amount from Dr. Pucha, not only about the use of CAD tools and design process, but also how to think and tackle REAL problems like an engineer. Dr. Pucha makes a huge impact on his students, and they are better prepared for their academic and professional careers after taking his class. If more professors looked to Dr. Pucha as an example, the quality of instruction at GT would improve tremendously. This man makes engineers." - Fall 2012

"I have taken both ME 1770 and ME 4041 with Dr. Pucha and I am confident with my CAD abilities because of them. He makes you feel like an actual engineer and not just another grade on his paper. Both classes were enjoyable and after taking them I feel comfortable going into the industry with my current CAD experience. I just wanted to thank him for making my first and last undergraduate semesters at Georgia tech fun ones". - Thank a Teacher note: Summer 2007.

"Dr. Pucha is absolutely one of the best professors that Georgia Tech has. You should give him a raise, 107 TAs, and let him teach every class in the ME department" - Summer 2009

Dr. Pucha is a great professor due to the fact that he knows the subject, and knows how to transmit the information, and also has lots of patience. - Spring 2011



"Professor Pucha is an incredible instructor. Extremely accessible and understanding of his students. He motivates learning throughout his classes and lab work" -Spring 2010

"His overall teaching style and plan is perfect! I learned so much in this course and feel confident in my ability to succeed as an engineer"- Fall 2014

Dr. Pucha is the rare instructor who manages to mix planned course content with useful tangents and explanations that go beyond the scope of the course in order to further our understanding. I think that the College of Engineering has produced a great course, and Dr. Pucha has done an amazing job of implementing it" - Fall 2007

Impact on Students' Lives : Inspiring Success

Georgia Tech Celebrates Dean Griffin Day : Friday, April 23, 2010

"I want to thank you for reminding me that school is not all about the grades, but about the experience and the learning I get from it. I will always remember some simple, yet important advice you told me: figure out what I want to do, figure out what it takes, and do it. You have encouraged me to know that I am capable of succeeding at Tech. Thank you for encouraging me to find my passion and work for it."- Thank a Teacher note to Dr. Raghu Pucha from ME 1770 student



Is Raghu here today? Get ready (Raghu). Every ME student will now be signing up for your course. People like Raghu are leaders. You are making a worthy investment in the future: the future of Georgia Tech, and the future of these students. You are giving them a passion for learning. - Dr. G.P. "Bud" Peterson - President, Georgia Institute of Technology, Dean Griffin Day Talk, Friday, April 23, 2010

<http://smartech.gatech.edu/bitstream/handle/1853/36586/4-23-10Dean%20Griffin%20Day.pdf?sequence=1>

Dr. Pucha is one of the best professors I had this semester. His teaching philosophy, which cares about if student actually understands his material, just made me WANT to listen to his lectures with more enthusiasm. His teaching persuade me to study hard because he did not give me any negative pressure but encouraged us positively! :

Student Comment in Course Survey Fall 2010

"Dr. Pucha your are the most efficient Professor I've ever met. Your patience makes me have a profound admiration for you. It was a pleasure to be your student. PS: I had a bad experience in college in the designing field. But you were able to rescue me from such a fear path I got into".

Student Comment in Course Survey Spring 2011

Dr. Pucha's greatest strength was his teaching style. Out of all of my professors at GT he has been one of the most inspirational professors I have had. The way he facilitates learning is unique. He takes time even with a large number of students and examines their work for fundamentals and certain techniques. He is helping students prepare for real world challenges for future engineers. He is a vital asset to the GT faculty-

Student comment in Course Survey: 2013

"I dreaded taking this class – I put it off for while – but now that I've experienced a semester of computer-aided-design, I realize that my initial fears were rather unfound. And, I think, that's largely due to your teaching style. Everything, from your patience and understanding, to your enthusiasm, to your sense of humor indeed made it fun !.I learned a lot about my own skills. Thank you for a wonderful semester of teaching design and a bit about my self.." -

Thank a Teacher note Fall 2010

"If professor Pucha could be multiplied and could teach all my engineering courses, I would be ecstatic. I really did fall in love with this course and now that I am home, I cant stop bragging to my parents about my 3D project, and they are as convinced as well as I am that I am really passionate about what I am doing. Thank you Professor Pucha.." -

Student comment in Course Survey: Fall 2012

"Dr. Pucha is the man. He was always a really caring teacher that gave plenty of insight and advice, and his focus has always been making sure we learn the process necessary to the aspect of engineering, rather than simply failing us." -

Student comment in Course Survey: Fall 2011

"Dr. Pucha I just want to say thank you for being such a motivating professor. You teach in such a way that's get me excited and motivated to get the work done on time in complete manner. From my experience at GA Tech, I have not had a single teacher that motivates me in this way. You helped us understand the topics covered in class and how they will be useful for the rest of our education and future careers. You are truly a great professor who has helped me get motivated and stay motivated in my studies at Georgia Tech. Thank you."-

Thank a Teacher note Spring 2009

"Dr. Pucha, You are an incredible professor! A quote of yours that you told a friend of mine will stick with me forever: "Due dates are not important, what is important is that you have learned the material". I believe education should be more like this instead of forcing everyone to be on the same page at exactly the same time. Thank you for being an amazing professor!" -

ME 1770: Fall 2010

"The class was effective because the teacher was passionate about the subject matter, and he engaged students to do their best and succeed".

Student Comment in Course Survey Spring 2013

Concern for Students' Learning: Other Comments from Course Survey

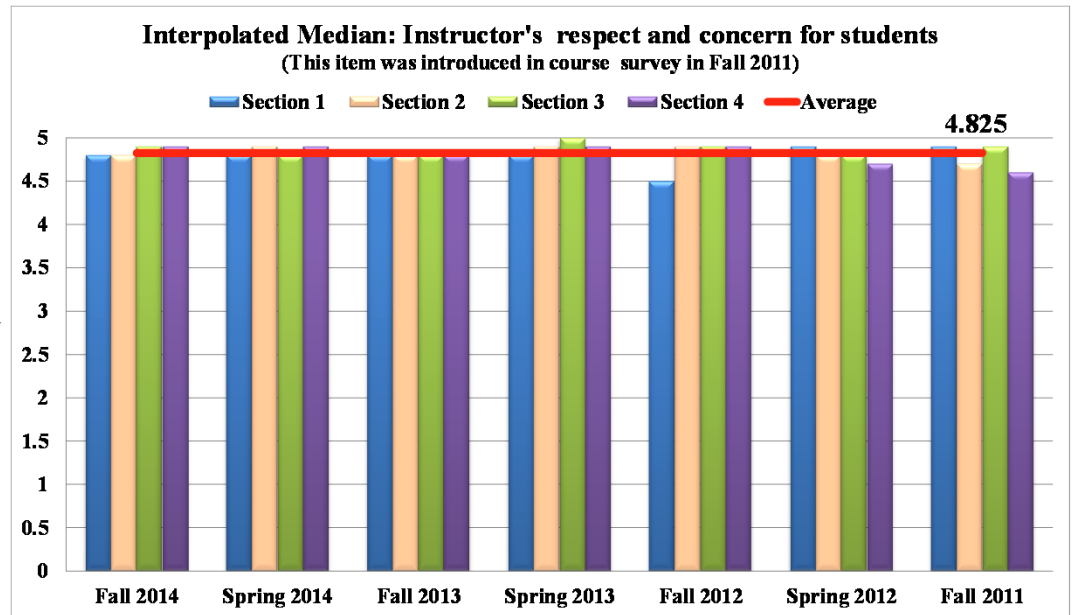
(Some comments might have been edited for length and grammar)

“Dr. Pucha gives you plenty of opportunities to show him and yourself that you really understand the material. The class is structured in such a way as to promote learning most effectively. Dr. Pucha is one of the few teachers that cares if you leave his class with newly gained understanding of the material. Highly recommend taking his class” – ME 1770: Spring 2009

“Dr. Pucha, Thank you so much for teaching such a well organized and educational course. You genuinely care about your students and reward hard work and time well spent. I really appreciate every effort you made to teach us design fundamentals and engineering graphics in an exciting and interesting way. You pushed us to learn and grow in ways that were constructive and valuable. Have a great summer.” - ME 1770: Spring 2008

“Dr. Pucha, Thank you for all of your help and patience with me. I learned so much, and this course definitely built character. Thank you for showing genuine concern and desire for us to succeed” – E-mail note from a Freshman – Aerospace Engineering, ME 1770 : Fall 2006

“I truthfully enjoyed having Professor Pucha in this course. I found him to be a great professor and a great person in general. It is hard to find professors like Pucha who have care for the students and make the effort to see that they are learning. I want Professor Pucha to know that this doesn't go unnoticed and that students really do appreciate a teacher like him. Wish more professors at Georgia Tech could be like Professor Pucha” - ME 1770: Fall 2014



“Dr. Pucha set office hours to accommodate students, stayed after to help students and even made extra office hours to help us. He went above and beyond to help. He is very pleasant. He made it very easy to approach him by being honest with his students and always communicating with us so that we feel comfortable with asking him anything. Dr. Pucha always advised his students to meet with him - He kept his word; He met with the students whenever available. No matter what the dilemma he always offered to help.” - ME 1770: Fall 2007

“Dr. Raghu Pucha should teach every single class at Georgia Tech because he knows his material backwards and forwards. I think you should clone him and have him teach all of the ME1770 classes” - ME 1770: Fall 2006

“Absolutely loved this class. I felt like I learned more than the scope of the course through the instructor's refreshing approach. I loved how learning the concept was more than the grade because I was more motivated to learn and retain that” - ME 1770: Spring 2010

“Great course, good, approachable, and understanding professor. Dr.Pucha's enthusiasm for the course materials and willingness to help each and every student was something that I had never received at GT. I only wish more engineering professors would follow his example”. – ME 4041 : Summer 2008



The George W. Woodruff School of Mechanical Engineering

To CETL Award Committee:

I am glad to write this letter of endorsement for Dr. Raghu Pucha with regards to the CETL Geoffrey G. Eichholz Faculty Teaching award.

I have over 35 years of experience in teaching CAD courses in industry and academia and currently one of the instructors and co-coordinator for ME 1770: *Introduction to Engineering Graphics and Visualization* course. ME 1770 is a cross listed course offered in Spring, Summer and Fall at Georgia Tech. It is a required course for Mechanical and Aerospace engineering students. Typically in each Spring and Fall we have 10-12 sections (~440 students) with 3-4 instructors. Raghu joined us in fall 2005 and quickly understood the scope of the course and challenges associated with teaching large classes. Here are some of the reasons, I can quickly think of, why Raghu deserves this award.

1. Raghu exhibits keen interest; unmatched energy and enthusiasm to the subject matter and continued emphasis to improve students learning experience in the class room.
2. In large classes with diverse student population, Raghu understands learning needs of his students and thrives to reach every student in his class.
3. With his commitments in teaching 4 sections of 1770 in each spring and fall, and with his ongoing research collaborations with other faculty in the school – I have to commend Raghu for finding time to attend CETL outreach programs and teaching/learning workshops at school of ME to continuously fine-tune his teaching methodologies to enhance students experience in 1770 classes each semester.
4. Raghu has developed an excellent rapport with his students and pushes his students to extract the best out of them through spending additional office hours during projects.
5. Raghu is also instrumental in restructuring and broadening the scope and framework of 1770 curriculum to make it more interesting and challenging to all engineering majors. He introduced open-ended reverse engineering design projects in place of traditional time-bound tests to enhance the learning experience of students.
6. I plan to retire this summer. As a colleague working with Raghu over the last 10 years, I also think highly of his personality. With this teaching passion and pleasing personality he connects very well to his students, particularly the freshman who are often intimidated by the impersonal atmosphere in an university environment. As evident from many student's comments in course surveys, this aspect has tremendous impact on their learning attitudes and help them to be successful in their chosen engineering fields.

To summarize - as a colleague I recognize a full-fledged educator in Raghu, who constantly cares about his students learning needs and has established a new teaching/learning culture at Georgia Tech in positively influencing many undergraduate students. I strongly believe that he deserves this award to reward his sincere efforts towards excellence in undergraduate education at Georgia tech.

Yours Truly,

Michael D. Stewart

Academic Professional, School of ME

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Office of Assessment

To: Geoffrey Eichholz Faculty Teaching Award Selection Committee
From: Dr. Tristan T. Utschig, Assistant Director
Office of Assessment
Re: Recommendation for Raghu Pucha
Date: January 15, 2015

Raghu Pucha is an extraordinarily committed teacher who is passionate about helping his students learn. I have worked with hundreds of GT faculty on teaching and learning issues over the past eight years, and on and off with Raghu for most of that time. Raghu stands out as one of the most passionate and innovative teachers we have on campus. Not only does he regularly seek out opportunities to elevate his performance as an engineering educator, but he also studies the impact that innovations in his classroom pedagogy have on student learning. As a result, he has exceptional impact on his students.

First, I have seen Raghu demonstrate his intense interest and enthusiasm for teaching engineering through my connections with him in the services and programming offered through the Center for the Enhancement of Teaching and Learning (CETL). Second, Raghu has initiated multiple collaborative efforts with me on scholarship of teaching and learning (SoTL) projects to systematically study the performance of his students as he has implemented cutting edge teaching practices. A sampling of the activities and projects that Raghu follows:

- Planning, implementing, and documenting a SoTL project designed to improve student learning about engineering graphics on specific topics of particular difficulty through self, peer, and instructor-led assessment (resulted in a peer-reviewed conference publication).
- Participating in the inaugural Class of 1969 Teaching Scholars Program, a theme-based initiative that brings together a select group of faculty to investigate a particular teaching and learning issue. Included a research project in the second term.
- Implementing the use of real-world case studies in engineering graphics to foster student motivation and deep learning of content (resulted in a peer-reviewed journal publication)

Second, Raghu Pucha is making significant contributions to engineering education at Georgia Tech. Students regularly choose to highlight his efforts through “Thank a Teacher,” a CETL-sponsored program that gives students a chance to give feedback to outstanding teachers. Only a small percentage of Georgia Tech faculty members receive such letters from students, and it’s notable that Raghu Pucha received many! Students mention his “well-planned approach to teaching the course” and that they like how Dr. Pucha “combines class lecture with helpful examples.” The excerpt below is typical of the praise these students convey:

Dr. Pucha is by far the most approachable teacher that I have ever had and is willing to work with the students. He makes you feel like an actual engineer and not just another grade on his paper. Both classes I’ve taken (ME1770 and ME4041) were very enjoyable and after taking them I feel comfortable going into the industry with my current CAD experience.”

Third, it is evident that Raghu Pucha has high expectations for his students, and it is equally evident that he is dedicated to creating a high-quality learning environment within each of his courses. This is supported by the extremely high ratings Raghu receives on the GT Course Instructor Opinion Survey (CIOS). In the last three years alone Raghu has taught 25 sections of ME 1770 – Engineering graphics, and has never received a rating below 4.5 out of 5.

In summary, Raghu Pucha wants his students to learn, he takes a scholarly approach to figuring out how best to make this happen, and his students are highly appreciative.

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The George W. Woodruff School of Mechanical Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0405

Letter of support from colleague

Voice: 404-894-3405
FAX: 404-894-9342
suresh.sitaraman@me.gatech.edu
Jan. 15, 2015

CETL Geoffrey G. Eichholz Faculty Teaching Award Committee

Dear Sir/Madam:

It is with great pleasure that I endorse the nomination of Dr. Raghu Pucha for the CETL Geoffrey G. Eichholz Faculty Teaching Award. I am a Professor in the School of Mechanical Engineering and have known Dr. Pucha over the past eleven years as a mentor, research collaborator, and colleague.

As a research faculty in the Woodruff School, Dr. Pucha teaches two of computer-based courses: ME/CEE1770: *Introduction to Engineering Graphics and Visualization* (Fall 2005 - Present) and ME4041: *Computer Graphics and Computer Aided Design* (Fall 2004 - Present), and has done exceptionally well in both of these courses, as evidenced by student evaluations and comments. ME/CEE1770: *Introduction to Engineering Graphics and Visualization* is a freshman-level course that introduces incoming freshmen to computer-based engineering design, modeling, assembly, and animation. This course is a critical course in our undergraduate curriculum to stimulate engineering interest among our students who otherwise think that engineering is not interesting to pursue. Dr. Pucha, with diligence and dedication, pays attention individually to every student to ensure that they learn the material well. Dr. Pucha is approachable and friendly, and his office is always crowded with students discussing various aspects of CAD. Dr. Pucha's hands-on and personal approach to teaching is important to ensure that the freshman students, who have just graduated from high school, are not intimidated by the impersonal atmosphere often present in the university.

Students who have taken ME/CEE1770 under Dr. Pucha choose to do ME4041, our senior-level elective class in CAD/CAE. ME4041 builds upon ME/CEE1770 and introduces advanced computer-based modeling and analysis, often seen in high-end engineering applications such as automotive, aerospace, microelectronics, appliance, defense, biomedical, and others. Dr. Pucha ensures that the students understand the fundamentals behind CAD/CAE systems as well as practical aspects of CAD/CAE modeling through homework assignments and group projects. Several of the graduating students find that ME4041 is important in securing a job in industry or for pursuing higher education. The students use the project reports from ME4041 as talking points in their interviews. Such is the demand for ME4041, that we offer this elective course every semester in our school. To my knowledge, no other elective course is offered every semester in the Woodruff School.

Dr. Pucha's teaching evaluations are uniformly exceptional and commendable. Indeed, during Dean Griffin Day (April 23, 2010), President Bud Peterson mentioned, "People like Raghu are leaders ... You (Raghu) are making a worthy investment in the future; the future of Georgia Tech ... You are giving them a passion for learning." <http://smartech.gatech.edu/bitstream/handle/1853/36586/4-23-10Dean%20Griffin%20Day.pdf?sequence=1> Dr. Pucha puts his heart and mind into teaching and does an enviable job in motivating our freshmen students and guiding our senior students into becoming successful engineers. Clearly, Dr. Pucha is an outstanding teacher, and I believe that he is the most deserving person for the CETL Undergraduate Educator Award. I hope that CETL will concur with my assessment and select Dr. Pucha for the CETL Geoffrey G. Eichholz Faculty Teaching Award.

If you need any additional information, please contact me at (404)-894-3405 or through email at suresh.sitaraman@me.gatech.edu.

Sincerely,

Suresh K. Sitaraman, Ph.D.
Professor

January 16, 2015
To Award Committee:

It is a pleasure to support the nomination of one of my favorite professors at Georgia Tech for a teaching award. My first Mechanical Engineering class (in Spring 2008) was taught by Dr. Pucha. It was the Introduction to Engineering Graphics, and I had no previous experience with anything of that nature. From the very beginning, Dr. Pucha presented himself to be available for help no matter how much help was needed. He was very approachable as well. My very first interaction with Dr. Pucha erased all of my fears and hesitations. From then on I asked questions, and he would answer as many as I could shoot. It is a relief to know that all of your questions and concerns about a class can and will be answered without you losing your dignity or self-pride. Dr. Pucha worked with me and I was able to pass the tests after he explained things to me. Ever since this class, I have recommended him to all of my friends and acquaintances because of his demeanor inside and outside of class. He is very personable and amiable and in the tough environment of Tech, it feels so good have a teacher like him.

Dr. Pucha has inspired me in so many ways without even giving me inspirational speeches. Dr. Pucha really enjoys students' successes and pushes the students to achieve more. There was a student the semester before me who took his course and excelled. Dr. Pucha arranged special presentations with this previous student that really helped us further understand the subject matter in a peer assisted learning environment.

Being a female in a male dominated engineering institution had its own challenges, and being an out of state student at the time meant an additional amount of pressure on me. Dr. Pucha made me feel very confident even though I was one of few women. He made me feel valued without feeling degraded. He didn't magnify the fact that you are different. To him, all students are equal and have tremendous value. He made us all feel welcome and comfortable. Dr. Pucha made going to class worthwhile with his teaching and class room learning atmosphere. All in all, he was a great professor and a great person to me during my tenure at Tech.

Freshman and sophomore years are very important for engineering students. The positive experiences they encounter can have profound impact on their mindset to define their career paths and lives. Currently, I am doing process and tool design for Hewlett-Packard, and just last week, I was just reminiscing on my time at Tech and those early struggles of learning CAD. I wish I could go back and do it again, because 1) mechanical engineering is so much fun and 2) I really enjoyed my time in ME1770 with Dr. Pucha. I still recommend him to students I know coming through GT. With his genuine concern for students' learning and his need-based personal attention to all students indeed is unique. I am sure he will continue to positively influence many more students in the years to come. He deserves all the Teaching Awards and I do sincerely urge you to select him for such a great honor. Thank you.

Sincerely,

Elizabeth Whiting

Reliability Engineer and Process and Tooling Design Engineer
Hewlett-Packard, Corvallis, Oregon

January 7, 2015

CETL, Georgia Tech : Awards Committee

I am honored to recommend Dr. Raghu Pucha for the CETL Geoffrey G. Eichholz Faculty Teaching Award.

Dr. Pucha was one of my first professors at Georgia Tech, and exemplifies perfectly the quality of teacher Georgia Tech expects. He was my professor while I took the amazingly large, triple-major (Mechanical, Civil, *and* Aerospace Engineering) course on computer aided design (CAD) known as ME/CEE/AE 1770. The skills taught in this course are absolutely essential for success in any engineering position today; I have personally used knowledge of CAD in several research and industry positions since taking Dr. Pucha's course. The industry expects all incoming employees to have advanced CAD skills, and Dr. Pucha strives to teach exactly that.

His teaching is problem-driven. He begins every lecture and lab with a clearly defined problem that he expects us to be able to solve by the end. Often pulling from his own wealth of experience, he would begin class by showing us a component of an airplane, automobile, or architectural wonder that students did not yet know how to model. Then, after enticing us, he would spend the lecture demonstrating exactly how we could create such a masterpiece for ourselves. Dr. Pucha mastered this formula of introducing, theorizing, and detailing the solution to every trick-of-the-trade we as engineers need to understand for computer aided design. Furthermore, many of my peers agreed that interactions with Dr. Pucha after lectures and during office hours are not only productive academically but also inspiring and energetic, making them feel more comfortable during discussions with him and more confident after the interaction.

I thank you for your time and hope you consider my recommendation of Dr. Pucha for the CETL Award.

Sincerely,

Nicholas Selby,

Senior: School of ME,

331951 Georgia Tech Station,

Atlanta, GA 30332,

nSelby3@gatech.edu

Scott Wagner
School of ME (Graduated in Fall 2014)
Georgia Tech
Atlanta, GA. 30332
twagner7@gatech.edu

CETL Geoffrey G. Eichholz Faculty Teaching Award
Selection Committee

I have the privilege to say that Dr. Pucha was my professor for two courses, ME 1770 and ME 4041, along with being my mentor for one semester of undergraduate research.

Dr. Pucha differs from every professor at Georgia Tech with his effective teaching and care for his students. When it comes to his lectures, Dr. Pucha has a special way with words; he was exceptional at simplifying complex topics so that any student could get a grasp of the material. If one had still had trouble, speaking to him after class or during office hours was never an issue. During my time as a UG researcher I witnessed countless students, sometimes lined up outside his office, come to him for help for anything from homework clarification to complex CAD problems from other classes. I believe this is a true testament of his desire to see his students learn.

Research in nanocomposites in the fall of 2014 was a personal challenge for me since I had no prior experience with research in general. Dr. Pucha understood my difficulties associated with the learning curve and eased me into the process at an appropriate pace. His personal attention and care in mentoring students is very inspiring and unique. It will do some magic to your work ethic. He showed a deep understanding and passion for the topic throughout the semester that it motivated me to push myself to the limits.

From my experiences in Dr. Pucha's classes (as freshman and senior) and undergraduate research, I believe that I developed a strong skillset and work culture that will assist me on my quest to become a product engineer and beyond. Even though months (years in the case of ME 1770) have elapsed since I have taken one of his tests or worked on the semester project, I vividly remember the effort required to succeed and the valuable lessons learned from his classes. The skill set he provided and the character he has shown through the years has instituted a firm foundation for me to become the best engineer I can be.

Dr. Pucha is a sterling example of the merit of educational faculty here at Georgia Tech. He is not just an instructor and mentor, but also a friend and advocate to his students. It is my earnest hope that you will recognize Dr. Pucha for the Geoffrey G. Eichholz Faculty Teaching Award.

Sincerely,



Scott Wagner
Mechanical Engineering (Graduated in Fall 2014)
Georgia Institute of Technology

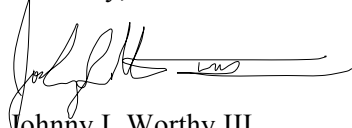
CETL Geoffrey G. Eichholz Faculty Teaching Award for Dr. Pucha

I first met Dr. Pucha during the fall semester of my sophomore year (2010) for the Intro to Engineering Graphics class. This course is to introduce engineering students to computer aided design tools and the design process in engineering fields. For engineering students, this is one of the first classes in which we get real world experience in the process of conceptually designing a product and then modeling it. In addition to the modeling and design experience, this course, and in particular Dr. Pucha, emphasized the importance of working as a team to accomplish the task. He encouraged us to make a timeline and set specific, achievable goals regarding our design projects to make them more manageable.

I extremely enjoyed his class and teaching style, which further increased my interest and curiosity towards engineering. Because of the success I had in his class and the relationship I had established with Dr. Pucha during the course, I pursued research with him during the summer through the Summer Undergraduate Research in Engineering (SURE) program. I felt that there was a lot left to learn with regard to design and modeling and there was no better person to learn under than Dr. Pucha. During that summer he took the time to make sure that I understood not only the project but the purpose and applications of what we worked on. I continued doing research with him through PURA and research for credit. Dr. Pucha is a dedicated and patient educator who is willing to commit to helping and mentoring his students. He also provided opportunities for me to mentor other undergraduate students, which really helped my confidence to pursue academic career. I decided do research option with UG thesis with him and that really opened up many opportunities for me to interact with PhD students. During my more than two years of research with Dr. Pucha, I published three international journal publications (*Journal of Composite Materials, Composite Structures and Computational Material Science*) as a co-author in advanced composites area. I also presented many posters on my research and our poster got best poster award at 2013 UROP symposium. Dr. Pucha has taught me very much not only about design / modeling and how to apply what you learned in classroom to advanced research, but also about general life and my future after graduating. Currently I am a doctoral student at School of AE, Georgia Tech with NSF fellowship (<http://www.ae.gatech.edu/node/1414>).

I think that Dr. Pucha is the best professor I have had thus far at Georgia Tech. He is extremely enthusiastic about his teaching and research and is very much committed to helping his students understand what we learn and apply it. And as a research mentor, Dr. Pucha is very patient and understanding and won't hesitate to take time out of his day to meet and discuss any questions or problems. His vision and mentoring style helped me realize my potential and my affinity towards research and academics. If Dr. Pucha doesn't deserve this Award, then no one does.

Sincerely,



Johnny L Worthy III

AE Doctoral student and NSF Fellow

Georgia Institute of Technology

January 7, 2015

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