

GUIDELINES FOR APPLICANTS
FOR COMPLETING THE PIPER PROFESSOR NOMINATION FORM

The Texas State Piper Professor nomination form is modeled on the official form required by the Piper Foundation. The word/space limitations given for each question are set by the Foundation and may not be exceeded. It is advisable to come as close as possible to these maximums.

Additional pages are allowed only for the publications listing.

Nomination forms that do not conform to these instructions will not be considered.

Narratives should offer insight into the “teaching personality” of the applicant where possible.

TEXAS STATE UNIVERSITY PIPER PROFESSOR AWARD NOMINATION FORM

Name of Piper Professor Nominee: Vedaraman Sriraman

Highest Degree Held (Abbreviated Form): D. Eng.

Rank/Title of Nominee and Department: University Distinguished Professor, Department of Engineering Technology

Years of Teaching at College Level: 25

Years of Teaching at Present Institution: 23

Current Teaching Load: Lecture Hours/Week 6; Lab Hours 0; Other* 6

Approximate No. Students: Undergraduate 100; Graduate 50; Other* 0

Standard Full-Time Teaching Load at your Institution: Undergraduate 9; Graduate 6 Summer Teaching: 6

*Other = Conference courses; Theses/Dissertations Directed; Misc. (Describe in next section)

Please describe current additional or administrative duties, i.e., Chairman of Department, Graduate Advisor, Thesis/Dissertation Director, etc., giving numbers of Professors/Students involved and approximate number of hours devoted thereto. [max. 1020 characters]

Dr. Sriraman has served as the Director of the Concrete Industry Management program from 2010-2014. In this capacity he worked with three faculty colleagues in reviewing and updating the curriculum, administering an industry sponsored annual scholarship program, preparing students for national and state level technical competitions and on conducting a continuous learning outcomes assessment process. He also managed a budget, served as liaison to the national and state level concrete industry, and assisted with conducting the student chapter of the American Concrete Institute (ACI). He currently serves as the Director of the Engineering Technology and Technology Management programs. He has been serving as the Departmental internship coordinator since 2011. In this capacity he oversees over 60-90 students who complete industrial internships in the summer. He is the departmental representative to the doctoral program in Materials Science, Engineering and Commercialization.

Student Organizations or Scholastic Fraternities Sponsored (during past three years): [max. 1020 characters]

Sriraman has served (2011-2013) as the Faculty Advisor for the American Foundry Society student chapter on our campus. He has also served as the Foundry Educational Foundation Key Professor in which role he promoted the professional development of students by serving as our liaison to the North American Metal Casting Industry. He has served as the past Faculty Advisor to the student chapter of the Society of Manufacturing Engineers (SME), and as the founding Faculty Advisor to the Society of Women Engineers (SWE). He mentors the current faculty advisors of SME, AFS, the American Society for Mechanical Engineers (ASME) and the ACI student chapters.

Membership in Honor Societies, Professional Societies, Listing in Who's Who or Other, Special Educational Projects Undertaken (TV series, etc.), Special Awards/Grants Received: [max. 1150 characters]

Honor Societies: Epsilon Pi Tau Honor Society

Professional Societies: American Society for Engineering Education and the Association of Technology, Management, and Applied Engineering.

Awards:

Received the Everette Swinney Excellence in Teaching Award in Fall 2014.

Received the University Distinguished Professor Award in Fall 2013.

Served as the Presidential Fellow at Texas State for the year 2012-2013.

Awarded the Texas Association of Schools of Engineering and Technology (TASET) Distinguished Service Award in September 2004.

Received Texas State University's Presidential Award for Excellence in Teaching in Fall 2000.

Awarded the National Association of Industrial Technology's (NAIT) Outstanding Industrial Technology Professor Award in 1998.

Received the Alumni Association's 1996 Outstanding Teaching Award of Honor, a university wide teaching award.

Grants:

\$18.0 million in total from sources such as the NSF, NASA, etc. in support of STEM education research.

Service to off-campus community (committee work, church work, fund drives, youth groups, etc.): [max. 1270 characters]

Vice Chair, Certification, Society of Manufacturing Engineers professional chapter in Austin, TX.

Secretary/Treasurer, Texas Association of Schools of Engineering Technology.

Prepared curriculum and taught continuing education courses on Basic and Intermediate AutoCAD for the Tricounty Tool and Die Makers Association in Central Texas.

Prepared curriculum and taught a continuing education course on Coordinate Measuring Machine Fundamentals for Widelite, Inc. in San Marcos, TX.

Prepared curriculum and taught a continuing education course on Statistical Process Control for CFAN, Inc. in San Marcos, TX.

Conducted the following summer institutes for high school teachers (science, math, and computer science) and counselors in the following areas:

- * Semiconductor Manufacturing
- * Basic Robotics and Control Systems
- * Advanced Robotics and Control Systems

The institutes were conducted in collaboration with the Capital Area Training Foundation (CATF), Austin Community College (ACC), and Applied Materials, Inc.

Conducted a workshop for central Texas school and community college faculty on "Rapid Tooling and Time Compression Technologies".

Because the Piper Foundation is primarily interested in identifying and honoring effective and dedicated teachers, the Selection Committee would appreciate any information you care to submit about your teaching. What evidence is there that you are exceptionally effective in the classroom and in personal contact with students? In what ways have you demonstrated an extraordinary dedication to the profession of teaching? How have you positively influenced your colleagues? What contributions have you made to the achievement of the

mission of the institution? [max 1270 characters]

Dr. Sriraman's exceptional teaching effectiveness is evidenced by the multiple teaching awards (five) that he has secured in the last 21 years, the consistently superlative accolades that are found in student and peer evaluation of his teaching, and the \$18.0 million that he has secured to support exceptional learning experiences in STEM. He has played a lead role in furthering the institution's mission by authoring three program proposals to the coordinating board that resulted in the establishment of the Industrial Engineering, Electrical Engineering, and Concrete Industry Management degrees on our campus. These programs have helped several underrepresented (especially Hispanic) students to seek educational opportunities that were unavailable at Texas State 15 years ago. He has furthered the institution's educational mission by forging strong ties with the metal casting, construction and concrete industries in the state and the nation. He is one of very few faculty members on campus to have achieved outstanding scholarly performance (in terms of papers published and external funding) in the area of engineering education. Dr. Sriraman is a productive member of the LBJ Institute for STEM education and research on campus.

PERSONAL INFORMATION

Name: () Dr. () Mr. () Mrs. () Ms. Vedaraman Sriraman
First Middle Last

Home Address: [REDACTED]
Number and Street
[REDACTED] [REDACTED] [REDACTED]
City Zip Telephone

College/University Address: R.F. Mitte, Rm 2240E [REDACTED]
Building and Office Telephone and Extension

Rank/Title and Department: University Distinguished Professor - Department of Engineering Technology

Date of Birth: [REDACTED] Place of Birth: [REDACTED] Marital Status: [REDACTED] Number of Children: [REDACTED]

Ages: [REDACTED]

Military Service Record:

Branch: NA Dates: _____ Rank: _____

EDUCATIONAL EXPERIENCE: Schools and Colleges Attended, beginning with High School

Name of Institution	Dates of Attendance	Degree/Diploma Received
<u>Central School, India</u>	<u>1978 - 1980</u>	<u>High School Diploma</u>
<u>Regional Engineering College</u>	<u>1980 - 1985</u>	<u>Bachelor of Science(Eng.)</u>
<u>Indian Institute of Technology</u>	<u>1985 - 1987</u>	<u>Master of Science (Eng.)</u>
<u>Lamar University</u>	<u>1987 - 1991</u>	<u>Doctor of Engineering</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Additional Training (Summer Institutes, Seminars, etc.)

Name of Institution	Dates of Attendance	Type of Training
<u>ACCE</u>	<u>February 2010</u>	<u>Constr. Accreditation</u>
<u>ABET</u>	<u>February 2005</u>	<u>Engineering Accreditation</u>
<u>SME</u>	<u>April 2001</u>	<u>Fund. of Injection Molding</u>
<u>Solidworks, Inc.</u>	<u>January 2000</u>	<u>Computer Aided Design</u>
<u>UC, Berkeley</u>	<u>July 1999</u>	<u>Semiconductor Microfabrication</u>
<u>Krautkramer Branson, Inc.</u>	<u>January 1995</u>	<u>Ultrasonic Thickness Gauges</u>
<u>Amatrol, Inc.</u>	<u>August 1993</u>	<u>Servo Robotics</u>

TEACHING EXPERIENCE:

<u>Institution</u>	<u>Inclusive Dates</u>	<u>Rank/Title</u>
<u>Lamar University</u>	<u>8/1988 - 5/1989</u>	<u>Instructor, Math Dept.</u>
<u>Lamar University</u>	<u>1/1990 - 7/1990</u>	<u>Lab Instructor, Industrial Eng.</u>
<u>Lamar University</u>	<u>8/1990 - 8/1991</u>	<u>Instructor, Industrial Eng.</u>
<u>Texas State University</u>	<u>7/1991 - 7/1997</u>	<u>Assistant Professor</u>
<u>Texas State University</u>	<u>7/1997 - 7/2002</u>	<u>Associate Professor</u>
<u>Texas State University</u>	<u>7/2002 - 7/2013</u>	<u>Professor</u>
<u>Texas State University</u>	<u>7/2013 - Present</u>	<u>University Distinguished Prof.</u>

PUBLICATIONS: Although the Selection Committee is not primarily concerned with "Research /Publish or Perish," please summarize any research projects completed, and list any books/articles published and/or in use, exclusive of your Master's Thesis and/or Doctoral Dissertation. (Continue on separate sheet if necessary.)

Engineering education research is the focus of my research agenda. In fact, even when I was engaged in research in areas of high technology manufacturing such as rapid prototyping, computer aided design, semiconductor manufacturing etc., it was from the standpoint of how best to incorporate the state-of-the-art in high technology manufacturing in the class room. All of my funded research, from sources such as the NSF, have been toward using research findings in engineering education research toward the betterment of learning activities in the class room.

This year two papers have been accepted and one published in concrete research journals. These papers included a graduate student as a co author. Last year, I published a peer reviewed paper in the Global Journal of Engineering Education entitled "Lessons Learned in the First Time Accreditation of Engineering Programs". In 2012, I published a peer reviewed paper in the World Transactions on Engineering and Technology Education entitled "Preparing the Next Generation of Construction Professionals - the Concrete Industry Management Degree". Details of all papers published thus far may be found in my vita. In terms of external funding, this fall, in collaboration with departmental faculty colleagues, we have submitted a proposal to the National Science Foundation (NSF) - RUE program to provide summer research experiences for undergraduate students from community colleges at Texas State. This summer, I was a member of a team of STEM education researchers from the Colleges of Education and Science and Engineering which received two grants. The first from the NSF - IUES program to help improve the retention rates of second year STEM majors for \$1.5 million, the second from the NASA - EPD program to develop a national model for STEM educator professional development and provide such development on a national basis for \$15.0 million.

The following summarizes my research accomplishments at Texas State :

A. Individual Accomplishments

Between 1991 and 2004, and 2010 and 2014, I assumed the full faculty role. Therefore, all of my accomplishments are individual accomplishments (as opposed to academic leadership) and are summarized below.

Grants

1. Seven grants from NSF for a total of \$2,953,688. The funding was for implementing projects that involved incorporating active learning strategies using state-of-the-art technology and for the recruitment and retention of

underrepresented minorities in STEM disciplines.

2. A grant from NASA as described above for \$ 15.0 million.

3. Two grants from Society of Manufacturing Engineers (SME-EF) for a total of \$566,885. The funding was to implement a laboratory in Microelectronics Manufacturing and make capital enhancements to the Automated Manufacturing laboratory and develop innovative curriculum.

4. Three grants/gifts from private foundations for a total of \$174,300 to implement new technology and develop innovative curriculum.

Peer Reviewed Journal Papers

Twenty one papers published in national/international engineering/technology education journals.

Peer Reviewed Conference Proceedings Papers

Twenty eight papers published in national/international engineering/technology conference proceedings.

Thesis/Projects

Supervised sixteen independent research projects and served on eleven graduate thesis committees.

B. Research Leadership and Management

Between 2005-2010, I served as assistant dean, engineering programs and as a department chair. During this period, my research contribution has been in the area of research leadership and management. I devoted my research efforts to mentoring new faculty in the upcoming area of engineering education research and to the creation of a research culture in the Department of Engineering Technology.

1. The following new faculty in engineering and technology were mentored by me in the area of engineering education research:

- Dr. Bahram Asiabanpour, Ingram School of Engineering
- Dr. Jitendra Tate, Ingram School of Engineering
- Dr. John DeLeon, Department of Engineering Technology
- Dr. Jiong Hu, Department of Engineering Technology
- Dr. Cristian Gaedicke, Department of Engineering Technology
- Dr. Kimberly Talley, Department of Engineering Technology
- Dr. Byoung Hee You, Department of Engineering Technology
- Mr. Vivek Sharma, Department of Engineering Technology
- Ms. B.J. Spencer, Department of Engineering Technology
- Dr. Anthony Torres, Department of Engineering Technology

Each of the abovementioned faculty has an area of technical research in addition to their work in education research. I have worked with each of the abovementioned faculty on either a paper or grant or both. Letters of support from junior faculty mentored by me are included in the portfolio in this section.

2. As the past Chair of the Department of Engineering Technology, I had the opportunity to transform the research culture in the department by hiring and mentoring the following faculty members (in item 3 below) who have a very strong research agenda. I had also secured competitive start up packages and research spaces. Prior to 2006, the culture of research was nonexistent in the department. In annual compilations of the research contributions in the College of Science and Engineering, Engineering Technology would be consistently ranked the last with negligible or no contribution. One of my first priorities as chair was to systematically remedy this situation.

3. The following faculty members secured over \$2,000,000 in funding in the last five years from funding agencies such as Texas Department of Transportation, NSF, National Institute of Standards and Technology (NIST) and USAF. These faculty members have also collaborated with colleagues in Chemistry and Biochemistry, Biology, Engineering, Physics, and Computer Science on campus and with colleagues in the University of Texas at Austin. Today, Engineering Technology is placed midway between the many units in a ranking of research contribution in the college.

- Dr. Farhad Ameri (data mining and supply chains)
- Dr. Jiong Hu (concrete)
- Dr. Cristian Gaedicke (concrete)

- Dr. Soon Jae Lee (asphalt)
- Dr. Byoung Hee You (nanotechnology)
- Dr. You Jae Kim (concrete structures)
- Dr. In-Hyouk Song (nanotechnology)

STATEMENT OF PURPOSE: Why are you teaching? [max 2160 characters]

I teach because I have a passion for teaching. I would rather be engaged in teaching than be engaged in most other occupations I know. While each occupation has its value to society, the teaching profession is one that gives best expression to who I am, what I believe and enjoy doing. Thus, it is my teaching that drives the rest of the academic activities that I undertake. My engagement in research, service and outreach are driven by my teaching requirements and in turn inform and constantly improve my teaching. All of the contributions that I have made in other faculty functions such as research, service, and outreach are derived from this primary motivation and as such provides the unifying thread that runs through my accomplishments in the three traditional areas of teaching, research and service. Second, I have been raised with the strong belief that each of us should serve the communities in which we live to the fullest of our abilities. I believe that my strengths and passion lie in improving lives by preparing the next generation of citizen leaders to be problem solvers and well prepared to take the responsibility for their learning while at school and for life-long learning after school. In particular, I have found great fulfillment in making science and math based engineering and technology courses that tend to be abstract and analytical, practically relevant and interesting to students. This challenge was addressed by adopting innovative pedagogical practices that were informed by advances in cognitive science and educational psychology. Lastly, what I enjoy most about teaching is the opportunity it affords the instructor to constantly learn and improve themselves. This happens through the learning outcomes assessment processes and the many formal and informal interactions and contacts that I have with my students inside and outside the classroom and the laboratory. I have learned a good deal about myself, my academic discipline and life in general and use these "discoveries" to self-calibrate and improve myself.

CURRICULUM VITAE: Other than what has heretofore been enumerated, please indicate the highlights of your teaching career. [maximum 1270 characters]

I spent a good part of Fall 2011 at Applied Materials Inc. in Austin, TX completing a faculty industrial internship in order to update my knowledge. Applied is a Fortune 500 company and a world leader in the manufacture of semiconductor manufacturing equipment. A new course entitled "Lean Principles" was developed in the Department of Engineering Technology owing largely to this experience. Most recently, as a Presidential fellow, I undertook studies whose purpose was to establish the feasibility of an undergraduate program in Mechanical Engineering and a doctoral program in Environmental Science and Engineering. In 2008, I worked with the faculty of Universidad Nacional Mayor De San Marcos in preparing for their ABET engineering accreditation. I was recognized by this institution for "Prominent Academic Merits". I have the most breadth of coverage in the department in terms of courses taught. In all, I have taught 21 different courses. Working with faculty colleagues, I have developed 48 new courses for various new engineering and technology degree programs. With the support of external funds, I have established 8 new teaching laboratories and updated equipment in 3 existing teaching laboratories in the engineering and technology disciplines.

AUTOBIOGRAPHICAL SKETCH: Short personal history. [max 3200 characters]

I was raised in south India where my father was employed as a faculty member at the Indian Institute of Technology. Growing up on this residential campus left a deep impact on me as to what would be the purpose of my life, i.e., to continually learn and teach. I have been married to my wife who is a software professional for 24 years. Our only child (daughter) began college this past year as a bioengineering major. Upon completing

high school, I pursued an undergraduate degree in Mechanical Engineering because in addition to enjoying math and science, I was also interested in the practical applications of the same to society. Subsequently, I pursued my master's degree in Mechanical Engineering at the Indian Institute of Technology, which is one of Asia's premier engineering schools. After a brief stint as an engineering manager at a steel plant, I decided to move to the U.S. to pursue a doctorate in engineering with emphasis in computer aided design and manufacturing (CAD/CAM). At Lamar University, which was well known for its CAD/CAM programs, I met my teaching mentor Dr. James Thomas. Dr. Thomas's classes embodied many desirable aspects of sound pedagogy. His wife Sandy and he adopted us as extended family during my days at Lamar. He has retired and has moved close to us (Wimberley, TX) and continues to interact with our family and takes an interest in my teaching career.

Since 1991, I have been teaching at Texas State. This has been a very rewarding experience, one that has permitted perfect harmony between one's fundamental values and their avocation. Over the past 23 years, I have worked very closely with students in providing them academic and career counseling besides serving as a friendly mentor. Many of my students who came to Texas State from very indigent backgrounds or were weak academically have successfully graduated with engineering/technology degrees and have been well placed in the industry. From a big picture standpoint, they have become educated, taxpaying citizens and are inspirational success stories for future generations. From the standpoint of giving back to the educational community, I have served as a program evaluator for two accrediting agencies and as a reviewer for national educational research funding agencies and 5 STEM educational research journals. In the capacity of a program evaluator, I have conducted site visits to 6 universities across the U.S. At Texas State, I have been promoted to an Associate and Full Professor. I have also had the chance to serve as an Assistant Dean and Department Chair. But what I cherish the most are teaching awards that I have received which include the Alumni Association Teaching Award, the Presidential Award for Excellence in Teaching, the National Association of Industrial Technology Outstanding Professor Award and the University Distinguished Professor Award. This semester I am teaching a relatively new graduate course on Research Methods. The joy of preparing new educational materials and the excitement that comes with presenting the same to students and help them internalize the concepts is as rewarding today as it was 23 years ago as I began my teaching career.

9/26/2014

Date



Signature of Nominee

CURRICULUM VITA

Vedaraman Sriraman

University Distinguished Professor
Director, Engineering Technology and Technology Management Programs
Department of Engineering Technology
Texas State University-San Marcos
San Marcos, TX 78666

EDUCATION

Degree	Date	University	Major
D. Eng.	7/91	Lamar University, Beaumont, TX	Industrial Engineering (Thesis: Expert System Shells for Process Planning)
M.S.	12/86	Indian Inst. of Technology, Kharagpur, India	Mechanical Engineering (Thesis: Analysis of a Laminate Composite Beam)
B.S.	5/85	Regional Engineering College, Calicut, India	Mechanical Engineering (Thesis: Design of a Fluidized Bed Cooling Tower)

EXPERIENCE

University	Position	Date
Texas State University – San Marcos	Professor and Director, ET and Technology Management programs, Dept. of Engineering Technology	9/10 - present
Texas State University – San Marcos	Professor & Interim Director, CIM program Dept. of Engineering Technology	9/10 – 7/14
Texas State University – San Marcos	Chair, Dept. of Engineering Technology	9/07 – 9/10
Texas State University – San Marcos	Interim Chair, Dept. of Engineering & Technology	2/07 – 9/07
Texas State University – San Marcos	Interim Chair, Dept. of Physics	2/06 – 2/07
Texas State University – San Marcos	Assistant Dean, Engineering Programs – College	1/04 – 1/06

	of Science	
Texas State University – San Marcos	Assistant Chair, Dept. of Engineering & Technology	7/04 – 2/06
Texas State University – San Marcos	Director of Engineering Programs, Dept. of Engineering & Technology	7/04 – 9/07
Southwest Texas State University	Professor & Program Coordinator, Manufacturing Engineering, Dept. of Technology	7/02 – 7/04
Southwest Texas State University	Associate Professor & Program Coordinator, Manufacturing Engineering, Dept. of Technology	7/00 – 7/02
Southwest Texas State University	Associate Professor, Dept. of Technology	7/97 – 7/00
Southwest Texas State University	Assistant Professor, Dept. of Technology	7/91 – 7/97

INDUSTRIAL

Company	Position	Date
Applied Materials, Inc., Austin, TX	Lean Manufacturing, Faculty Internship	9/11 – 11/11
Visakapatnam Steel Project, India	Management Trainee	1/87 – 6/87

ADMINISTRATIVE

Interim Director, Concrete Industry Management (CIM) Program

- Liaison to the National Steering Committee (NSC) of CIM.
- Liaison to the Texas State Cement and Concrete Industry Advisory Council (“Texas Patrons”) of the CIM program.
- Secure funds for establishing new scholarships.
- Secure funds and in-kind gifts to augment concrete research infrastructure.
- Recruit students.
- Worked with Education sub-committee of the CIM NSC in developing accreditation standards for CIM programs.
- Worked with program faculty in developing program educational objectives and outcomes.

Chair, Department of Technology and Interim Chair, Department of Engineering and Technology

- Developed a proposal to the Texas Higher Education Coordinating board for the purpose of establishing an undergraduate degree program in “**Concrete Industry Management**”. This proposal was approved.
- Led the department through the strategic planning process.
- Developed a proposal to the Texas Higher Education Coordinating board for the purpose of changing the title of the Department from the “Department of Technology” to the “Department of

Engineering Technology”. This proposal was approved.

- Developed a proposal to the Texas Higher Education Coordinating board for the purpose of changing the title of the construction program from “Construction Technology” to “**Construction Science and Management**”. This proposal was approved.
- Worked with a faculty team on learning outcomes assessment and improvement.
- Worked with the industry, administration and faculty on the development of the Concrete Industry Management program.
- Recruited new faculty.
- Secured start up funds and research spaces for new faculty.
- Led a team effort in developing a 3000 sq. ft. Concrete Testing Laboratory.
- Assisted faculty in developing research/pedagogical laboratories in Plastics & Composites, in Industrial Engineering Computing and in Human Factors.
- Assisted faculty in securing external grants.
- Performed the evaluation and development of faculty and staff.
- Executed the budget development and management processes.
- Developed/revised departmental policies and procedures.
- Interacted with industrial partners from the areas of foundry, construction management and concrete.

Assistant Dean – College of Science

- Developed the Electrical Engineering program.
- Coordinated development of all engineering programs.
- Developed common core engineering curriculum.
- Assisted with development of the college strategic plan.
- Represented the college at the Council of Academic Deans (CAD) meetings for Drs. Israel and Passty as needed.
- Recruited staff for the advising center.
- Reviewed and ranked developmental leave applicants.
- Reviewed and ranked student computing resources grants.
- Processed grade change appeals.
- Suspension reinstatement review and counseling.
- Assisted the Dean on an as needed basis on special projects.

Interim Chair – Department of Physics

- Led a faculty team in determining strategic directions for the next 5-8 years.
- Assisted in developing learning outcomes for the undergraduate and graduate programs.
- Facilitated the hiring of two high profile research faculty members.

Assistant Chair – Department of Engineering and Technology

- Assisted in developing the departmental strategic plan.

- Assisted in the faculty merit and performance evaluation process.
- Assisted in developing environmental scans.
- Facilitated faculty development.
- Developed faculty work assignments.
- Scheduled classes.
- Developing and upgrading departmental laboratories.
- Resolved student issues.

Director of Engineering Programs- Department of Engineering and Technology

- Coordinated engineering programs.
- Chaired seven faculty searches.
- Secured scholarships from the NSF for underrepresented students.
- Developed engineering curriculum.
- Facilitated faculty research.
- Team leader on ABET accreditation of the Manufacturing Engineering program.
- Developed transfer agreements with two year institutions/community colleges.
- Founded the Society of Women Engineers (SWE) on campus.

AWARDS AND HONORS

1. Awarded the **Everette Swinney Faculty Senate Award for Teaching Excellence** in Fall 2014 .
2. Awarded the title of **University Distinguished Professor** at Texas State in August 2013 in recognition of exemplary performance in the areas of teaching, research and service at the state, national and international levels.
3. Nominated by Texas State University for the Texas State University system **Regents Professor** award in 2013.
4. Served as the **Presidential Fellow** at Texas State for the year 2012-2013.
5. Recognition by Universidad Nacional Mayor De San Marcos, Lima, Peru for “**Prominent Academic Merits**” in 2008.
6. Awarded the **Texas Association of Schools of Engineering and Technology (TASET) Distinguished Service Award** in September 2004.
7. Nominated by Southwest Texas State University for the **U.S. Professor of the Year Award**; a national award sponsored by the Carnegie Foundation, Spring 2001.
8. Received Texas State University’s **Presidential Award for Outstanding Teaching** in Fall 2000.
9. Received a Service Commendation from the **Texas Association Schools of Engineering Technology (TASET)** in Fall 2000.

10. Nominated by the College of Science for the **Presidential Award for Outstanding Teaching** in Fall 1999.
11. Awarded the National Association of Industrial Technology's (NAIT) **Outstanding Industrial Technology Professor Award** in 1998.
12. Received the **Alumni Association's 1996 Outstanding Teaching Award of Honor**, a university wide teaching award.
13. Awarded the **Dean's Achievement Award** in recognition of Outstanding Achievement in the area of grantsmanship as a faculty member in the School of Applied Arts and Technology for the academic years 1995-96, 1994-95, and 1992-93.

TEACHING/CURRICULUM DEVELOPMENT

A significant amount of my time and effort has been devoted to delivering good quality teaching and curriculum & laboratory development. I have taught a total of 13 undergraduate and 10 graduate courses.

A. Courses Taught At Texas State

Undergraduate:

US 1100	University Seminar (special section for Engineering & Technology Majors)
ENGR 1413	Engineering Design Graphics
ENGR 2300	Materials Engineering
TECH 2330	Fundamentals of Material Removal
TECH 2332	Materials Selection and Manufacturing Processes
TECH 2351	Statics and Strength of Materials
ENGR 3311	Mechanics of Materials
ENGR 3315	Engineering Economic Analysis
TECH 4345	Methods Engineering and Ergonomics
TECH 4362	Manufacturing Processes I
TECH 4390	Internship
TECH 4391	Manufacturing Processes II (Computer Aided Manufacturing)
TECH 4397	Special Topics

Graduate:

TECH 5301	Seminar in Technology
TECH 5310	Computer Aided Drafting and Design
TECH 5311	Computer Aided Engineering
TECH 5315	Engineering Economic Analysis
TECH 5364	Statistical Applications in Manufacturing Process Control

TECH 5384	Problems in Technology
TECH 5387	Planning Advanced Technology Facilities
TECH 5390	Research in Technology
TECH 5391	Computer Integrated Manufacturing
TECH 5394	Data Acquisition and Analysis in Technology

B. Independent Study Supervised

<u>Student</u>	<u>Major</u>	<u>Degree</u>	<u>Year</u>
Dana Moore	Industrial Technology	MST	1994
Wayne Wheatly	Industrial Technology	MST	1995
Stephen Hofnienz	Industrial Technology	MST	1995
Michael Rundell	Computer Science	CS	1996
Gregg Kidd	Industrial Technology	MST	2002
Alberto Quinonez	Industrial Technology	MST	2002
Julio Mata	Manufacturing Engineering	BS	2003
Peggy Dickens	Industrial Technology	MST	2003
Guadalupe Delgado	Manufacturing Engineering	BS	2004
Michael Grayson	Manufacturing Engineering	BS	2004
Naureen Waheed	Manufacturing Engineering	BS	2005
Omar Sultan	Industrial Technology	MST	2005
Frankie Pavelka	Industrial Technology	BST	2009
Travis Massey	Mechanical Eng. Technology	BST	2012
Jessica Schwab	Environmental Eng. Technology	BST	2014
Jake Ellis	Industrial Technology	MST	2014

C. Graduate Thesis Committee Member

James McBride, "Analysis of Defects in Composite Structures", Physics, MS, 1992.

Handi Chandraputra, "Using Intelligent Vehicle Control Rules to Improve AMHS Performance in Highly Dynamic Manufacturing Environments", Industrial Technology, MST, 2008.

Dmitri Kabakov, "Effects of Dispersion Techniques in Flammability and Mechanical Properties of Phenolic/E-Glass Nanocomposites", Industrial Technology, MST, 2010.

Ximena McKenna, "Linking Data, Business Intuition, and Computer Simulation for Supply Chain Strategic Decisions" Industrial Technology, MST, 2012.

Mohamed Hayasi, "The Improvement of the FDFP Process by Designing the Angular Adaptive Slicing Algorithm and Design of Experiment", Industrial Technology, MST, 2012.

Ashley Russell Kotwal, "Alkaline Activation of Ambient Cured Geopolymer Mortar and Concrete Based on Class C Fly Ash", Industrial Technology, MST, 2012.

Hayden D Beauchamp, "Discrete Integer Programming for Optimization in Agile Supply Chain Development", Industrial Technology, MST, 2013.

Timothy G. Conner, "Design of a Mold Insert Alignment System for Double-Sided Hot Embossing of Microfluidic Devices Using Kinematic Constraints", MST 2013.

Alvarez, Andres, "Effects of MultiWall Carbon Nanotubes on the Electrical, Thermal and Mechanical Properties of Cynate Ester Composites", MST 2014.

Dabbaghianamiri, Maedeh, "An Agent-based Model for Supplier Selection in Digital Manufacturing Market", MST 2014.

Rodgers, Garrett, "Parametric Models for Machining Cost Estimation", MST 2014.

D. The Concrete Industry Management Degree

Key architect of a substantive proposal to the Texas Higher Education Coordinating Board for commissioning an undergraduate Concrete Industry Management degree at Texas State. The proposal was approved and the program commenced in January 2009. **Eight new courses** were developed by me towards this degree.

E. The Electrical Engineering (EE) Degree

Key architect of a substantive proposal to the Texas Higher Education Coordinating Board for commissioning an undergraduate Electrical Engineering degree at Texas State. The degree was approved in August 2007. I also developed the curriculum and syllabus for the Electrical Engineering degree in complete accordance with the Accreditation Board for Engineering Technology (ABET) criteria. **Nineteen new courses** were developed by me towards this degree.

F. The Manufacturing Engineering (Mfg. E) Degree

Was a key architect and played a key role in putting together a substantive proposal to the Texas Higher Education Coordinating Board for commissioning an undergraduate manufacturing engineering degree at Texas State. This degree, which was approved in July, 2000, was the first engineering degree on campus and provides students with professional opportunities that were unavailable ever before. As a consequence, Texas State joined the ranks of 20 other universities across the U.S. that offered an undergraduate degree in manufacturing engineering. I also developed the curriculum and syllabus for the Manufacturing Engineering degree in complete accordance with the Accreditation Board for Engineering Technology (ABET) criteria. This degree will provide students the option of specializing in either general manufacturing or semiconductor

manufacturing. Eleven new courses were developed by me toward this degree.

G. The Industrial Engineering (IE) Degree

Was the architect of a substantive proposal to the Texas Higher Education Coordinating Board for commissioning an undergraduate Industrial Engineering degree at Texas State. This degree was approved in 2004. I also developed the curriculum and syllabus for the Industrial Engineering degree in complete accordance with the Accreditation Board for Engineering Technology (ABET) criteria. Ten new courses were developed by me towards this degree.

H. New Courses Developed for Traditional Technology Programs (This list does not include the new courses developed for the manufacturing, industrial, or electrical engineering degree).

There have been rapid developments in manufacturing technology in the past 10 years. In order to produce graduates who are well trained in the best and latest technology, installation of new laboratories and development of new courses are required in addition to grant writing. The following is a list of new courses that I have developed.

TECH 3311 - Mechanics of Materials - This course deals with material properties and their relationships to product performance, safety and failure. The material presented in this course is considered an essential prerequisite for engineering design.

TECH 3360 – Structural Analysis - This course provides the engineering analysis background that is required for concrete and steel designs.

TECH 4392 - Microelectronics Manufacturing I - This lab and lecture-based course provides a "hands-on" overview of semiconductor chip making processes.

TECH 5311 - Computer Aided Engineering - This course deals with basic principles of engineering design, analysis and testing. Laboratory activities in this course expose students to state-of-the-art computer hardware and software.

TECH 5315 - Engineering Economic Analysis - This course deals with economic decisions that an engineer must make in the context of the high capital intensive modern industry.

TECH 5392 - Fundamentals of VLSI Fabrication - This course provides an advanced treatment of topics covered in TECH 4392.

I. New Laboratories Developed

Led the development of state-of-the-art manufacturing laboratories and a concrete testing laboratory for the purpose of enriching student learning experiences by obtaining funding from the National Science Foundation, Bridgeport Machines, Inc., Autodesk, Inc., Texas State University and the local industry for a total of **\$1,500,000**. As a result, the following new labs have been added to Technology's existing facilities:

- Microelectronics Manufacturing ("Clean Room")
- Computer Aided Design
- Computer Aided Engineering
- Computer Integrated Manufacturing
- Spectrometric Analysis
- Rapid Prototyping
- Concrete Testing

Upgraded the following manufacturing laboratories with departmental and grant funds:

- Metal Casting
- Material Removal
- Plastics and Composites

Today, Texas State has one of the outstanding manufacturing laboratories in the State of Texas! These laboratories have now been incorporated into the undergraduate and graduate curriculum to teach and train in modern computer aided manufacturing methods.

J. Continuing Education

- Prepared a course outline for an industrial short course on **Fundamentals of Semiconductor Fabrication**.
- Prepared a complete course outline, laboratory activities, and taught an industrial short course on **Basic AutoCAD**.
- Prepared a course outline for an industrial short course on **Intermediate AutoCAD**.
- Prepared a complete course outline, laboratory activities, and taught an industrial short course on **CMM Fundamentals**.
- Taught an industrial short course on **Statistical Process Control** for CFAN (an aerospace engine parts manufacturer).

K. Workshops and Institutes Conducted

- Conducted the following summer institutes for high school teachers (science, math, and computer science) and counselors in the following areas:
 - Basic Robotics and Control Systems
 - Advanced Robotics and Control Systems
 The institutes were conducted in collaboration with the Capital Area Training Foundation (CATF), Austin Community College (ACC), and Applied Materials, Inc. Summer 2005

- Conducted the following summer institutes for high school teachers (science, math, and computer science) and counselors in the following areas:
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 - Basic Robotics and Control Systems
 The institute was conducted in collaboration with the Capital Area Training Foundation (CATF), Austin Community College (ACC), and Applied Materials, Inc. Summer 2003
- Conducted the following summer institute for high school teachers (science, math, and computer science) and counselors in the following area:
 - Semiconductor Manufacturing
 The institute was conducted in collaboration with the Capital Area Training Foundation (CATF), Austin Community College (ACC), and Applied Materials, Inc. Summer 2002
- Conducted a workshop for area school and community college faculty on "Rapid Tooling and Time Compression Technologies". Summer 2001

SCHOLARSHIP

A. Refereed Journal Publications

Kotwal, A., Kim, Y.J., Jiong, H., and Sriraman, V. Characterization and Early Age Physical Properties of Ambient Cured Geopolymer Mortar Based on Class C Fly Ash., International Journal of Concrete Structures and Materials, Accepted for publication.

Kim, Y.J., Kotwal, A., Sriraman, V., and You, B., (2014) Confined Concrete with Variable Crack Angle - Part II: Shear Friction Model, Magazine of Concrete Research, Vol. 66, Issue 19.

Kim, Y.J., You, B., Sriraman, V., and Kotwal, Confined Concrete with Variable Crack Angle - Part I, Magazine of Concrete Research, Accepted for publication.

Sriraman, V. and Stapleton, W. (2013) Lessons Learned in the First Time Accreditation of Engineering Programs, Global Journal of Engineering Education, Vol. 15, No. 2.

Sriraman, V., and Hu J. (2012). Preparing the next generation concrete construction professionals – the Concrete Industry Management degree, World Transactions on Engineering and Technology Education, Vol. 10, No. 1.

Tate, J.S. and Sriraman, V. (2007). Developing Research Aptitude in Senior Year Manufacturing Engineering Students, World Transactions on Engineering and Technology Education, UNESCO International Center for Engineering Education. Vol. 6, No. 2.

Tate, J.S. and Sriraman, V. (2007). A Project Based Approach to the Teaching of Computer Aided Engineering to a Multi disciplinary Student Population, World Transactions on Engineering and Technology Education, UNESCO International Center for Engineering Education. Vol. 6, No. 1.

Asiabanpour, B. and Sriraman, V. (2006). Tool Design for a Competitive World, World Transactions on Engineering and Technology Education, UNESCO International Center for Engineering Education. Vol. 5, No. 1.

Asiabanpour, B. and Sriraman, V. (2005). Integrated Product and Process Design in Capstone Senior Design Class, World Transactions on Engineering and Technology Education, UNESCO International Center for Engineering Education. Vol. 4, No. 2.

Stephan, K. and Sriraman, V. (Fall 2005). Globalizing Manufacturing Engineering Education. IEEE Technology and Society. Vol. 24, No. 3

Sriraman, V., DeLeon, J. and Winek, G. (Spring 2002). Selecting the Appropriate Rapid Prototyping Systems for an Engineering Technology Program. Journal of Engineering Technology. American Society of Engineering Education, Vol. 19, No:1.

Sriraman, V., and DeLeon, J. (Fall 2001). Assembly Modeling for Product Design and Analysis. Journal of Engineering Technology. American Society of Engineering Education, Vol. 18, No: 2.

Sriraman, V. (Winter 1999). Assembly Modeling. Engineering Design Graphics Journal. American Society of Engineering Education. Volume 63, Number 1.

Sriraman, V. and DeLeon, J. (May 1999). Teaching GD&T in a Manufacturing Program. Journal of Industrial Technology. National Association of Industrial Technology. Volume 15, Number 3.

Sriraman, V., Habingreither, R. and Winek, G. (Spring 1999). Tooling Applications of Rapid Prototyping. Journal of Engineering Technology. American Society of Engineering Education. Volume 16, Number 1.

Sriraman, V. (Winter/Spring 1997). Introducing the Taguchi System in a Laboratory Course. The Journal of Technology Studies. Volume XXIII, Number 1.

Sriraman, V. (Summer/Fall 1996). A Primer on the Taguchi System of Quality Engineering. The Journal of Technology Studies. Volume XXII, Number 2.

Sriraman, V., and Winek, G. (Fall 1995). CAD Processes for Rapid Prototyping. The Engineering Design Graphics Journal, Volume 5a, Number 2.

Winek, G., and Sriraman, V. (Fall 1995). "Rapid Prototyping: The State of Technology." Journal of Engineering Technology, Volume 12, Number 2.

Sriraman, V., and Habingreither, R. (Summer 1995). Neural Networks and Their Manufacturing Applications. Journal of the National Association for Industrial Technology, Volume 11, Number 3.

Sriraman, V. (Winter 1993-1994). Expert System Shells for Manufacturing Planning. Journal of the National Association for Industrial Technology, Volume 10, Number 1.

B. Peer Reviewed Conference Proceedings

Hu, J., Ortiz, A., and Sriraman, V. (June 2012) Implementing PBL in a Concrete Construction, 2014 Proceedings of the ASEE Annual Conference, Indianapolis, IN.

Sriraman, V. (June 2013) Faculty Development Through Industrial Internships, 2013 Proceedings of the ASEE Annual Conference, Atlanta, GA.

Sharma, V. and Sriraman, V. (June 2012) Development and Implementation of an Industry Sponsored Construction Management Capstone Course 2012 Proceedings of the ASEE Annual Conference, San Antonio, TX.

J. Hu, V. Sriraman and Y. Wang. (June 2012) Challenges and Experiences in Teaching a Concrete Problems Diagnosis and Repair Course, 2012 Proceedings of the ASEE Annual Conference, San Antonio, TX.

Sriraman, V. and Stapleton, W. (June 2011) Lessons Learned in Implementing and Accrediting a Manufacturing Engineering Program, 2011 Proceedings of the ASEE Annual Conference, Vancouver, British Columbia.

Sriraman, V. and Hu, J. (February 2011) A New Construction Related Degree at Texas State University-San Marcos, Proceedings of the 2011 Conference for Industry and Education Collaboration, San Antonio, TX.

Tate, J. and Sriraman, V. (June 2006) An Approach to Teaching Computer Aided Engineering to a Diverse Student Population. Proceedings of the ASEE Annual Conference, Chicago, IL.

Asiabanpour,B., Um,D., Sriraman,V, Tseng, A., Mata, J., and Wahed,N. (August 2005) Mobile Paving System (MPS): A new large scale free form fabrication Method, Proceedings of the SFF Symposium, Austin, Texas.

Asiabanpour, B. and Sriraman, V. (October 2004). Teaching Integrated Product and Process Design. Proceedings of the International Conference on Engineering Education, Gainesville, Florida.

Sriraman, V. and DeLeon, J. (October 2004). Effective Approach to Teaching Micro Electronics Manufacturing. 2004 NAIT Selected Papers, the Annual Convention in Louisville, Kentucky.

Um, D. and Sriraman, V. (June 2004). Teaching Basic Control Systems Theory Using Robots. 2004 Proceedings of the ASEE Annual Conference, Salt Lake City, UT.

Sriraman, V. (March 2003). Integrating Engineering Curriculum Using Computer Based Manufacturing Technologies. Proceedings of the International Conference on Engineering and Computer Education, ICEEE –2003, Sao Vicente, Brazil.

DeLeon, J. and Sriraman, V. (November 2002). Measuring Safety Performance Via Statistical Process Control: A Case Study. 2002 NAIT Selected Papers, NAIT Annual Convention, Panama City Beach, Florida.

Sriraman, V. and Gutierrez, G. (August 2002). Semiconductor Initiative: An Example Of A University – Industry Partnership. Proceedings of the International Conference on University and Manufacturing Industry Collaboration. Advanced Manufacturing Institute – Kansas State University, Kansas City, Missouri.

Sriraman, V. and Habingreither, R. (March, 2002). A New Degree Program in Manufacturing Engineering. Proceedings of 2002 CIRP International Manufacturing Education Conference, CIMEC – 2002, University of Twente, Enschede, The Netherlands.

Sriraman, V. and Habingreither, R. (March 2001). Changing Engineering Education: The Manufacturing Engineering Degree. Gulf-Southwest Division Proceedings of the American Society for Engineering Education, College Station, TX.

Sriraman, V., Winek, G., and DeLeon, J. (November 2000). Selecting the Appropriate Rapid Prototyping Systems for a Manufacturing Curriculum. 33rd National Association of Industrial Technology (NAIT) Convention Proceedings, Pittsburgh, PA.

Sriraman, V. and DeLeon, J. (November 1999). The Parametric Approach to CAD and CAM. 32nd National Association of Industrial Technology (NAIT) Convention Proceedings, Panama City, FL.

Sriraman, V. and Habingreither, R. (March 1999). Senior Design and Manufacturing Laboratory Experiences. Gulf-Southwest Division Proceedings of the American Society for Engineering Education (ASEE), Dallas, TX.

Sriraman, V. (March 1998). Lab Experiences in Teaching GD&T with a Coordinate Measuring Machine in Manufacturing Classes. Gulf-Southwest Division Proceedings of the American Society for Engineering Education (ASEE).

Habingreither, R., Sriraman, V., and Winek, G. (October 1998). Computer Aided Design in the Foundry, 31st National Association of Industrial Technology (NAIT) Proceedings, Indianapolis, IN.

Sriraman, V. And DeLeon, J. (October 1998). Assembly Modeling and its Applications, A presentation given at the National Association of Industrial Technology (NAIT) Convention in Indianapolis, Indiana

Sriraman, V. and Winek, G. (October 1997). Teaching Automated Inspection Using Coordinate Measuring Machines (CMMs) in Manufacturing Technology Programs. 30th National Association of Industrial Technology (NAIT) Proceedings, Georgia.

Sriraman, V. and Winek, G. (March 1997). Concurrent Engineering via Geometric Modelling and Rapid Prototyping for Tool Design. Gulf-Southwest Division Proceedings of the American Society for Engineering Education.

Winek, G., Sriraman, V. and Habingreither, R. (March 1996). Rapid Prototyping and its industrial applications. Gulf-Southwest Division Proceedings of the American Society of Engineering Education (ASEE), San Antonio, TX.

Winek, G. and Sriraman, V. (October 1995). Present and future manufacturing applications of rapid prototyping. 28th National Association of Industrial Technology (NAIT) Convention Proceedings, Savannah, Georgia.

Sriraman, V. and Winek, G. (October 1994). Taguchi approach to quality engineering. 27th National Association of Industrial Technology (NAIT) Convention Proceedings, St. Louis, Missouri.

Winek, G. and Sriraman, V. (October 1993). Rapid Prototyping and its implications for reducing production lead times. 26th National Association of Industrial Technology (NAIT) Convention Proceedings, Durham, North Carolina.

Sriraman, V., Tosirisuk, P. and Chu, H.W. (March 1990). Object-Oriented Databases for QFD and Taguchi Methods. Proceedings of the 12th Conference on Computers and Industrial Engineering, Pergamon Press.

Sriraman, V. and Thomas, J.L. (July 1989). Frame Based Expert Systems - The Clear Choice for CAPP Systems. Proceedings of UPCAEDM, 1989, Laramie, Wyoming.

C. Funded Grants

External Grants

Jiong, H, Sriraman, V., Kim, Y.J., and Torres, A. (August 2014) Applied Research Experiences in Sustainable Concrete Technology, **National Science Foundation – RUE**, \$323, 209 (Pending)

Araceli, O., Close, E., Novova, C., Talley, K., Gurgis, M., Sriraman, V., Huling, L., Feakes, and Morrey, S.. (August 2014) Texas State STEM Rising Stars, **National Science Foundation – IUES**, \$ 1.5 million.

Araceli, O. , Huling, L, Van Overschelde, J., Bos, B., Dickinson, G., Sriraman, V., Sorto, A., Close, E., Asiabanpour, B, and Beck, J. (August 2014) NASA STEM Education Constellation, **National Aeronautics and Space Administration – EPD**, \$ 15.0 million.

Sriraman, V., Hu, J. and Gaedicke, M. (September 2009) MP 75 Laboratory Mixer, **Sicoma Inc.** , Research Equipment Gift, \$45,000.

Spencer, G., Um, D., Sriraman, V., and Gutierrez, G. (Summer, 2004) Teaching Microelectromechanical Systems to Undergraduate Physics, Technology, and Engineering Majors. **National Science Foundation–CCLI**, \$175,000.

DeLeon, J. and Sriraman, V. (Fall 2002). MEET-SWT: Manufacturing Engineering and Engineering Technology at SWT. **National Science Foundation – CSEMS**, \$569,136. (Total).

Sriraman, V., Spencer, G., DeLeon, J., Gutierrez, C., Habingreither, R., and Stouder, G. (Summer 2002). Semiconductor Process Engineering – II. **Society of Manufacturing Engineers Education Foundation**, \$392,299. (Total).

Stephan, K. and Sriraman, V. (Summer 2001). Enhancement of Digital Control and Microelectronics Courses for a New Manufacturing Engineering Program. **National Science Foundation – CCLI**, \$279,437. (Total).

Sriraman, V. (PI), Stouder, E., Habingreither, R., Galloway, H., and Batey, A. (Summer 2000). Semiconductor Process Engineering. **Society of Manufacturing Engineers Education Foundation**, \$174,586.

Sriraman, V. (PI), Winek, G., Habingreither, R., and DeLeon, J. (Summer 1999). Rapid Tooling and Time Compression Technologies. **National Science Foundation – CCLI**, \$208,000.

Sriraman, V. (Summer 1995). Virtual Manufacturing. Autodesk, Inc., \$12,500.

Sriraman, V. (PI) and Habingreither, R. (Fall 1994). Computer Aided Engineering and Concurrent Engineering Through the Use of Workstations. **National Science Foundation Instrumentation and Laboratory Improvement Program**, \$114,110.

Habingreither, R. (PI) and Sriraman, V. (Fall 1993). Alloy Analysis Using Glow Discharge Spectrometry and Total Oxidation Systems in Engineering Technology. **National Science Foundation Instrumentation and Laboratory Improvement Program**, \$108,005.

Sriraman, V. (PI) and Habingreither, R. (1993). Computer Driven Multi-Axis Machining. **Bridgeport Machine Tools, Inc.**, \$116,800.

Internal Grants

Ortiz, A. and Sriraman, V. (Spring 2014) Research and Assessment of Engineering Learning Assessment Instruments. Faculty Research Enhancement Grant, Texas State University (\$6000).

Sriraman, V., Winek, G., and Budek, A. (Spring 2001) Workstations for Computer Aided Engineering Applications. Southwest Texas State University, \$61,475.

Sriraman, V. (PI), Winek, G. and DeLeon, J. (Spring 1999). High-end Computing Resources. Southwest Texas State University, \$57,000.

Sriraman, V., Winek, G. (PI), Habingreither, R., and DeLeon, J. (Spring 1999). Using VIPLOM Process to Test the Feasibility of Using LOM Rapid Prototype Parts for Foundry and Plastic Mold Applications. Faculty Research Enhancement Grant, SWT (\$19,887).

DeLeon, J. (PI), Winek, G. and Sriraman, V. (Spring 1998). Increasing Computing Access. Southwest Texas State University, \$42,470.

Sriraman, V. (Spring 1996). Teaching New Design Paradigms in the Manufacturing Technology Classes. Merrick Instructional Enhancement Grant, Southwest Texas State University. \$5,000.

Sriraman, V. (Spring 1996). A Comparison of Prototyping Technologies. Faculty Research Enhancement Grant. Southwest Texas State University.

SERVICE

A. National/Professional

1. Serving on the education subcommittee of the National Steering Committee of Concrete Industry Management (CIM). This subcommittee is charged with establishing the accreditation standards for CIM programs. At this point in time a draft version of the accreditation standard is complete.
2. Served as a program evaluator for **ABET** in 2006, 2007, 2008 and 2010.
3. Served as a member in training for **ACCE** in 2009.
4. Served as reviewer for the **National Science Foundation** in the Summer of 1999 and 2000.
5. Served as a reviewer for the **U.S. Department of Education**, 1997.
6. Serving as a reviewer for the **American Journal of Engineering Education**.
7. Serving as a reviewer for the **Journal of STEM Education**.
8. Serving as a review for the **International Journal of Modern Engineering**.

9. Serving as a reviewer for the **Journal of Engineering Technology**.
10. Served as a reviewer for **The Engineering Design Graphics Journal**.
11. Serving as a reviewer for **The Journal of Industrial Technology**.
12. Serving as a reviewer for the **2013 ASEE Annual Convention**.
13. Served as Certification Vice-Chair for the professional chapter of the Society of Manufacturing Engineers (SME) in Austin, Texas.
14. Served as the Secretary/Treasurer for the Texas Association of Schools of Engineering Technology (TASET).
15. Organized and hosted the Annual Meetings of the Texas Association of Schools of Engineering Technology (TASET) in Fall 1999, 2000, and 2001.
16. Active member of the following professional organizations:

a. Society of Manufacturing Engineers	1990-2005
b. Epsilon Pi Tau	1991-present
c. National Association of Industrial Technology	1991-present
d. American Society for Engineering Education	1994-present

B. University

1. Serving as the **Vice Chair** of the Faculty Senate.
2. Served as the **Presidential Fellow** for 2012-2013.
3. Served on the **President's Cabinet** for 2012-2013.
4. Served on the **Graduate Dean Search Committee** 2012-2013.
5. Served on the committee charged with developing Texas State's **Executive Research Plan** 2012-2013.
6. Serving as a **Faculty Senator** from the College of Science and Engineering.
7. Served on the committee charged with the national search for the Dean of College of Science (2008-2009).
8. Served as a member of the **General Studies Council** on campus.
9. Served on the **Appeals and Suspension Committee** on campus.
10. Member of **University Council** at Texas State.
11. Member of **Class Schedule Committee** at Texas State.

12. Served as a member of the Mitte Chair Search Committee in the area of Semiconductor Manufacturing Education and Research. This committee was responsible for identifying an individual who would lead SWT's efforts in providing our students with the curriculum and a 6000 sq.ft. semiconductor fabrication facility to gain experience in semiconductor manufacturing, which is the fastest growing manufacturing sector in the U.S. Mr. Gene Stouder, ex-Motorola VP, was hired in Spring 1999. I have worked with Gene on the following significant undertakings:

- **Secured** two grants from the **Society of Manufacturing Engineers** for a total of \$566,815 in Fall, 2000 and 2002 to procure the following equipment for our Microelectronics Manufacturing Laboratory:

Diffusion Furnaces	Wet Etch Stations
Dry (Plasma) Etch Station	Rapid Thermal Annealer
CVD Chamber	PVD Chambers
Photolithography Modules	Testing and Characterization Stations

This laboratory will be used to provide SWT students "hands-on" learning opportunities in Semiconductor Manufacturing.

- Developed a minor in Manufacturing Engineering for Physics majors and a minor in Physics for Manufacturing Engineering majors. These minors complemented the two majors and made our students marketable in the semiconductor based Central Texas economy.

13. Served as a member of the **Institute for Environmental and Industrial Science** (IEIS) and participated in a planning session to evolve Mission Statement for the same.

14. Prepared a marketing plan for securing industrial opportunities for the IEIS.

15. Served as the voting representative to Texas Association of Schools of Engineering Technology (TASET) from Texas State.

16. Served as a scribe and helped organize a group discussion on "**Industrial Technology/Material Physics.**" These discussions were initiated by the Office of Research and Sponsored Projects and involved heavy participation from Semiconductor Manufacturers in the Austin area.

C. School/College

1. Serving on the College of Science **STEM committee.**
2. Served as the chair of the committee that ranked the NSF-MRI proposals from the College of Science (2008-2009 and 2009-2010).
3. Served as the chair of the committee that ranked the **NSF-MRI proposals** from the College of Science (2008-2009 and 2009-2010).
4. Served as the chair of the committee charged with the search for the **Director of the Ingram**

School of Engineering.

5. Chaired a committee that prepared a proposal for the establishment of the **Mitte Chair in Materials Science and Engineering**. Committee members included: Drs. Gary Beall (Chemistry), Karl Stephan (Engineering Technology), Heather Galloway (Physics) and Dan Tamir (Computer Science). The position has been established.
6. Served on three faculty searches in the Ingram School of Engineering. Two of these included searches in Electrical Engineering and one in Manufacturing Engineering.
7. Served on a committee that was charged with developing the “concept” for a **Master’s Degree in Engineering**.
8. Served on the committee that performed an Academic Program Review of the Department of Physics at Texas State.
9. Serving on the College of Science Promotion and Tenure review committee (2003-present).
10. Served as the grant reviewer for the School of Applied Arts and Technology (1993).
11. Served on the committee that was responsible for evolving Vision and Mission Statements for the School of Applied Arts and Technology (1995-1996).

D. Departmental

1. Prepared the self-study document for **certification of the metal casting program** at Texas State by the Foundry Educational Foundation in 2011. The program was successfully re certified for a five year period.
2. Served as a co-chair of the committee that was charged with developing the self study document for the department’s **Academic Program Review** in 2011.
3. Serving as the **Director** for the Engineering Technology and Technology Management programs.
4. Served as the **Foundry Educational Foundation Key Professor**.
5. Served as the **Faculty advisor** to the student chapter of the **American Foundry Society**.
6. Serving as the **Internship Coordinator** in the Department of Engineering Technology.
7. Serving as the **Interim Director** of the Concrete Industry Management program.
8. Chaired eleven faculty searches in Engineering Technology during the period 2007-2013. Searches were in the areas of Construction Management, Concrete Industry Management, Electrical Engineering Technology and Manufacturing.
9. Authored a proposal to THECB that aimed at changing the title of the department from “Department of Technology” to “Department of Engineering Technology.”
10. Authored a proposal to THECB that aimed at creating a **new undergraduate degree program in Concrete Industry Management**.

11. Hired faculty with a strong research aptitude representing signature research areas, secured space and start-up funds and re-engineered/created laboratories towards the express intent of promoting appropriate “research culture” in the Department of Engineering Technology, 2006-2010.
12. Created a **Science, Engineering and Technology Job Fair** working together with the Director of the School of Engineering and the placement office, Spring 2009.
13. Faculty advisor to the Student Chapter of the **Society of Manufacturing Engineers** from 1991 to 2005. This local chapter of an international body of manufacturing professionals has about 40 student members. Activities performed as faculty advisor are the following:
 - Help to organize student chapter meetings and hold elections to induct new student officers. These positions include Chairman, Vice-Chairman, Secretary and Treasurer. Students get trained on how to organize and manage an organization, which helps foster leadership skills.
 - Arrange industrial plant tours, which help our students by reinforcing concepts taught in class.
 - Bring guest speakers from the industry to share their knowledge and experiences with our students.
 - Administer the Certified Manufacturing Technologist (CMfgT) examination conducted by the Society of Manufacturing Engineers on campus twice a year for the benefit of our students. This certification greatly enhances the qualifications of our students. Students are also counseled on how to prepare for this examination.
17. Organize and facilitate student participation at the yearly Fall C.O.C conference in Dallas, Texas, where our students meet several fellow SME student officers from the neighboring states, get trained on organizational skills and get a chance to network with manufacturing professionals.
14. Faculty advisor to the Student Chapter of the **Society of Women Engineers** during 2004-2006.
15. Served as the library representative of the Technology Department.
16. Developed brochures for the Engineering Technology, Concrete Industry Management, Manufacturing Engineering and the Industrial Engineering Degrees.
17. Developed the portion of the Technology web page that deals with Manufacturing Engineering and Engineering Technology.
18. Worked on developing the brochure on the **MBA degree with Technology** emphasis.
19. Worked with the chair in preparing the Self Study document and in organizing departments' accreditation by the Foundry Educational Foundation (FEF).
20. Served as a faculty advisor to the following groups of students - Industrial Technology (manufacturing), Engineering Technology Manufacturing Engineering and Pre-Engineering

majors.

21. Worked on the development of new facilities for the Department of Technology; -particularly the following labs - Material Removal, Computer Aided Engineering, Computer Aided Manufacturing, and Computer Integrated Manufacturing.
22. Worked with the chair in preparing and organizing for the annual meeting of the Texas Chapter of American Foundrymen's Society on campus.
23. Designed and implemented the following labs for the Department of Technology - Computer Aided Engineering and Computer Integrated Manufacturing.
24. Responsible for maintaining the following technology labs (1991-2001) - Material Removal, Computer Integrated Manufacturing, Computer Aided Engineering.
25. Assisted the Chair in hosting the Annual Luncheons of the **San Marcos Manufacturer's Association (SMMA)**.

September 8, 2014

Faculty Senate Piper Professor Selection Committee
Texas State University

Dear Selection Committee Members,

I am pleased to offer in nomination the name of Dr. Vedaraman Sriraman for consideration for the Minnie Stevens Piper Foundation's Piper Professor award. Dr. Sriraman joined the faculty of Engineering Technology in the fall of 1991. I recall the occasion of his interview for the position. We had asked Dr. Sriraman to present a lesson on cutting tool geometry, material removal theory and related horsepower requirements. This is the sort of content that can overwhelm students if not presented by a professor who is both knowledgeable about the content and skilled in communication. Dr. Sriraman's presentation that day was concise, well sequenced, technically correct, and he was poised despite the stressful circumstances. That was 22 years ago, and his skills as a teacher have only become more impressive with each passing year.

Since that time I have had numerous opportunities, both formal and informal, to observe his teaching. His technical competence is among the highest on our faculty. Having taught in the area of manufacturing in our undergraduate programs, he has prepared and taught 12 separate courses including engineering design graphics, material removal theory, manufacturing processes, materials engineering, statics and strengths of materials, mechanics of materials, engineering economic analysis, methods engineering and ergonomics, plus the industrial internship and numerous special topics. At the graduate level, Dr. Sriraman has taught 8 different courses ranging from computer aided design, computer aided engineering, statistical process control, facilities planning, and computer integrated manufacturing, to research methods and design of industrial experiments. I have personally observed his teaching in many of these subject areas. In every instance his classroom presentations have been relaxed yet authoritative, comfortably paced yet thorough, and carefully planned yet flexible. It is, I believe, the ability to both establish specific goals for a particular lesson while at the same time taking advantage of serendipitous opportunity that distinguishes the accomplished teacher. Dr. Sriraman is such a teacher.

Dr. Sriraman is perhaps unique among many faculty in that much of his activity in the three areas of teaching, scholarship, and service has focused upon teaching and educational goals. He has received several honorary awards for his teaching, among these the Alumni Association's Teaching Award of Honor, the Presidential Award for Excellence in Teaching, the National Association for Industrial Technology's Outstanding Professor Award, and he was recently named a Distinguished University Professor. These honors alone would represent a significant career achievement, but Dr. Sriraman's accomplishments go beyond these awards. He has been the recipient as either PI or co-PI of seven separate National Science Foundation (NSF) grants funding improvements in educational methodologies and laboratory capabilities, the most recent of which was a NSF IUES grant entitled "Texas State STEM Rising Stars." These seven grants have brought in a total of \$3 million in funding. Further, he was one of the co-authors of the proposal to bring Manufacturing Engineering to Texas State, the first engineering degree offered on our campus, and he was the primary

DEPARTMENT OF ENGINEERING TECHNOLOGY

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author of the Industrial Engineering, Electrical Engineering and Concrete Industry Management (CIM) proposals. Dr. Sriraman was also instrumental in adding Mechanical Engineering Technology to the department's offerings, and while serving recently as Presidential Fellow he studied the feasibility of creating a new undergraduate program in Mechanical Engineering and a new interdisciplinary doctoral program in Environmental Science and Engineering. Clearly, Dr. Sriraman's contributions to the university's educational mission have been, and remain, significant.


In the area of scholarship, Dr. Sriraman's emphasis has been engineering and technology education. Central themes have been: How do students learn engineering topics? What teaching methods are most effective in promoting learning? And, how does one develop appropriate assessment methods to assess student learning outcomes? He has published 20 peer reviewed papers on these topics in scholarly journals, and his scholarly efforts in engineering and technology education continue, unabated. He was one member of the faculty team that recently brought the NASA EPD grant entitled "NASA STEM Education Constellation" to our campus for an impressive funding total of \$15 million, the largest single grant ever awarded to Texas State. The objective of this project will be to improve STEM educator professional development across the nation.

A most noteworthy aspect of Dr. Sriraman's scholarship has been his mentorship of younger faculty. On the above referenced NSF projects he is working with Dr. Kimberly Talley of our faculty and a group of other faculty from across the College of Science and Engineering. On a number of past projects he has collaborated with Drs. Bahram Asiabanpour and Jitendra Tate of the School of Engineering and Drs. Jiong Hu, Soon Jae Lee, Farhad Ameri, and Yoo Jae Kim of our faculty. He has been a consistent mentor and advisor of, and co-author with many junior faculty members over the span of his career. His mentorship of these faculty members will help them to become more successful and accomplished teachers of engineering and technology over the course of their careers.

Dr. Sriraman's accomplishments in the area of service have also focused upon teaching, student mentorship and rapport, and student professional development. He served as the faculty sponsor for the Society of Manufacturing Engineers for more than a decade. He was the founding faculty advisor for the Society of Women Engineers. He served as faculty advisor to the American Foundry Society and as our Foundry Education Foundation Key Professor throughout 2012 and 2013. He also served as Interim Director of the CIM program until a permanent Director could be found, a position he held since the program's founding in 2009. Further, Dr. Sriraman is a program evaluator for ABET and ACCE, and an ex-officio accreditation committee member of the National Steering Committee for CIM.

To sum up, Dr. Vedaraman Sriraman is a consummate professional who has dedicated his career to the cause of teaching and improved educational outcomes in the fields of engineering and technology. I can think of no more qualified or deserving candidate for the title of Piper Professor. I encourage you to give his candidacy every favorable consideration.

Sincerely yours,



Dr. Andy Batey, Chair



September 22, 2014

Dear Piper Professor Selection Committee,

It is my honor to strongly recommend Dr. Vedaraman Sriraman for the prestigious Piper Professor award. Dr. Sriraman's 23-year career at Texas State University is an inspiring story of outstanding achievements in the teaching profession. He has served our university and the State of Texas with distinguished classroom teaching and mentorship, introduction and development of high-quality academic programs, significant accomplishments in educational research, and outstanding service in the cause of teaching and education.

Distinguished Teaching

Dr. Sriraman is known for his outstanding teaching in Engineering and Engineering Technology. He is recipient of the Texas State Alumni Association's 1996 Outstanding Teaching Award of Honor, the 1998 National Association of Industrial Technology Outstanding Industrial Technology Professor Award, the 2000 Presidential Award for Outstanding Teaching, and the 2014 Everette Swinney Excellence in Teaching Award. He is a strong believer in experiential learning and has inculcated that belief into the teaching cultures of the Engineering Technology Department and, through the faculty he has mentored, the Ingram School of Engineering. He has worked diligently to develop outstanding Engineering and Engineering Technology teaching laboratories and has obtained significant grants for equipment from NSF, professional engineering societies, and industry. The result of Dr. Sriraman's work is that our two academic units incorporate a "hands-on" learning philosophy supported by state-of-the-art equipment, a combination that has given our programs a strong reputation and has led many industries to prefer hiring our graduates over those from other institutions.

Dr. Sriraman has also been instrumental in the growth of Engineering and Engineering Technology programs at Texas State. He is truly a founder of the Ingram School of Engineering. Dr. Sriraman was a key member of the team that developed the proposal for a B.S. Manufacturing Engineering program (approved by THECB in 2000), and he was the primary architect of the B.S. Industrial Engineering program (approved by THECB in 2004), the B.S. Electrical Engineering program (approved by THECB in 2007), and the Concrete Industry Management Program (approved by THECB in 2008). Dr. Sriraman also served as the 2012 Texas State University Presidential Fellow and investigated the feasibility of establishing a future B.S. Mechanical Engineering program and a future Ph.D. program in Environmental Science and Engineering.

Significant Accomplishments in Education-Related Research

Dr. Sriraman's research is primarily in the area of engineering education. This is an area of research that receives very little attention in most engineering programs but is extremely important to the future economic well-being of Texas and the United States. Tests in STEM (Science, Technology, Engineering, and Mathematics) topics show U.S. secondary education students ranking behind students in most developed nations, and the U.S. produces far fewer engineers than its rivals in other parts of the world. Diversity and representation by women and minorities in most engineering programs is significantly below that of our general population, many engineering professors are uninformed in modern pedagogical techniques, and student retention rates in many engineering programs (especially after the freshman and sophomore years) are too low. Strong research in engineering education is needed to address these issues

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and to develop the next generation of our nation's innovators. Dr. Sriraman is one of very few faculty members who engage in this important research area. He has published 21 journal papers related to engineering education and has received six grants from NSF totaling over \$1.45M for developing and implementing pedagogical improvements, renovating teaching laboratories, and recruiting and retaining underrepresented student groups in engineering and technology. In recognition of his excellent teaching and educational research, Dr. Sriraman was appointed as one of two 2013 Texas State University Distinguished Professors, and this past year he has been a major participant (Co-PI) in two large, newly awarded grants from NSF (\$1.5M) and NASA (\$15M) for implementing research projects in STEM education.

Dr. Sriraman has also done an outstanding job mentoring young faculty in pedagogical techniques and engineering education research. Texas State faculty benefitting from Dr. Sriraman's mentorship include Dr. Jitendra Tate, winner of the national 2009 Dow Chemical Educator of the Year Award, Dr. Bill Stapleton, and Dr. Bahram Asiabanpour (founding editor of the *American Journal of Engineering Education*).

Outstanding Teaching-Related Service

Dr. Sriraman has an outstanding record of teaching-related service to Texas State University and the engineering profession. He served for over a decade as the faculty advisor for the Texas State student branch of the Society of Manufacturing Engineers (SME). He has also served as faculty advisor to the American Foundry Society (AFS) and the Society of Women Engineers (SWE), and as Key Professor to the Foundry Educational Foundation (FEF). Additionally, Dr. Sriraman had a pioneering role in facilitating the ABET accreditation of all three of our engineering programs (Manufacturing Engineering, Electrical Engineering, and Industrial Engineering).

On a national level, Dr. Sriraman has served as a program evaluator for ABET, a proposal reviewer for NSF and the U.S. Department of Education, and a reviewer for various educational journals. Dr. Sriraman has also served as a member of the education sub-committee of the National Steering Committee of Concrete Industry Management, and as secretary/treasurer for the Texas Association of Schools of Engineering Technology (TASET). In this last role he earned TASET's annual Distinguished Service Award.

Summary

Dr. Sriraman has made outstanding contributions to the teaching profession. He is a distinguished classroom teacher, a dedicated mentor, and a strong contributor to the body of engineering educational research. He has also made very strong contributions in teaching-related service as a founder of the Ingram School of Engineering and a developer of Engineering and Engineering Technology programs at Texas State. These programs make significant contributions to the well-being of our students and the State of Texas. I believe that Dr. Vedaraman Sriraman is very deserving of the recognition and prestige bestowed by the Piper Professor Award.

Best regards,



Harold Stern
Ingram Professor and Founding Director
Ingram School of Engineering



September 25, 2014

To the Piper Professor Selection Committee,

It is my honor to write this letter of support for Dr. Vedaraman Sriraman, who is a candidate for the Piper Distinguished Professor Award.

I have known Dr. Sriraman since I joined the Department of Engineering Technology at Texas State in the summer of 2008. He was the chairperson of the department at that point. From the very outset, he has been a mentor to me. I am happy to report that this year I have been tenured and promoted to an Associate Professor. Much of my approach to teaching and learning which includes the active and experiential style, was inspired by my association with him. Owing to my achievement in teaching and educational research, I recently received the **College of Science and Engineering Achievement Award for Excellence in Teaching**.

As the very first faculty member in the Concrete Industry Management (CIM) program, besides teaching designated courses, one of my first major tasks was to design a concrete testing lab. The importance of laboratories in which students can engage in experiential learning can hardly be overstated in the engineering technology discipline. During the course of the work, Dr. Sriraman worked closely with me in planning, designing, and commissioning the concrete testing lab. In order to have a better sense of what a modern lab looks like and what it technically needs, Dr. Sriraman and I visited concrete labs at Boral Materials, Inc., located in San Antonio and at California State University - Chico. Dr. Sriraman also helped to arrange meetings with industrial experts including Dr. Earl Ingram, President of Ingram Readymix, and Mr. David Darnell from Capitol Aggregates, to provide expert inputs to the process. It was a challenging job as the lab had to meet the needs of both instructional activities of a growing technical program and state-of-the-art research. It took several meetings amongst ourselves and the campus construction team to get this done. The 3,000 square feet concrete testing lab was constructed in Summer of 2009 and currently houses equipment worth over half a million dollars. The lab not only serves the experiential learning needs of five different construction and concrete-related courses, but has also been instrumental in supporting faculty and student research in both the construction and the concrete areas. The experimental capabilities of this lab has led to multiple internal and external research projects including several projects funded by Texas Department of Transportation (TxDOT). A key aspect of all of these grants is the inclusion of undergraduates in research, thereby extending their learning beyond the confines of the class room. Dr. Sriraman was a key player in effecting these wonderful outcomes.

Dr. Sriraman is a consummate teacher. This is readily evidenced by several teaching awards that he has received such as the *Alumni Association Award*, *Presidential Award for Excellence in Teaching*, the *Distinguished University Professor Award*, the *Everette Swinney Excellence in Teaching award* and the *National Association of Industrial Technology's Excellence Award*. His passion for the teaching function extends beyond his classes. As a chair, he has worked with several new faculty members in providing them with an appropriate work load that enabled them to excel in the classroom. He would counsel new faculty on various aspects of

pedagogy and offer advice on how best to deal with unusual situations such as low grade distribution on a test or disruptive student behavior. He has (for the last 8 years) and continues to work with faculty in the professional development of students by selecting and accompanying students to the annual **World of Concrete Convention** and **Foundry Educational Foundation Conference for College and Industry Collaboration**. Besides providing the opportunity to participate in these professional events and thereby network, several of our students secure valuable internship and job offers at these conventions. He works on several scholarship committees in selecting appropriate students for industry sponsored scholarships. Dr. Sriraman has also assisted faculty with the establishment and continued administration of the student chapter of the **American Concrete Institute (ACI)** on our campus. It is worth noting that Texas State has been recognized in the last four years as an “ACI Excellent University” as a consequence of how active the student chapter has been. We are one of five universities that have received this recognition every year since the award was established in 2011. Lastly, I feel that my colleagues and I have learnt immensely from him about the arduous process of learning outcomes assessment.

Dr. Sriraman has been very enthusiastic in mentoring and encouraging junior faculty in getting our research off the ground. In the engineering technology discipline the quality of teaching and learning is very vitally tied to research. Instructors who are not up to date in recent technological advances will be ill preparing students to take on the challenges in the rapidly changing technological world. Most of the junior faculty members including myself, did not have much experience in managing major research projects. Dr. Sriraman helped by arranging meetings, to which he invited senior faculty from different departments within the College of Science and Engineering. The purpose of these meetings was for the senior faculty, who had an active research agenda, to come and share with us their research experience. Dr. Sriraman also mentored me in conducting research and securing internal and external funding by providing me with very helpful advice through the course of handling multiple activities in proposals and projects. Even though Dr. Sriraman did not have direct technical involvement with most of these projects, he served as my mentor from a research standpoint. One example is the help he provided me when I was working on my (and Texas State’s) very first TxDOT project entitled “Evaluation, Presentation and Repair of Microbial Acid-Produced Attack of Concrete”. The project was for a total of a quarter-million dollars and involved faculty members from the departments of Biology, and Chemistry and Biochemistry. He accompanied me on a visit to the research lab in TxDOT where we had meetings with TxDOT research personnel. Additionally, Dr. Sriraman helped me resolve some issues associated with grant management during the operation of the project. The success of the project was a catalyst in Texas State securing nine more research projects from TxDOT for a total of over \$1.5 million in the last five years.

Apart from the involvement with construction-related research, Dr. Sriraman also has a very active agenda in educational research. He introduced several junior faculty members to engineering/technology education research and mentored us in this area. In my case, due to my limited educational research background, many of the new teaching methods that I adopted in the classroom are somewhat unorganized and lack sufficient foundation. Dr. Sriraman has been encouraging me to explore different educational pedagogies and conduct learning assessment in various courses. In one of our CIM courses (Concrete Problems: Diagnosis, Prevention, and Dispute Resolution), Dr. Sriraman and I worked closely and adopted several *Problem-Based Learning (PBL)* activities and successfully improved the quality and efficacy of the learning process. The work we have done in this class has resulted in two proceedings papers entitled “Challenges and Experiences in Teaching a Concrete Problems Diagnosis and

Repair Course” and “Implementing PBL in a Concrete Construction Course”. These were presented at the American Society for Engineering Education (ASEE) Annual Convention in June 2012 and June 2014 respectively. We are also currently working together in a couple of other courses including Fundamentals of Concrete: Properties and Testing, and Construction Materials and Processes, wherein we are adopting active learning methods such as *Inquiry Based Learning*. Dr. Sriraman and I have recently submitted a grant proposal to the NSF the purpose of which is to give community college students research experiences in the summer at Texas State in the area of sustainable concrete materials technology. The goal of this project is to encourage community college students, especially underrepresented student populations, to pursue a four year degree in a STEM discipline and eventually consider graduate school. This summer Dr. Sriraman was part of multi faculty teams from Texas State that received grants from the NSF and NASA to further STEM education. The NASA grant was for \$ 15.0 million and is the largest grant that Texas State has received thus far.

As the interim director of the CIM program, besides routine work associated with running the program, he had also been working in promoting the CIM degree through different channels (such as the local industry and the admissions office) and by continuously improving the CIM curriculum. Last summer we received an accreditation visit from the National Steering Committee of CIM. The visiting team was very impressed with the quality of our CIM program and the attention to detail with which we had assessed student learning outcomes. In February 2014, we received word that our CIM program was deemed successfully accredited. We have co-presented a couple of papers related to our CIM degree in the 2011 Conference for Industry & Education Collaboration (CIEC) and 2009 American Concrete Institute (ACI) Convention. I have been working closely with Dr. Sriraman in continuously improving the CIM curriculum and one external validation of this activity is that a paper that we co-authored was published in *World Transactions on Engineering and Technology Education* entitled “Preparing the next generation concrete construction professionals – the Concrete Industry Management degree”.

For the last six years, I have had ample opportunity to work closely with Dr. Sriraman and have sought his advice regarding teaching, research and other quality of life issues. Besides being a mentor and a friend of mine, I think of Dr. Sriraman as a great role model for myself and many of my junior colleagues in the department. It has been my pleasure to write this letter of support for him. Should you need any additional information regarding him, please feel free to contact me at (512) 245-6328 or jiong.hu@txstate.edu.

Best regards,



Jiong Hu, Ph. D., Associate Professor
Department of Engineering Technology
Texas State University

September 22, 2014

Dear Piper Professor Selection Committee,

I am pleased to write this letter of support for Dr. Sriraman, who is applying for the Piper Professor award. My name is Guadalupe O. Delgado Jr. and I am the third child of an immigrant woman from Mexico whose dream was to provide her family with a better opportunity in the United States. My background is described as a child, who grew up in extreme poverty, struggled through high school and whose aspiration to become an engineer seemed improbable.

At the age of ten, I was driven by the dream of becoming an engineer. Therefore, I enrolled in the University of Texas in Brownsville, Texas in 1998 and excelled in areas of mathematics and science. In 2001, a mentor encouraged me to apply to Southwest Texas State, currently Texas State. I followed this advice and enrolled in the Manufacturing Engineering program at Texas State. In this program, I learned both the theory and practice of engineering as we had hands on laboratory work that supplemented our theoretical engineering curriculum.

In 2001, I met with Dr. Sriraman who was the Manufacturing Engineering program coordinator and my faculty advisor when I enrolled into the program. In one of our very first meetings, I became excited as he described the engineering field and indicated how I would be able to complete a university degree as a Manufacturing Engineer major at Texas State.

The Manufacturing Engineering program was the first engineering degree offered at Texas State and was extremely well organized and presented. This program enabled me to apply the principles of mathematics, science and engineering to manufacturing processes and systems design. This program is where I came across professors who cared deeply about the welfare of students and as such these contacts contributed significantly to my successes as I negotiated the rigorous university regimen and earned a degree in Manufacturing Engineering.

Throughout the years, Dr. Sriraman served as my engineering faculty advisor and professor for many of my classes such as material selection and manufacturing processes. I graduated in 2004, and even after many years after graduation, the fundamentals of this class continue to be a part of the knowledge base required for executing my everyday responsibilities. The quality of the manufacturing engineer's process decisions depend very largely on the knowledge of many manufacturing processes.

Dr. Sriraman is a professor who has the capacity to explain abstruse concepts with such a lucid and detailed level approach. During his classes he made it a point to review past concepts before initiating new material. His office was always open to students who required assistance and he never hesitated to help even during busy schedules. I clearly remember the dedication he had for his students to succeed and the desire to not just be an excellent instructor, but an advisor that had the best interest of the student at all times.

Dr. Sriraman was the faculty advisor to the student chapter of the Society of Manufacturing Engineers (SME). In this capacity, he used to arrange for industrial guest speakers and for the field trips to some of the world class manufacturing facilities in Central Texas. Such industrial interaction helps to reinforce theoretical material and provides a realistic context for students. He was also instrumental in founding the student chapter of the Society of Women Engineers (SWE) on our campus.

Today, I am a Manufacturing Engineering Manager leading a group of engineers supporting the large scale aircraft production and composite assembly operations with the F-35 Joint Strike Fighter program in Palmdale, California. The F-35 JSF Program is the Department of Defense's next generation strike aircraft weapon systems for the Navy, Air Force, Marines and allies.

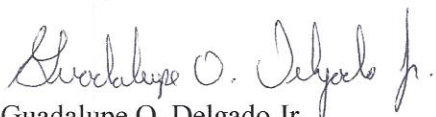
Due to the continuous volunteer and outreach activities with the Hispanic Community performed throughout the years, I was elected to lead a company sponsored employee resource group. Currently, I serve as the Sector President for the Aerospace Systems Hispanic Network group called Adelante. In this volunteer position, I support and oversee five chapters across the nation from California, Florida and New York. This volunteer activity allows me to contribute in my community and enhance Northrop Grumman's competitive position by leveraging the talents of its Hispanic workforce, present and future. Adelante's goal is to support company initiatives to recruit the best in science, technology, engineering and math.

In 2011, I was nominated as one of 120,000 employees that work for Northrop Grumman and awarded the Most Promising Engineer Award by the Hispanic Engineer National Achievement Awards Conference (HENAAC) for my technical contributions and community service. Several other underrepresented students in the Manufacturing Engineering program pursued careers in some of our nation's most prestigious firms. For instance, Julio Mata went to work for Toyota, Amy Ortiz went to work for Lockheed Martin Corporation, John Urbina went to work for The Boeing Company, Antonio Gonzalez and Naureen Wahed went to work for Applied Materials, and Katie McDonald went to work for Chrysler.

The foundation of my success is attributed to numerous role models and advisors such as Dr. Sriraman. My university experience in the Manufacturing Engineering program at Texas State with Dr. Sriraman has been a huge factor and for that I am truly grateful that there are mentors and advisors such as him.

It is for the reasons mentioned that I enthusiastically recommend Dr. Sriraman for the Piper Professor award.

Sincerely,



Guadalupe O. Delgado Jr.
Northrop Grumman Aerospace Systems
F-35 Manufacturing Engineering Manager



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September 22, 2014

Piper Professor Award Selection Committee:

It is with great enthusiasm and pleasure that I am writing this letter of support for Professor Vedaraman Sriraman.

Currently, I am a second year doctoral student in the Materials Science, Engineering and Commercialization (MSEC) program at Texas State University. In the past, I have lived in 26 residences and attended 13 schools. When your father is a military officer, the only constant is change. The transient nature of my life has given me the opportunity to adapt to many new environments and work with a large variety of individuals. The diversity of teachers and learning experiences that I have encountered has provided me with a great appreciation for education. Dr. Sriraman is one of the exceptional teachers that I have encountered. He is a trusted advisor and mentor who continues to support different aspects of my learning experiences in graduate school.

I have known Dr. Sriraman for about 3.5 years, as I have been a graduate student at Texas State since January 2011. During my master's program, Dr. Sriraman taught me the fundamentals and applications of industrial experiments in TECH 5394. The statistical methodology that I learned in this course proved to be very beneficial to the success of my experimental research on concrete, and I am pleased to report that the results of my research have been published in conference proceedings and in peer reviewed technical journals.

Throughout his tenure, Dr. Sriraman has become a key and integral part of graduate studies in the Department of Engineering Technology. For this reason, I requested him to serve on my master's thesis committee. As a committee member, I found Dr. Sriraman to be very thorough and dedicated to the advancement of my research. While two of the other thesis committee members were experts on concrete technology, Dr. Sriraman served as the statistician. In experimental research, the role of a statistician can hardly be overstated. As a direct result of his outstanding contribution, I was able to improve the design of my experimental work, adequately interpret the results, and explain plausible implications.

In addition to his busy schedule as a faculty member, Dr. Sriraman's other commitments included developing new academic programs, serving as a program director, faculty senator, vice chair of the senate, presidential fellow, and serving as the Department of Engineering Technology representative to the doctoral program selection committee in MSEC. After completing the requirements for my master's degree, I applied for admission to this new doctoral



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program. During the application and interview process for the MSEC program, Dr. Sriraman provided the mentorship that was required to ensure success. He has also offered the same mentoring to several other graduate students in the department that have applied to the doctoral program. Many of these students are my peers in the MSEC PhD program today.

I was accepted into the MSEC program and have successfully completed the requirements to advance to candidacy in this very demanding and rigorous doctoral program. Dr. Sriraman continues to look after my welfare and offers mentoring and advice as a member of my dissertation committee. During my tenure at Texas State, I have also cofounded a startup company, SioTeX Corporation, and serve as the Vice President of Manufacturing. Our team has developed a patented method for extracting high purity silica from rice hulls, raised funds through angel investor networks, and is constructing a pilot plant to demonstrate the commercial viability of our product. Dr. Sriraman has been very supportive of this venture in particular and the commercialization aspect of the doctoral program in general.

As a requirement of my Doctoral Instructional Assistantship, I am currently assigned as the instructor for CSM 3367: Mechanical, Electrical and Plumbing Systems. Having not been an instructor of record before, when preparing for class, it is often helpful for me to consider the teaching styles and practices of the exceptional teachers that taught me throughout my academic career. Dr. Sriraman has been a great role model in this respect. His class has come across to me as being thoroughly organized. He always appeared to be well prepared for his classes and was adept at connecting abstruse theory with practice. His communication style and interaction with students in the class effectively contributed to the advancement of his students' learning.

It is without reservation that I recommend Dr. Sriraman for the Piper Professor Award. He has been a source of inspiration for me and many students in the department. I am confident that he will continue to be a great asset to Texas State.

Regards,

A handwritten signature in blue ink, appearing to read 'Ashley Russell Kotwal'.

Ashley Russell Kotwal, MST, CDT
Doctoral Instructional Assistant, Texas State University
Vice President of Manufacturing, SioTeX Corporation