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Education

Ph. D.	Electrical Engineering	1988	Purdue University, West Lafayette, Indiana
M. S.	Metallurgical Engineering	1985	Purdue University, West Lafayette, Indiana
B. Tech.	Metallurgical Engineering	1983	Indian Institute of Technology, Madras, India

Experience

Administrative Experience

Interim Dean, Howard Hughes College of Engineering, University of Nevada, Las Vegas

April, 2010 to Present

My goal is to transform the College of Engineering into a hands-on, research- intensive and collaborative college, with a focus towards preparing the diverse local and regional student body for the future technical work force of the region. In keeping with this vision, my team and I have achieved the following in collaboration with the administration, deans, faculty, staff and stake holders.

Financial Management

- Allocated funding resources for various college activities to ensure that funds generated by educational and research activities are reinvested into related activities
- Created new funding sources for various college activities including: Industry sponsorship of the senior Design Awards, and Donor funded graduate fellowships such as the NSTEC and STEM Recruitment Fellowships.
- Achieved financial solvency for the College by eliminating positions that were funded from soft monies, and identifying and utilizing cheaper resources within the university that offered comparable services.

Undergraduate Programs

Spring 2013

- Ensured that the CS department participated in the Freshman Year Experience Course for the first time.
- Facilitated recruiting three National Merit Scholars to the college.
- Offered 17 Freshman Scholarships cumulatively worth $60,000 in the month of March for the first time in the College's history.
- Most notably, organized an effort to achieve a *U.S. News & World Report* ranking; this culminated in the *U.S. News & World Report* ranking our undergraduate engineering program as the 162nd best in the nation. The College had *never* been ranked before in this category.

Fall 2012

- Offered First Year Experience course, EGG 101, for the first time in the fall semester of 2012 for the Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical Engineering majors.
- Established for the first time, a STEM Recruitment Graduate Fellowship with the generous help of Gene Wong, a college advisory board member.
- Hired Kimberly Hammer as the first STEM Recruitment Fellow to recruit students from high schools.
- Worked with the Philosophy department and the UNLV CORE Curriculum Committee to develop PHIL 242, Engineering Ethics, as a Sophomore Year Experience course.

Spring 2012

- Facilitated the participation of the Computer Science and Entertainment Engineering and Design programs in the Senior Design competition for the first time.
- Implemented a program to patent senior design projects. As a result, eight provisional patents were filed by senior design students with the pro-bono help of Chad Miller, an alumnus of Electrical and Computer Engineering (ECE).
- Participated in the government-sponsored Brazilian Science without Borders program and brought several bright Brazilian undergraduate students study one year at UNLV. The College has never before participated in this program.

Fall 2011

- Collaborated with the Academic Success Center to run a Satellite Tutoring Center. In spring 2013, the center advised *300 students* for a total of *1264 tutoring sessions*.
- Organized a program in which Senior Design students and students in Business Administration at the Lee School of Business collaborated in entrepreneurial endeavors. This resulted in winning the Southern Nevada Business Plan Competition and the Nevada Governor's Cup Business Plan Competition (1st Place: Scuba Solutions - ME project and 2nd Place: MAD Sensor - ECE project).
- Initiated a *Mendenhall Hands-on Competition* for faculty to develop hands-on modules to enhance undergraduate learning experience. Of the five projects submitted, 40% of them have matured into hands-on modules that can be routinely used in courses.
- Obtained more than $640,000 in one-time funds from the UNLV administration to upgrade the undergraduate laboratories and research facilities.
- Secured several industrial sponsorships for the Fred and Harriet Cox Senior Design Competition Awards. In spring 2011, the Industrial Sponsors included NV Energy, Bally Technologies, JT3, Switch, Cirque du Soleil, Dominic Marrocco and Zappos.

Spring 2011

- Secured three new undergraduate scholarships, which increased total college scholarships awarded from $212,038 to $314,652.

Fall 2010

- Assisted in ensuring the successful accreditation of the Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering programs.

Graduate Programs

Spring 2013

- Achieved *U.S. News & World Report* graduate program ranks of 97 and 132 for Civil Engineering and Mechanical Engineering, respectively. This is the first time any of our graduate engineering programs have been placed in the top 100.

Fall 2012

- Collaborated with the College of Education on a program (EDH 780, Teaching in Higher Education) to develop the teaching skills of Engineering Ph.D. students. In the fall 2012 semester, seven engineering students and post-docs benefitted from the program.

Spring 2012

- Achieved a higher level of selectivity for our graduate programs. Our acceptance rate of graduate students decreased from 72% to 64% in a year.

Fall 2011

- Developed and signed MoUs for cooperation with several foreign universities:
    - Beijing Jiaotong University, China
    - Caledonian College of Engineering, Oman
    - Feng Chia University, China
    - Japanese Advanced Institute of Science and Technology (JAIST), Japan
    - Nantong University, China
    - National Central University, Taiwan and
    - National Taipei University of Technology, Taiwan.

Spring 2011

- Established a new doctoral fellowship worth $32,000 a year funded by NSTEC to promote research in Nuclear Engineering and related areas.
- Established a new annual event, entitled "The Graduate Celebration" to recognize the best thesis, dissertation, and graduate posters. External reviewers were used to decide the winners, who received prize monies and plaques.

Research

- Facilitated the joining of the College into the Center for Mathematics, Science, and Engineering Education in spring 2012 with a view to collaborate on STEM education research.
- Developed hands-out in areas of strengths in the college: Transportation, Security Engineering, Renewable Energy, Water and Environmental Engineering and Bio-medical Engineering.
- Organized several research meetings with other colleges (Education, Sciences, Allied Health Sciences and Nursing) and local and regional entities to spur research collaboration.
- Doubled competitive research awards from $3.6 million in 2011-2012 to $7.1 million in 2012-2013.
- Hired a part-time technical editor to help faculty and graduate students with peer-reviewed journal articles and conference proceedings, proposals, and theses and dissertations in 2011. Our editor also coordinates and leads workshops on various aspects of technical communications for the faculty and graduate students. Since her hire, the rate of acceptance for publications has significantly increased, as has the number of proposals submitted and awarded.
- Ensured that the Transportation Research Center was moved from the Harry Reid Center to the College of Engineering in spring 2011.

Hiring and Appointments

- Appointed two new associate deans.
- Appointed a new director and other associate directors for the Mendenhall Innovation program.
- Appointed three chairs through an internal search process that included faculty and staff input.
- Hired the following positions (external searches):
    - Eight new faculty members
    - Department Chair for Civil and Environment Engineering and Construction
    - Director of Advising
    - Director for the Multicultural Programs for Engineering, Sciences, Allied Health Sciences, Nursing, Community Health Sciences and the Graduate College.
    - Director of Development
    - Director of Communication and Special Events.

Collaboration with other colleges

- Lee Business School on Fred and Harriet Cox Senior Design and Business Plan competition.
- College of Fine Arts on the B.S. in Entertainment Engineering as well as the Solar Decathlon 2012 competition.
- College of Education on Ph.D. Pedagogy courses for engineering students.
- Established a Satellite Tutoring center in collaboration with Academic Success Center.
- Collaboration with the Colleges of Sciences and Education on Center for Mathematics, Science, and Engineering Education.
- Established a *Conversation with Pioneers* Series, and collaborated with various colleges (Hotel School, Law School, Liberal Arts) for joint presentations.
- Established Multicultural Program for Engineering, Sciences, Allied Health Sciences, Nursing and Community Health Sciences.
- Collaborated with College of Sciences in acquiring a state-of-the-art confocal microscope for research.
- Collaborated with College of Allied Health Sciences in acquiring 3-D camera for joint research.

Development Activities

- Fund Raising:
    - In Calendar Year 2011 (I started as the Interim Dean in April that year), the college raised $566,236.
    - In CY 2012, we raised $940,667, an increase of approximately 60%, and just under the annual goal of $1m.
    - In 2013 so far, we have raised $10,713,022, with a major donation of in-kind software facilitated by Dr. William Boldt from Cadence Design Systems, Inc.
    - Membership in our Dean's associates program grew from 4 members three years ago to 30 members this year.
- Established three new scholarships for undergraduates.
- With generous support from Fred and Harriet Cox, established the first donor and alumni pin program to recognize their association with and contribution to the college.
- Established three new graduate fellowships (NSTEC Fellowship for Nuclear Engineering and Gene Wong for STEM Recruitment and JT3 Fellowship for Electrical Engineering).

- Obtained funding form NSTEC to hire a professor in Nuclear Engineering ($75K per year for two years)
- Obtained several industrial sponsorships for Senior Design Competition, which results in about $60,000 annual funds.
- Revitalized the College of Engineering Advisory Board with 17 new local and regional tech companies.
- Obtained five named professorships for Engineering College professors.

Communication & Outreach Activities

- Created the "*End of the Semester Message"* to all faculty, staff and stake holders in fall 2010. This message summarizes college activities for the semester and sets new goals for the next semester.
- Began a new initiative to develop and submit annual evaluations of each department, including commendations and recommendations in spring 2011. This is to set performance goals for the departments.
- Collected and presented productivity data to all faculty and staff and the upper administration.
- Solicited ideas from faculty and staff to improve the college and implemented several of these suggestions in fall 2012. A few examples are:
    - On recruitment, we embarked several new international university collaborations.
    - Regarding the appearance of the college, we have improved the looks and added building signs; currently, we are working on art to be installed in the yard that will represent the units of the college.
    - Industry Sponsored Student Scholars: we created two graduate fellowships and currently we are working on two more.
    - We made two visitor parking spots available for the college (reserved spaces) in order to avoid having to get hanging permits or deal with parking tickets for visitors and donors.
- Worked closely with Clark County School District (CCSD) as well as local and regional private schools to recruit high school students to the College of Engineering.
- Worked with CCSD, in 2012, initiated a *School Teacher Training Program* offered by Project Lead the Way. The program is ongoing.
- Established the *Conversation with a Pioneer Series* to bring the history of local industry and technology development by means of meetings in a town hall format. We have had four town hall meetings to date: 'Nuclear Nevada' (Troy Wade), 'Water' (Pat Mulroy), 'Area 51' (Frank Murray, TD Barnes and David Robarge) and 'Gaming Technology' (Bill Boyd).
- Developed and sent quarterly newsletters to Engineering Deans nationwide to display the activities of our college in order to improve its reputation among the deans; this helps improve peer evaluation, which is a critical component of National and International ranking.

Director, Science and Engineering Building (SEB)

June, 2008 - March 2010

I served as the first Director for this ground-breaking and unique research building. In collaboration with the faculty, staff, Vice President of Research, the Planning and Construction office and the State Public Works Board, we addressed several facility challenges and financial constraints. By the end of my service, my team and I had ensured that more than 80 active researchers from across all disciplines were using the building in their interdisciplinary research. Specifically, my team and I:

- Identified and solved facility-related problems by compromising with SEB faculty and the administration.
- Worked with Planning and Construction (P&C) to address faculty needs and issues.
- Worked with Planning and Construction to develop move plans and address build-out issues.
- Helped develop policies related to the occupancy of the building (keys, access, science on display, conferences, etc.)
- Hired a shop manager and oversaw the purchase equipment and set up the shop, which is now operational.
- Developed a stock room operation plan and hired stockroom attendants.
- Developed an Interdisciplinary Research Initiative plan.
- Helped P&C with the move process.
- Made detailed global presentations to all SEB occupants.
- Worked with the Vice President of Research (VPR) on issues related to SEB and UNLV as a whole.
- Ensured funding for the operation and maintenance of SEB and its facilities.
- Organized the Interdisciplinary Seminar Series to foster interdisciplinary collaborative research.
- Conducted tours of the building to visitors, donors, and other stakeholders.

Chair of Electrical and Computer Engineering (ECE)

July 2000 - June 2006

During my tenure, the department's research expenditures more than quadrupled to $2,000,000, and the size of the faculty and professional staff size grew from 9 to 14 in four years. Specifically, I:

- Hired six faculty members, five at tenure track assistant professor level and one at the tenured associate professor level.
    - Hired each of them with substantial start-up funds.
    - Hired a nano-tech expert and organized $325,000 in start-up funds for him from various resources within the university.
- Led the Electrical Engineering and Computer Engineering programs through ABET accreditation in fall 2004 under a new set of guidelines.
    - Both programs received for six years.
    - This was the first time Computer Engineering attempted to receive accreditation.
- Developed the first strategic plan for the department with the faculty members' help and input, and maintained it with updates.
- Hired a laboratory director and a laboratory manager to oversee the lab's curriculum and its hardware/software and to improve the hands-on experience.
- Hired a practitioner to teach the capstone senior design course resulting in a dramatically improved student experience.
- Developed and utilized several survey instruments: the mid-semester lab survey, the alumni survey, the employer survey, the Board of Visitors survey, and the end-of-semester course outcome survey.
- Established an industrial board (ECE Board of Visitors) and developed a biannual dialog with them.

- Obtained funds to establish Outstanding Graduating Senior Award (Sprint), Outstanding Professor Award (Nevada Power), and Outstanding Graduating Graduate Student Award (Powerwave Technologies).
- Commenced the publication of the annual ECE Newsletter, which was sent to alumni, board members, and ECE Chairs nationwide.
- Mentored junior faculty members through periodic advice and guidance; identified and introduced junior faculty to local and regional industries, and pointed out opportunities.

Other Professional Experience

7/98 - present Professor, Department of Electrical and Computer Engineering, University of Nevada, Las Vegas, Nevada

7/94 - 6/98 Associate Professor, Department of Electrical and Computer Engineering, University of Nevada, Las Vegas, Nevada

8/89 - 6/94 Assistant Professor, Department of Electrical and Computer Engineering, University of Nevada, Las Vegas, Nevada

5/94 - 8/94 Summer Visiting Scientist, Wright Air Force Laboratory, WPAFB, Dayton, Ohio

5/92 - 8/92 AFOSR Summer Fellow, Air Force Wright Laboratory WPAFB Dayton, Ohio

Publications

Refereed Journals *(Total Citations: 334, Google H-index: 9, i10 index: 9)*

1. P. Jayalakshmi, R. Venkat, and P. Ginobbi, “Effect of Mechanical Vibrations on Compact Fluorescent Luminaires,” *LEUKOS*, vol. 7, p.49, 2010.
2. N. Shlayan, R. Venkat, P. Ginobbi, and A. K. Singh, "Energy Efficient RGBW Pixel Configuration for Light Emitting Diode Displays," *Journal of Display Technology*, vol.5 No.11, pp.418-424, 2009.
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4. P. Singaraju and R. Venkat, “Modeling of the charging dynamics in silicon nanocrystal nonvolatile flash memory cells,” *Physica E*, vol. 41, pp.9-14, 2008.
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6. B. Murugan, S. K. Saha, and Rama Venkat, “Analysis of Subthreshold Behavior of FinFET using TAURUS”, J. Semicon. Tech. and Sci., vol. 7, pp.51-55, (2007)
7. P. Singaraju, R. Venkat, R. Kanakala (student) and B. Das, "Model for porous alumina template formation: constant voltage anodization," Eur. Phys. J. Appl. Phys. 35, pp.107-111 (2006), DOI: 10.1051/epjap:2006081
8. R. Kanakala, P. Singaraju, R. Venkat, and B. J. Das, “Modeling of Porous Alumina Template Formation under constant current conditions,” *J. Electrochem. Soc.*, vol. 152(1), pp.J1-J5, 2005.
9. R. Venkat, B. R. Pemmireddy, R. Vijayagopal, H. Cheng, R. Bresnahan, “Flux Profile Modeling : Monte Carlo Simulation and Numerical Computation,” *Journal of Vacuum Science and Technology*, vol. B22, pp. 1549-1553, 2004.
10. L. P. Gewali and R. Venkat, “Reconfiguring Polygonal Linkage to Maximize Area,” *Journal of Combinatorial Mathematics and Combinatorial Computing*, vol.64, pp.171-180, 2003.

11. I. Stanley, G. Coleiny, and R. Venkat, "Theoretical Study of In desorption and Segregation Kinetics in MBE Growth of InGaAs and InGaN," *Journal of Crystal Growth*, vol. 251, pp.23-28, 2002.
12. G. Coleiny and R. Venkat, "MBE growth modeling of In desorption in InGaAs/GaAs Compound Semiconductor," *Journal of Crystal Growth*, vol.251, pp.22-28, 2002.
13. N. Sipe and R. Venkat, "Modeling GaN Growth by Plasma Assisted MBE in the Presence of Low Mg Flux," *Materials Research Society Internet Journal of Nitride Semiconductor Research*, vol. 7, Art. 1., 2002.
14. W. Fu, R. Venkat, and M. Meyyappan, "Theoretical Study of GaN MBE Growth using ECR Plasma," *J. Vac. Sci. Technol.*, vol. B19, pp. 1803-1807, 2001.
15. W. Fu and R. Venkat, "Theoretical Study of MBE Growth of Nitrides using Ammonia: A rate equation study," *J. Vac. Sci. Technol.*, vol. B18 (3), pp.1467-1471, 2000.
16. G. Colayni and R. Venkat, "Growth Dynamics of InGaAs by MBE:Process Simulation and Theoretical Analysis," *J. Crys. Growth*, vol. 211, pp.21-26, 2000.
17. K. Natrajan, R. Venkat, and D. L. Dorsey, "Low Temperature molecular beam epitaxy of GaAs: A Theoretical investigation of antisite incorporation and reflection high energy electron diffraction oscillations," *J. Vac. Sci. Technol.*, vol. B17 (3), pp.1227-1232, 1999.
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24. L. P. Gewali, R. Venkatasubramanian, and D. Glasser, "An Optimum Algorithm for Computing the Maximum Simple Grazing Area," *Journal of Combinatorial Mathematics and Combinatorial Computing*, vol. 25, pp.192-211, 1997.
25. K. Mahalingam, D. L. Dorsey, K. Evans, and R. Venkatasubramanian, "A Monte Carlo Study of Gallium Desorption Kinetics during MBE of (100) GaAs/AlGaAs Heterostructures," *Journal of Crystal Growth*, vol. 175-176, pp.211-215, 1997.
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31. R. Venkatasubramanian, V. K. Pamula, and D. L. Dorsey, "Influence of Surface Physisorbed State on the RHEED Oscillations during Low Temperature GaAs Molecular Beam Epitaxy," *Applied Surface Sciences*, vol. 104, pp.448-454, 1996.
32. S. Maheshwarla and R. Venkatasubramanian, "Comparison of TDR Performance Factors for Several Dielectric Geometries: Theory and Experiment," *Water Resources Research*, vol. 31, pp.1927-1933, 1995.
33. R. Venkatasubramanian, "On the Area of Intersection between Two Closed 2-D Objects," *Information Sciences*., vol. 82, pp.25-44, 1995.
34. S. Bendi, R. Venkatasubramanian, and D. L. Dorsey, "Molecular Beam Epitaxy Doping Kinetics: A Rate Equation Model," *Journal of Applied Physics*, vol. 76, p.5202-5207, 1994.
35. R. Venkatasubramanian and S. Bendi, "A Theoretical Study of Surface Kinetic Processes in the MBE growth of GaAs (100)," *International Journal of Computation and Mathematics in Physics and Electrical Engineering*, vol. 12, pp. 423-434, 1993.
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42. L. A. Kolodziejski, R. L. Gunshor, R. Venkatasubramanian, T. C. Bonsett, R. Fronhe, S. Datta, R. B. Bylsma, W. M. Becker, N. Otsuka, and A. V. Nurmikko, "(100) oriented wide gap II-VI superlattices," *Journal of Vacuum Science Technology*, vol. B4, pp.583-584, 1986.
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Book Chapters

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2. R. Khoie and R. Venkat, *"Semiconductors: The Boltzmann Transport Equation and Its Solutions," Wiley Encyclopedia of Electrical and Electronics Engineering*, Ed., John Webster, Wiley Interscience, vol. 19, pp.1-17, 1999.

Books

1. N. Shlayan and R. Venkat, *LED Displays - Energy Efficient RGBW Pixel Configuration for LED Display*, Saarbrücken, Germany: Lambert Academic Publishing GmbH & Co. KG, 2010.
2. R. Vijayagopal and R. Venkat, *Flux Profile Modeling using Monte Carlo Simulation,* Saarbrücken, Germany: Lambert Academic Publishing, 2010.

Conference Proceedings

1. N. Shlayan, R. Venkat, P. Ginobbi, and G. Mercier, "A Novel RGBW Pixel for LED Display," *Proceedings of the Nineteenth International Conference on Systems Engineering*, Las Vegas, NV, 2008, pp. 407-411.
2. G. Mercier, J. Ross, P. Ginobbi, and R. Venkat, "A Robotic Spectrometer System for LED Display Measurements," *Proceedings of the Nineteenth International Conference on Systems Engineering*, 2008, Las Vegas, NV, 2008, pp.412-417.
3. R S. Kumar, N. Reddy, A. Cornelius, and R. Venkat, "Synthesis, Structure and Electronic Properties of Phase Change Material Sb55Se45," *Proceedings of SAMPE*, vol. 5, p5, (2008).
4. P. Ginobbi, W. Vodrazka, J. Wang, H. Selvaraj, N. Ghafoori, M. Trabia, L. Gewali, and R. Venkat, "College-wide Senior Design Competition: A Motivating Approach," *Proceedings of the National Capstone Design Course Conference*, Boulder, Co, June, 2007, 10 pp.
5. B. Murugan, R. Venkat, and S. Saha , "An Electrostatic Analysis of Subthreshold Behavior in a FINFET," *SPIE Proceedings*, vol.5722, 2005, pp.157-165.
6. N. Krishnan, R. Venkat, and D. L. Dorsey, "Influence of Growth Conditions on As antisites, As_{Ga}^{o} and As_{Ga}^{+} concentrations in the low Temperature GaAs MBE Growth: A First Theoretical Study," *1998 IEEE Semiconducting and Insulating Materials Conference Proceedings*, Berkeley, CA, 1998, pp.109-112.
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10. R. Lidberg, K. Goswami, M. Lovato, R. Venkatasubramanian, and W. Englemann, "Optical and Electrical Properties of Doped Poly-3-Octylthiophene Films," *Proceedings of the SPIE*, 1995, vol. 2397, pp.633-643.
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15. R. Venkatasubramanian and A. Cullum, "Grazing Inside a Convex Polygon," *Proceedings of the Fifth Canadian Conference on Computational Geometry*, 1993, pp.228-233.
16. R. Trivedi, R. Venkatasubramanian, and D. L. Dorsey, "Surface ordering kinetics of MBE grown $Ga_{0.5}Al_{0.5}As$ - A theoretical study," *Proceedings of Materials Research Society*, 1993, vol. 312, pp.71-76.
17. X. Xu, R. Boehm, and R. Venkatasubramanian, "Determination of Water Content in Unsaturated Flow Experiments Using TDR and Capacitance," *Proceedings of International High Level Radioactive Waste Management Conference*, 1993, vol. 1, pp.1075-1079.
18. R. Venkatasubramanian, D. L. Dorsey, and S.G. Das, "A Theoretical Study of Amorphous-Crystalline Transition in Si [111] MBE Growth," *Proceedings of the Materials Research Society*, 1992, vol. 280, pp.171-174.
19. M. Cahay, T. Dichiaro, P. Thanikasalam, and R. Venkatasubramanian, "Quantum Mechanical Tunneling Time and Its Relation to the Tsu-Esaki Formula," *SPIE Proceedings*, 1992, vol. 1675, pp.142-149.
20. R. Venkatasubramanian and R. Khoie, "MBE Alloy Clustering Kinetics - A Stochastic Model Study," *Proceedings of the Materials Research Society*, 1991, vol. 220, pp.129-134.
21. R. Venkatasubramanian and R. Khoie, "Dynamics of MBE Growth Surface Roughening of Ge (001)- A Stochastic Model Study," *Proceedings of the Materials Research Society Meeting*, 1991, vol. 202, pp.377-381.
22. R. Venkatasubramanian, N. Otsuka, S. Datta, L. A. Kolodziejski, and R. L. Gunshor "Monte Carlo simulation of MBE of ZnSe," *Proceedings of the Society of Photonic and Instrumentation Engineers Conference on Compound Semiconductors*, 1987, vol. 796, pp.121-124.

Presentations

All 18 papers listed under Conference Proceedings were presented. The following are additional presentations.

1. K. Natarjan, R. Venkat, and D. L. Dorsey, "Low Temperature MBE of GaAs: A Theoretical Investigation of RHEED," presented at the X^{th} MBE, Cannes, France, September 1998.
2. R. Venkat and R. Schill, Jr., "Investigation of Various Approaches to Gamma Ray Detection Using Optical Methods," presented at the 6^{th} Scientific Symposium on Room Temperature Semiconductor X-ray, Gamma-ray and Neutron Detectors at Sandia National Laboratory, Livermore, California, June, 1998.
3. R. Venkatasubramanian, "RHEED Oscillations in LT MBE GaAs," presented to the MBE Research Group of Dr. Eicke Weber, University of California, Berkeley, 1996.
4. R. Venkatasubramanian, "RHEED Oscillations in LT MBE GaAs," presented to the MBE Research Group of Dr. Umesh Mishra, University of California, Santa Barbara, 1996.
5. R. Venkatasubramanian, "Stochastic Modeling of MBE growth of compound semiconductors," Air Force Wright Laboratory, WL/MLPO, Dayton, Ohio, 1992.
6. P. Thanikasalam and R. Venkatasubramanian, "Quantum mechanical tunneling time revisited," presented at The American Physical Society meeting, Indianapolis, 1992.

7. R. Venkatasubramanian, “Quantum mechanical tunneling in electronic devices,” Invited Seminar, Physics Department, University of Nevada, Las Vegas, 1992.
8. R. Venkatasubramanian and T. Bossart, “Modeling of Kinetics of Clustering and Ordering Phenomena in the MBE Growth,” presented at the March meeting of American Physical Society, Cincinnati, Ohio, 1991.
9. R. Venkatasubramanian, J. Qiu, L. A. Kolodziejski, R. L. Gunshor, and N. Otsuka, “Surface kinetic processes in the MBE growth of ZnSe,” presented at the Ninth MBE Workshop, Purdue University, West Lafayette, Indiana, 1988.
10. R. Venkatasubramanian and N. Otsuka, “Experimental and theoretical studies on the MBE growth of ZnSe,” presented at the Midwest MBE Users Workshop, University of Illinois, Urbana-Champaign, Illinois, 1988.
11. R. Venkatasubramanian and M. A. Dayananda, “Diffusion path representation for two phase ternary diffusion couples,” presented in TMS-AIME, Toronto, 1985.

Research Grants

1. Rama Venkat (PI), “In-situ monitoring based modeling HVPE of Nitrides- Phase I,” KYMA Technologies, NC, USA, $30,000, 2010.
2. Rama Venkat (PI), “In-situ monitoring based modeling HVPE of Nitrides- Phase III,” KYMA Technologies, NC, USA, $41,000, 2010.
3. Rama Venkat (PI), “LED Display Engineering,” DoE, $590,000, 2008-2010.
4. Rama Venkat (PI), “Photonics in Entertainment - Engineering of Displays,”
5. DoE, $216,000, 2007-2008.
6. Rama Venkat (PI), “Photonics in Entertainment - Engineering of Displays,”
7. DoE, $450,000, 2006-2007.
8. Rama Venkat (PI),“Neutron Detector,” Bechtel Nevada, $60,000, 2005.
9. Rama Venkat (PI), “Photonics in Entertainment- Engineering of Displays,”
10. DoE, $350,000, 2005-2006.
11. Rama Venkat,(PI), “Process modeling: The first step for reliable opto-electronic devices,” ARI program, UNLV/Veeco Applied Epi, $95,548, 2002.
12. John Wang and Rama Venkat, “Center for Entrepreneurship: An Incubator for Engineering Invention and Entrepreneurship,” NCIIA, $11,250, 2000.
13. John Wang and Rama Venkat, “E-club: A cultivator of Engineering Innovation and Entrepreneurship,” NCIIA, $4,000, 1999.
14. R. Venkat, (PI), “Molecular beam Epitaxy of Nitrides: Theoretical Modeling and Process Simulation,” AFOSR (DEPSCOR), $252,200, 1999-2002.
15. R. Venkat and R. Schill, “A Novel Approach to Gamma Ray Spectrometry,” DOE, $10,000, 1997.
16. R. Venkatasubramanian, (PI), “Molecular beam Epitaxy of Non-stoichiometric III-V compounds: Theoretical Modeling and Simulation,” AFOSR (DEPSCOR), $147,795, 1996.
17. R. Schill and R. Venkatasubramanian, “An Electrostatic Ionizing Air Filter: Prototype,” Department of Energy, $59,400, 1996.
18. R. Schill and R. Venkatasubramanian, “A Novel Remote Cleaning Electromagnetic Air Filter: Downsizing,” Department of Energy, $54,665, 1995.
19. R. Schill and R. Venkatasubramanian, “A Novel Remote Cleaning Electromagnetic Air Filter,” Department of Energy, $50,297, 1994.

20. R. Venkatasubramanian, (PI), "Microelectronic Processing Phenomena and its Dynamic Visualization using MPGS," National Supercomputer Center for Energy and Environment/CRAY Co., $18,610, 1993.
21. R. Venkatasubramanian, (PI), "Theoretical Study of MBE Growth of Compound Semiconductors," Research & Development Laboratories/Air Force Office of Scientific Research, $20,000, 1993.
22. R. Venkatasubramanian and Rahim Khoie, (Co-investigators), "Antenna Based Human Activity Monitor," Environmental Research Center, University of Nevada-Las Vegas, $77,000, 1990-1991.

Summer Fellowships and Visiting Positions

1. R. Venkatasubramanian, "Summer Visiting Scientistship at Air Force Wright Laboratory at Dayton," $ 18,000, 1994.
2. R. Venkatasubramanian, "Summer Fellowship at Air Force Wright Laboratory at Dayton," $12,000, 1992.

Thesis/ Dissertation Direction

1. M. A. El Qader, "Structural, Electrical and Thermoelectric Properties of $CrSi_2$ Thin Films," M.S. Thesis, University of Nevada, Las Vegas, NV, 2011.
2. J. Paladugu, "Effect of Mechanical Vibrations on LED Luminaires," M.S. Thesis, University of Nevada, Las Vegas, NV, 2009
3. N. Shlayan, "A Novel RGBW Pixel LED Display," M.S. Thesis, University of Nevada, Las Vegas, NV, 2008.
4. N. Bandaru, "Synthesis and Characterization of SbxSe100-x thin film phase change alloys and their applications," M.S. Thesis, University of Nevada, Las Vegas, NV, 2008.
5. P. Singaraju, "Physics Based Modeling of the Charging Dynamics in Silicon Nano-Crystal Non-Volatile Flash Memory Cell,' Ph.D. Dissertation, University of Nevada, Las Vegas, NV, 2007.
6. P. Raman, "Design of Sputtering System for Hemispherical Boron 10 Target," M.S. Thesis, University of Nevada, Las Vegas, NV, 2007.
7. V. Jain, "A Model for Programming Characteristics of SONOS," M.S. Thesis, University of Nevada, Las Vegas, NV, 2007.
8. S. Chenna, "Programming of the Split-Gate Memory Cell," M.S. Thesis, University of Nevada, Las Vegas, NV, University of Nevada, Las Vegas, NV, 2005.
9. B. R. P. Reddy, "Flux Modeling Using Numerical Method," M.S. Thesis, University of Nevada, Las Vegas, NV, 2004.
10. R. Kanakala, "Model for Alumina Template Formation," M.S., University of Nevada, Las Vegas, NV, 2004.
11. R. Vijayagopal, "Flux Modeling Using Monte Carlo Simulation," M.S. Thesis, University of Nevada, Las Vegas, NV, 2004.
12. B. Murugan, "Study of Sub-threshold Behavior of FinFET," M.S. Thesis, University of Nevada, Las Vegas, NV, 2003.
13. I. Stanley, "Modeling of Segregation Phenomena in III-Nitrides," M.S. Thesis, University of Nevada, Las Vegas, NV, 2003.
14. R. Schofield, "Device Characteristics of Metal (8-quinolinolate) Compounds," University of Nevada, Las Vegas, NV, 2002.

15. D. Alldredge, “Cobalt Silicide Characterization,” M.S. Thesis, University of Nevada, Las Vegas, NV, 2001.
16. A. Irudyam, “Electrical Characterization of Plasma Enhanced CVD Silicon Nitride on Copper,” M.S. Thesis, University of Nevada, Las Vegas, NV, 2001.
17. W. Fu, “Nitride MBE growth modeling,” M.S. Thesis, University of Nevada, Las Vegas, NV, 2000.
18. G. Colayni, “Segregation and Desorption Studies in InGaAs: A Theoretical Study,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1999.
19. A. Mahajan, “Leakage Gate Current in a Heterostructure Field Effect Transistor,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1999.
20. K. Nataraj, “Charged and Neutral Antisite Arsenic in Low Temperature MBE: Influence of Growth Conditions and Beryllium,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1998.
21. R. Arvandi, “DC and AC Modeling of Heterostructure Bipolar Transistor,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1998.
22. S. Gorantla, “Theoretical Study of Low Temperature MBE of Si and Thermal Oxidation of Si,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1997.
23. S. Muthuvenkatraman, “Antisite As incorporation in Low Temperature MBE of GaAs,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1997.
24. V. K. Pamula, “GaAs Molecular Beam Epitaxy: Low Temperature and Surface Mediated,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1996.
25. N. Balakrishnan, “Transport Property Variation along the Channel of a HEMT- A Quantum Confinement Effect,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1995.
26. S. Maheshwarla, “Tunneling Phenomena in Electronic Devices,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1995.
27. S. Bendi, “A Theoretical Study of Surface Kinetic Processes in the MBE Growth of Compound Semiconductors,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1994.
28. R. Trivedi, “Surface Ordering Kinetics in the MBE growth of $Ga_xAl_{1-x}As$ (001),'' M.S. Thesis, University of Nevada, Las Vegas, NV, 1993.
29. P. Thanikasalam, “An Analytical Approach to Quantum Mechanical Tunneling Time in Electronic Devices,” M.S. Thesis, University of Nevada, Las Vegas, NV, 1992.

Honors and Awards

- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2011.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2010.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2009.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2008.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2007.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2006.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2005.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2004.
- *“Eminent Engineer,”* Tau Beta Pi, May 2003.
- *“Outstanding ECE Professor of the Year Award,”* Sponsored by Sprint and given by IEEE Student Chapter, May 2002.
- Tau Beta Pi “Professor of the Year Award for Electrical Engineering,” May, 2002.

- Tau Beta Pi "Professor of the Year Award for Electrical Engineering," May, 1999.
- College of Engineering "*Teacher of the Year Award,*" 1994.
- Departmental Nominee for the College level "*Teacher of the Year Award,*" 1993.
- College of Engineering Nominee for the University level CSUN "*Teacher of the Year Award,*" 1991.

Teaching (Courses taught & Developed)

Taught

Undergraduate level

- EE 221: Circuits II
- EE 320: Engineering Electronics I
- EE 450: Solid State Devices
- EE 451/651: Electronic and Magnetic Materials and Devices
- EE 452/652: Introduction to Optoelectronics
- EE 330: Engr. Electromagnetics
- EE 430: Transmission Lines

Graduate level

- ECG 750: Physical Electronics
- ECG 753: Advanced Semiconductor Devices I
- ECG 755: Monolithic Integrated Circuit Fabrication
- ECG 756: Advanced Semiconductor Devices II
- ECG 757: Transport Phenomena in Solid State Devices

Developed

Undergraduate level

- EE 450: Solid State Devices
- EE 451/ECG 651: Electronic and Magnetic Materials and Devices
- EE 450L: Solid State Characterization Laboratory

Graduate level

- ECG 757: Electron Transport in Solid State Devices

Service Activities

University of Nevada, Las Vegas

Served on various university committees at various times for varying durations.

- Intellectual Property Committee (member)
- Rebel Venture Committee (member)
- Disruptive and Adaptive Technology Study Group (member)
- Director, UNLV Singapore Limited
- Planning Initiative Committee, Research

- Planning Initiative committee, Finance
- Academic Standards Committee (member, one term)
- Curriculum Committee (member, one term)
- Appeals committee (member, one term)
- Program Review Committee (member and Chair, one term)
- Faculty Advisor, Maitri, the Indian Student Association, 2004-2007.

College of Engineering

Served on various college committees at various times for varying durations.

- Curriculum committee (as a member and chair)
- Faculty Affairs Committee (as a member)
- College of Engineering Dean's Search
- Department of Civil and Environmental Engineering Chair Search (Chair)
- College of Engineering Associate Dean for Research and Information Technology Search (Chair)
- College of Engineering Associate Dean for Undergraduate Studies Search (Chair)
- Established the Entrepreneurship Club in the college and act as its director.
- Co-founded with Prof. Zhiyong Wang of Mechanical Engineering the Senior Design Competition (now it is known as the Fred and Harriet Cox Senior Design Competition) across the college. Industrial judges judge and decide the winners in several categories. Prize monies and plaques are awarded. (1999).
- Faculty Advisor, Tau Beta Pi Engineering Honor Society, 2004-2006.
- Associate Director, Mendenhall Innovation program (2007-2009)
    - Developed the Technology Commercialization Minor
    - Working with faculty members to develop hands-on modules for undergraduates

Department of Electrical and Computer Engineering

Served on various departmental committees at various times for varying durations.

- Curriculum Committee (as a member and Chair)
- Graduate Committee (as a member and coordinator)
- Faculty/Staff Search Committees (several times)
- Merit Committee (several times)
- Planning committee
- Department sub-discipline committees (Electronics and Solid State)

Professional Service Activities and Memberships

- Senior Member, Institute of Electrical and Electronics Engineers
- Member, American Society for Engineering Education
- Member, Phi Kappa Phi
- Reviewer of grant proposals, journal articles and conference proceeding articles

Community Service Activities

- Substitute teacher, Mathematics, at a high school, Paradise Christian Academy

- Math Olympics Coach (Paradise Christian Academy)
- Math Count Coach (Warren Walker Upper School)
- Active participant and organizer of cultural events for Vegas Tamil Sangam