S. K. Ramesh, Ph.D.

Fellow IEEE
Professor of Electrical and Computer Engineering
Director and Lead Principal Investigator, AIMS^2 Program
California State University, Northridge

EDUCATION

1986   Ph.D. in Molecular Science, Major: Electrical Engineering, Southern Illinois University, Carbondale

1983   MS in Electrical Engineering, Southern Illinois University, Carbondale

1981   B.E. (Honors) in Electronics and Communication Engineering, University of Madras, India

PROFESSIONAL AND ACADEMIC POSITIONS

Sep 2017 -   Director and Lead Principal Investigator of the AIMS^2 program at CSUN

2006 - 2017   Dean, College of Engineering and Computer Science, CSU Northridge

2006 onward   Professor, Department of Electrical and Computer Engineering, CSU Northridge

1994 – 2006   Chair, Department of Electrical and Electronic Engineering, CSU Sacramento

1992 – 1994   Graduate Coordinator, Department of Electrical and Electronic Engineering, CSU Sacramento

1992 – 2006   Professor, Department of Electrical and Electronic Engineering, CSU Sacramento

1990 – 1992   Associate Professor, Department of Electrical and Electronic Engineering, CSU Sacramento

1987 – 1990   Assistant Professor, Department of Electrical and Electronic Engineering, CSU Sacramento

1986 – 1987   Visiting Assistant Professor, Department of Electrical Engineering, SIU Carbondale

1983 – 1986   Visiting Instructor, Department of Electrical Engineering, SIU Carbondale

1981 – 1983   Graduate Assistant (Teaching & Research), Department of Electrical Engineering, SIU Carbondale

HONORS AND AWARDS

2016   PI of the $ 6 Million, HSI STEM Grant supported by the US Department of Education, "Bridging the Gap: Enhancing the AIMS^2 program for Student Success" at CSU Northridge HSI-STEM initiative to mentor, support and enhance the graduation of Latino/a students and underrepresented minorities in Engineering and Computer Science, September 2016.

2016   Outstanding Faculty Award, Phi Beta Delta, "For his indefatigable work with CSUN faculty, staff, and students as well as his commitment to international education"

2015   PI of the $ 5.5 Million AIMS^2 grant program (2011-2016) at CSU Northridge HSI-STEM initiative to mentor, support and enhance the graduation of Latino/a students and underrepresented minorities in Engineering and Computer Science that was recognized as a [Bright Spot in Hispanic Education](#) by the White House Initiative for Educational Excellence for Hispanics (WHIEEH)

2015   Elevated to the rank of IEEE Fellow in 2015 for "Contributions to Entrepreneurship in Engineering Education".

2015   Member of the team that received the Jolene Koester Team Award for the myCSUN iPad Tablet initiative

2015   Elected to serve on the IEEE Board of Directors as IEEE Vice-President, Educational Activities, and Chair of the IEEE Educational Activities Board

2015   Elected to serve as President-Elect of IEEE-HKN (Electrical Engineering Honor Society) worldwide

2014   Recognized by *Excelencia in Education* for leading the nationally recognized US Department of Education funded AIMS^2 grant program at CSU Northridge

2012   John Guarrerra Engineering Educator of the Year Award from the Engineers Council

2010   Extraordinary Service Award from the IEEE Student Branch at CSU Northridge

2010   College was recognized by ASEE for having the fastest growing undergraduate engineering program in the US

2009   William B. Johnson International Inter professional Award" for leadership and contributions to the Profession"

2007   Distinguished Alumni Award for Academic Excellence from NITT India

2005   The Sacramento Chapter of the IEEE Lasers and Electro-Optics (LEOS) Society received the "Most Improved Chapter" award from IEEE under my leadership as Chair

2004   IEEE Region 6 Community Service Award for leadership in developing and offering high school teachers workshops to promote engineering education. Region 6 covers the Western US and is the largest region in the US with over 60,000 members

2000   Sacramento Engineering and Technology Regional Consortium Person of the Year

1999   Faculty Merit Increase Award in recognition of contributions to teaching, research and service, CSU Sacramento

1997   Outstanding Faculty Award, Electrical Engineering, CSU Sacramento

1996   Performance Salary Increase Award in recognition of outstanding performance in teaching, research, and service

1993   Outstanding Teaching Award, College of Engineering and Computer Science, CSU Sacramento

1991   Outstanding Faculty Award, Electrical Engineering, CSU Sacramento

1990   Outstanding Faculty Award, Electrical Engineering, CSU Sacramento

1989   Meritorious Performance and Professional Promise Award for Teaching Performance and Curriculum Development, CSU Sacramento

1988   Schmitt Faculty Fellowship Grant to attend the National Communications Forum (NCF 88)

PROFESSIONAL EXPERIENCE

Sep 2017 onward   Director and Lead PI of the AIMS^2 program at CSUN (funded with a $ 5.5 Million grant from USDE, in 2011 followed by a $ 6 Million grant in 2016)

I am transitioning from my role as dean after eleven years to lead this nationally recognized program beginning in September 2017. In September 2016, the multi-institutional grant proposal that I wrote and lead as the Principal Investigator "Bridging the Gap: Enhancing AIMS^2 for Student Success" was selected for funding for a five year $ 6 Million award from the US Department of Education in September 2016. This grant includes three additional community college partners (Moorpark College, LA Pierce College, and LA Mission College) and significantly scales and expands the original grant funded 2011 program and aspires to at least double the number of students served at CSUN to over 500. By way of background I lead the AIMS^2 program as the PI of this $ 5.5 Million USDE supported collaborative grant with Glendale Community College and the College of the Canyons that was awarded in October 2011. This program received national recognition from Excelencia in Education (2014) and the White House Initiative for Educational Excellence for Hispanics as a Bright Spot in Hispanic Education (2015) for its cohort based model and numerous high impact practices including undergraduate research, tutoring, and mentoring. Students from the cohort exhibit higher persistence and graduation rates and the program has helped significantly to close the achievement gaps for underserved minorities in Engineering and Computer Science.

Through careful stewardship we have more than doubled the original number of students that we expected to serve (over 240 students to date). In addition several new faculty members from CSUN are now part of the team from the College of Engineering and Computer Science, the College of Science and Mathematics, and the College of Education. Resources from the grant are being used extensively to support our student success initiatives

Aug 2006 – Aug 2017 Dean, College of Engineering and Computer Science, CSU Northridge

California State University, Northridge's mission is to enable students to realize their educational goals. The University's first priority is to promote the welfare and intellectual progress of students. Serving over 40,000 students each year, in eight academic colleges, CSUN is one of the largest and most diverse universities in the United States and its primary focus is on student success. CSUN is particularly adept at elevating our students and fueling the regional economy. MONEY magazine noted this when they released their rankings of universities that "add value" — showing how our students and alumni outperform their peers and ranking CSUN a top ten "value" in the nation. This is especially noteworthy given the community CSUN serves. CSUN ranks 10th in the nation in awarding bachelor's degrees to underrepresented minority students, fifth nationally in awarding master's degrees to Hispanic students and enrolls the largest number of deaf and hard-of-hearing students of any U.S. state university.

CSUN's 171 academic programs and engaged centers enjoy international recognition for excellence. The university offers accessible educational programs that empower students to pursue their dreams, and in particular careers that relate to science, engineering, and emerging technologies that are vital to our nation's future success. CSUN students reflect the vibrancy and diversity of the region and experience the transformative effects of research and service. We provide students with the high-quality learning they need to succeed as engaged citizens of the 21st century and to thrive in an era of global interconnectedness.

The College of Engineering and Computer Science at CSUN is home to over 4,900 students and has 120 faculty and staff including 68 tenured/tenure track faculty in five departments. It offers nine academic programs at the undergraduate level and nine graduate programs. The undergraduate programs are accredited by the appropriate agencies – ABET and ACCE. The college is renowned for its "hands-on" approach to learning that provides students with several excellent opportunities for undergraduate research and laboratory work, as well as internships and industry experience through our unique Honors Co-Op program.

- Leadership, Vision and Planning

  - Established an annual strategic planning process that actively involves faculty and staff across the college in addressing shared priorities that are aligned with the college's mission and vision. The process inspires continuous improvement since we proactively track and report on the outcomes on an annual basis.
  - Built a strong leadership team at the college level consisting of the Associate Dean, the Department Chairs, the College Manager of Academic Resources, the Manager of our Information Systems group, and the Directors of the Student Services Center, and the Director of Development. This constitutes the College's Administrative Council and meets once a month throughout the year. In addition there are monthly Chairs meetings to focus on issues of importance. Meeting calendars are established at the beginning of the semester to ensure participation.
  - Streamlined budget allocations and monitored spending to ensure accountability. To ensure transparency I have instituted an open and rational process for internal budget allocations which is monitored carefully, and provides incentives to generate "external" funding. We have used this process successfully to distribute annual lottery fund allocations, and O/E budgets.
  - Created a budget model in collaboration with our Administrative Council that provides base support for all the major units in the college (some of which are support services and non-FTE generating) and additional support based on a set of metrics that takes into account the parameters such as program headcounts, student FTES, tenured/tenure track faculty in the case of O/E allocations. Lottery allocations follow campus distribution

guidelines. The bulk of the college budget is in faculty and staff salaries approximately $ 10 Million annually and I have strived to carry forward at least 3 % of our general fund budget (approximately $ 250 K - $ 300 K) on an annual basis.

o Recognized for outstanding leadership in the League of Extraordinary CEO's and profiled in the Business Journal in 2015. The article may be accessed at http://www.bizjournals.com/bizjournals/how-to/growth-strategies/2015/06/league-of-extraordinary-ceos-educator-innovators.html

o Created unique interdisciplinary programs such as the Master's degree program in Assistive Technology Engineering (a Professional Science Master's degree), and revitalized the online Master's degree program in Engineering Management which ranked first in California and fourth in the nation for the degrees awarded in 2012.

o Established a partnership between CSU Chico and CSU Northridge to develop an "Online Master's degree program in Mechatronics". Funded through a grant from the Commission on the Extended University, Office of the Chancellor.

o Worked with colleagues in the College of Education on several ongoing STEM initiatives that address K-16 including the NSF RET program, and the MSTI (Math Science Teacher Initiative) program.

- Promoting Research/Scholarly Activities, Grants and Contracts

  o Recruited 33 tenure-track faculty members in the last five years including 21 since 2014. Of the 21 new faculty members hired since 2014 over 38 % are women.

  o Organized a series of events to orient the new faculty to CSUN including a one on one meeting with the dean, a luncheon with college leaders, and an introduction to the college industry advisory board.

  o Increased the number of research proposals (over 45 annually in the last year) submitted by faculty in the college to government agencies, private foundations and corporations. This has resulted in funded grants and contracts (on the average approximately $ 2.5 M/year since 2011) from agencies including NSF, DOE, DOD, USDE, and private Foundations such as the Keck Foundation, the Helmsley Trust, and the Haas Foundation to name a few.

  o Areas of active funded research include renewable energy, assistive technology engineering, software engineering, robotics, materials engineering, advanced manufacturing, and communication engineering

  o The College has three active interdisciplinary Centers that cut across disciplinary lines and enable faculty and students across CSUN to work collaboratively on research and scholarly activities. I lead the Center for Engineering Education and Research which has a wide array of programs including design clinics, workshops, and research projects funded by grants and contracts and averages over $ 1 Million annually in external funding.

- o The Energy Research Center focuses on research projects in Renewable Energy and Storage Technologies and has successfully organized annual conferences with support from the NSF and DOE to bring together researchers and students to work on contemporary challenges
- o The Schaeffer Center for Innovation and Entrepreneurship enables faculty from our college to work with their colleagues across CSUN on research and curriculum development. The Center received a $ 600 K grant in 2014 from the California Career Pathways Trust to create career pathways in high wage, high growth jobs for K-14 students in Digital Arts, Manufacturing, and Entrepreneurship. The Center also organizes an Annual Art of Innovation Conference in collaboration with several industry partners.

- Enhancing Student Success

  - o Overall enrollment in the college increased by 57 % in the past five years (from 3,158 to 4,942), and freshmen enrollment increased by 45 % (from 542 to 782) making the College the fifth largest college at CSUN.
  - o Recruited an Educational Outreach Coordinator and established a program to attract students to the college. The Accelerated Coursework in Computer science and Engineering for Student Success (ACCESS) program that I established has served over 700 students in 15 area high schools to date allowing them to complete the freshman Introduction to Engineering course for college credit. We have also built a collaborative community of high school teachers who serve as adjunct lab instructors and deliver the course on site in collaboration with CSUN faculty.
  - o Recognized by ASEE in 2010 as the fastest growing undergraduate engineering school in the nation for the 96 % increase in BS degrees awarded between 2005 – 2008: http://www.prism-magazine.org/mar10/databytes.cfm
  - o Established programs to improve student retention through early intervention. The Cooperative Learning Program (CLP) is a walk-in individual or group tutoring program. On an average the program serves approximately 500-600 students every semester. Facilitated Academic Workshops (FAW) is designated for CECS courses that have been designated as at high failure rate courses. Typically we have ten or more active FAW's every semester. The students that participate in these workshops value the opportunity to reinforce the lecture material. Students who participated in tutoring passed their individual courses with a C- or better. The passing rates for students who participate in these structured programs have been over 95 %.
  - o Created a biannual career day event called Tech Fest which is a targeted recruiting and career exploration event that focuses on technical career opportunities for our students, graduates, and alumni. In addition to a recruiting arena, we have concurrent break-out sessions where CSUN alumni from the participating companies present information to

our students on their organization, industry trends, or careers and internships. This event has been running successfully since 2008 and attracts on the average between 35-40 companies every time. For details please see http://www.csun.edu/engineering-computer-science/techfest-information.

o Created a signature event to showcase the Capstone Senior Design projects from our students. Now entering its seventh consecutive year the Senior Design Project Showcase (SDPS) is open to the public and judged by a team of industry experts against rigorous standards and rubrics. Several teams have gone on to win regional, national and international competitions earning honors and underscoring the quality of our academic programs. For details please see http://www.csun.edu/engineering-computer-science/senior-design-project-showcase.

o I am the PI of the $ 6 Million, HSI STEM Grant supported by the US Department of Education, "Bridging the Gap: Enhancing the AIMS2 program for Student Success" at CSU Northridge HSI-STEM initiative to mentor, support and enhance the graduation of Latino/a students and underrepresented minorities in Engineering and Computer Science, September 2016.

o I am the PI of a five-year, $5.5 million HSI STEM grant (2011-2016), from the U.S. Department of Education to implement a program designed to increase the number of low-income, Hispanic and other underrepresented students graduating from CSUN with engineering and computer science majors, September 2011.

o The AIMS² program (for Attract, Inspire, Mentor and Support Students): www.ecs.csun.edu/aims2 is led by CSUN, in partnership with Glendale Community College (GCC) and the College of the Canyons (COC) and has served over 200 transfer students since its inception in January 2012. Students in the cohorts have access to special mentoring and advisement by faculty, tutoring and peer mentoring, social activities, field trips and opportunities to take part in undergraduate research projects. Students in the cohorts recorded higher per-term units completed, per-term and cumulative GPAs, and next-term persistence rates compared to their non-participant student counterparts.

o The AIMS² program was recognized as a Bright Spot in Hispanic Education by the White House Initiative for Educational Excellence for Hispanics (WHIEEH) in 2015.

o The AIMS² program was recognized by Excelencia in Education in during their annual awards ceremony in Washington DC in September 2014. Excelencia in Education is a program that accelerates Latino student success in higher education by providing data-driven analysis of the educational status of Latinos and by promoting education policies and institutional practices that support their academic achievement. A committee of national experts and Excelencia in Education officials selected the college's Attract, Inspire, Mentor and Support Students (AIMS²) program for special recognition from Excelencia. U.S. Representative Tony Cardenas (District 29) personally attended the

celebration to congratulate Dean Ramesh and the program on behalf of the Congressional Hispanic Caucus.

- o AIMS[2] students serve as mentors for students in local K-12 institutions working with teachers and students alike as part of their service learning contribution.

- Building Partnerships and International Collaboration

  - o Collaborated with decanal colleagues at CSUN on several joint projects. In particular I have worked with the College of Education focusing on STEM education, and with the College of Extended Learning to develop new and innovative programs to serve emerging workforce needs and provide additional support for faculty and staff in our college.
  - o Partnered with other units outside Academic Affairs such as Student Affairs, University Advancement, and Business and Administration to support campus wide initiatives. Representative examples include the Alumni Association Cyber Security Event (2015), White House STEM Workshop (2014), Volunteer Leadership Summit (2011) organized by University Advancement, and the Legislative Advocacy Training (2010) sponsored by the Office of Government relations.
  - o I have served in leadership roles on (and continue to serve on) several campus committees including the Strategic Enrollment Management Committee, the Advisory Council for the Center on Disabilities, the Government and Community relations advisory team, and the Advisory Board for the campus institute for sustainability to name a few.
  - o I have served on the system wide Strategic Planning Council of CSUPERB from 2007-2016; the California State University system wide program that promotes education and research in biotechnology. In this capacity I have taken on several leadership roles in organizing the annual symposium and in particular in promoting the work of the bioengineering taskforce.
  - o Established MOU's and partnerships with Universities in India, Austria, Japan, and Germany to promote research and faculty/student exchanges in Assistive Technology Engineering, Entrepreneurship and Innovation.
  - o Lead the steering committee for the LA Clean Tech Incubator initiative at CSUN. LACI was formed in October 2011 as an initiative from the Mayor's Office to attract and promote startups in clean technologies. LACI hosts over 15 start-up companies in Clean Tech at their downtown facility. These companies cover energy management, smart grid, energy storage and renewable energy technologies. Starting in fall 2012 LACI has been working with CSUN to identify and promote promising start-ups involving our faculty and students.

- Faculty Professional Development

- o Improved faculty and staff morale in the college by encouraging open communication between groups in the college and promoting a sense of community through college wide events.
- o Introduced and organized the "Tuesdays@Noon" – research brown bag lunch series in fall 2012 to provide a forum for all faculty members in the college to make presentations on their research interests. This helped increase interactions between the new faculty and colleagues in the college to make them feel at home and explore opportunities for interdisciplinary collaboration. To date over 80 research seminars have been delivered indicating the breadth and scope of the research by our faculty. See http://www.csun.edu/sites/default/files/ECS_BrownBagSeries_Spring_2017.pdf for the most recent seminar schedule. The seminars reflect the work of the faculty through funded research projects, design clinics, and grants and contracts. This led to inter-disciplinary collaborations across departments and other colleges.
- o In addition I have implemented several strategies to support new faculty: 1. Provide start-up funds to new faculty members – on the average $ 25 K/person, 2. Increase the duration of reduced teaching loads from one year to two years, 3. Provide help with teaching techniques through the Center for Innovative and Engaged Learning Opportunities (CIELO), 4. Introduce new faculty to industry, 5. Meet with new faculty individually to discuss research goals and grant proposals, 6. Publicize faculty activities college-wide, 7. Encourage new faculty to develop an individual research plan that includes seeking externally funded grants and contracts, 8. Encourage travel to grant agencies such as the NSF and DOE using start-up funds, and 9. Encourage participation in the campus scholar academy.

- Emphasis on Diversity

  - o CSUN has a strong institutional commitment to increasing participation of Underrepresented Minorities (URM) in STEM serving as the site of the CSU's system-wide program leadership for the first two phases of Louis Stokes Alliance for Minority Participation (LSAMP). Also, in 1968, well before the advent of LSAMP, Dr. Ray Landis, a CSUN Engineering faculty member at that time, established the Minority Engineering Program model at CSUN, a model that eventually spread nationwide.
  - o During my tenure as dean I have emphasized our commitment to diversity and inclusion through nationally recognized programs such as AIMS[2] funded by the US Department of Education that serve underrepresented minorities in engineering and computer science, and by recruiting a diverse and talented group of faculty.
  - o Other programs in the college include the Teaching to Increase Diversity in STEM initiative (or TIDES), funded with a $ 300 K grant from the Helmsley Trust under the auspices of the Association of American Colleges & Universities, and the $ 600 K

grant from the California Career Pathways Trust program to introduce K-14 students to high wage, high growth career fields.

- o The TIDES program uses culturally sensitive pedagogical techniques by using Music to teach computer programming and has significantly improved retention in bottleneck programming courses in just the first year of the grant.
- o Students from the AIMS^2 program have created a web portal for HSI-STEM grantees around the country to collaborate and share best practices. This was highlighted by the USDE in its communications with the Chancellor in December 2014 encouraging inter campus collaboration.
- o As the PI of the HSI-STEM grant at CSUN, I am participating in the 1 year system wide summative evaluation grant from the USDE "Sobresaliendo con Tradiciones de Exito y Motivacion (Sustaining Traditions of Excellence and Motivation)" coordinated by CSU Long Beach.
- o In 2014, I was invited by the White House Office of Science and Technology Policy (OSTP) to host one of the four national White House STEM workshops at CSU Northridge. This very successful workshop was held at CSUN on October 7, 2014 and attracted leaders from academia, government, and industry to discuss efforts to broaden participation in the STEM disciplines, remove barriers, and improve student graduation rates- especially in engineering and computer science. Besides organizing the entire event, I was responsible for organizing and leading a workshop on "Connections to Industry and Careers" – which was a key theme during the College Opportunity Summit hosted by the President and the First Lady on December 4, 2014. Videos from the event may be accessed online at https://www.youtube.com/user/cecscsun

- Faculty Governance

  - o Led the effort to review and revise the College Policy Manual which defines the administrative structure of the college's standing committees and their responsibilities in fall 2009. The standing committees of the College are the Personnel Committee, the Academic Affairs Committee and the Student Affairs Committee.
  - o On the issue of retention, tenure and promotion, all departments in the college are periodically reviewing RTP requirements for tenure and promotion and equivalencies to publication as appropriate. This is important given the CSU system wide mission. In particular, I have emphasized balanced consideration of the contribution towards RTP of the entire gamut of a faculty member's activities, including funded research grants, student outreach, innovative curriculum improvements, curriculum integrated design clinics and performance in specially assigned activities that benefit the University.
  - o Extensive experience with Collective Bargaining agreements involving faculty, staff, and graduate students. Monitor and resolve grievances and ensure a professional and productive working environment in the college that is respectful of everyone.

- University Advancement and Fund Raising

  - Fundraising and development efforts are of paramount importance to the college and its programs given the budget realities that confront us. During my tenure as dean I have helped raise approximately $ 10 Million in philanthropic gifts and contributions to the college.
  - I have nurtured and built a strong industry advisory board at the college level consisting of top executives from leading engineering companies and industry liaison councils at the department/programmatic level consisting of mid-level managers. They represent a diverse range of interests and cover all the disciplines of interest in the college helping raise funds for scholarships and faculty development.
  - The IAB meets face to face biannually and has several smaller standing committees which meet regularly to support the college. In particular the Development and Alumni relations committee has been a strong source of support in our fund raising efforts from companies and corporations who recruit our graduates.
  - Worked closely with our Development Officer and the University Advancement team to pursue, cultivate, and steward prospective donors that lead to significant philanthropic contributions to the college.
  - Raised over $ 200 K annually to be distributed for student scholarships across the college.

- Outreach and Community Engagement

  - Built connections with the technical and professional community during my tenure as dean. This has opened up new opportunities for our students, and faculty.
  - Chair, Workforce Development Group, California Regional Manufacturing Center of CESMII (Clean Energy Smart Manufacturing Innovation Institute) funded with a $ 70 Million national grant by the US Department of Energy in 2016 and headed by UCLA.
  - Recognized as a Core University Partner by Northrop Grumman Corporation in 2013 and a partner university by Aerojet-Rocketdyne, and Boston Scientific in 2012.
  - Served on the IEEE Educational Activities Board since 2007 in a variety of leadership roles. I chaired the Pre-University Committee leading signature programs such as the Teacher-In Service Program (TISP) and Engineering Projects in Community Service (EPICS) around the world. Recently I have led workshops in Puebla, Mexico (2014), Coimbatore, India (2015), and Bogota, Colombia (2015).
  - Re-Elected to serve as 2017 IEEE Vice President for Educational Activities and the 2017 IEEE Board of Directors in November 2016.
  - Elected to serve as 2016 IEEE Vice President for Educational Activities responsible for IEEE's Educational Programs and Services worldwide spanning the gamut from pre-university education, university education and accreditation, and continuing education.

Lead the IEEE EAB through a strategic planning and prioritization process that resulted in restructuring Educational Activities (staff and volunteer committees) to focus on the areas of highest priority.

- o Serve on the [2016 IEEE Board of Directors](#) and chair the 2016 IEEE Educational Activities Board. The IEEE is a 501 c (3) nonprofit corporation with assets of approximately $ 500 Million. The key to the long-standing impact that IEEE has made in the world is our members' ability to connect technology with ideas to benefit humanity. That means taking innovations from concepts to applications to help people enjoy a better life.
- o Elected to serve on the Board of Governors of the Electrical Engineering Honor Society ([IEEE-HKN](#)) for three years beginning in 2012 representing the Western US and in 2015 was elected as the [President of the Society for 2016](#). IEEE-HKN was established in 1904 and has over 200 chapters around the world. These activities continue to elevate CSUN's visibility and profile to audiences nationally and internationally and are invaluable to our programs. During my tenure as President I lead the Board of Governors to develop a strategic plan focusing on our highest priorities that include financial stability, and improved visibility and outreach. Responsible for identifying and establishing several new Chapters including three Chapters overseas.
- o CSUN is a signatory to the White House Maker Faire movement due to my leadership role on the University Alliance Partnership to promote Manufacturing in collaboration with over 150 schools around the US. I have made several invited presentations about our work at regional, national and international meetings including the Higher Ed Maker Faire Summit at ASU, the LAEDC Jobs Defense Council, and the Governor's Office.
- o Served on the organizing committee for the Intel International Science and Engineering Fair (ISEF) that features over 1500 participants from 65 countries and was held in Los Angeles in February 2011 and returned to LA in May 2015. I helped recruit judges for the event from across the CSU system and several students and faculty from our college participated as mentors.
- o Worked with the CSU Chancellor's Office to engage faculty from our College in Service Learning through the system wide Keck Service Learning (SL) grant.

- Management

  - o The College's rapid growth in the past five years has posed challenges in terms of space. By having open channels of communication we have been able to resolve the challenges as they arise and continue to serve our students, faculty and programs.
  - o During my first semester on the job, I helped resolve long standing pending space issues within the college by finding collaborative solutions working with an ad-hoc committee of faculty and staff, resulting in multi-purpose facilities with improved utilization. The

College-wide open computing laboratory is a great example of this collaboration and has now been in existence for over nine years.

- Accreditation (Institutional and Programmatic)

  o Led the college and its programs through two successful accreditation reviews by ABET in 2007 and 2013 respectively.
  o Led the development of new BS degree programs in Computer Information Technology and Engineering Management that are currently under review for ABET accreditation.
  o Led the Construction Management Program through two successful accreditation visits in 2010 and 2015.
  o Served on the CSUN sub-committee that worked on the "Student Success through Engagement in Learning" theme and wrote a portion of the Educational Effectiveness Review report (EER) that led to CSUN's successful WASC reaccreditation in 2012.
  o Elected to serve as one of the IEEE representatives to the ABET Board of Directors in 2013. ABET accredits over 3,500 programs worldwide including over 600 outside the US. Presently serve on the Global Council of ABET and the Governance Committee. Earlier I served on the Governance Task Force (GSTF3) where my sub-committee worked on metrics of restructuring related to the proposal to revise the ABET Constitution and Bylaws.
  o I serve ABET as a program evaluator representing IEEE and have performed several accreditation site visits.
  o Delivered several invited presentations, workshops, and plenaries on outcomes based education worldwide; most recently during ICACIT 2015 and ICACIT 2014 in Lima, Peru, and ICTIEE 2015 in Bangalore, India.
  o Reappointed by IEEE to a 3 year term on the new Board of Delegates to represent Engineering and Technology in October 2015. IEEE with over 800 ABET accredited engineering and engineering technology programs is the largest member society within ABET.

Special Assistant to the Vice President for Academic Affairs, California State University, Sacramento: 2004 – 2006:

Provided continuing leadership for University Initiative on Information Technology, and Vice President for Academic Affairs Dr. Ric Brown and his team, with a priority on the promotion of faculty to engage in applied, sponsored research and contracts. Served on the Boards of the Sacramento Regional Technology Alliance (SARTA), and McClellan Technology Incubator representing California State University, Sacramento.

- Key Accomplishments

- o Worked with SARTA to develop and implement an Internship Program to assist startups in the region.
- o Worked with Industries in the area to showcase CSUS capabilities in IT and explore potential opportunities for collaboration.
- o Helped create Power Up – a competition under the auspices of Clean Start (www.cleanstart.org) to establish renewable energy companies in the Sacramento region. During the last decade Clean Start has led the establishment of over 100 companies in the Sacramento region that are active in research and development in the area of renewable energy technologies.

Special Assistant to the President, California State University, Sacramento: 2003 – 2004:

- o In this role I assisted President Don Gerth and his team on an Informational Technology Initiative. The primary goal of the Information Technology Initiative at CSUS was to showcase CSUS capacity in information technology. The major audience was regional business. The effort was intended to increase visibility and provide a cohesive image of CSUS strengths in the IT arena.

Department Chair, Electrical and Electronic Engineering, California State University, Sacramento: August 1994 – August 2006:

The Department had eighteen tenure track/tenured faculty and over 500 students including 200 students in the Master's Program. In addition we offered a Computer Engineering program that was jointly supported by the Departments of Electrical & Electronic Engineering and Computer Science. The undergraduate programs in Electrical Engineering and Computer Engineering are accredited by the Engineering Accreditation Commission of ABET. I was responsible for the administration of the department and all our programs and lead the programs through two successful ABET accreditation reviews during my tenure as Chair in 1997 and 2003.

Key Accomplishments:

- o Established close relationships with local community colleges and feeder schools to support the program.
- o Led the effort to comprehensively revise the curriculum and elective course offerings in Electrical and Electronics Engineering (EEE)
- o Supported and implemented a new Master's degree program in Computer Engineering.
- o Led the effort to implement a comprehensive outcomes assessment plan for our program. The results were used to make improvements to our program and provide students with an educational program of outstanding quality.

- o Helped recruit new faculty in the critical areas of Control Systems, Analog Electronic Circuit Design, Signal Processing and Wireless Communications and supported faculty research initiatives in emerging new areas: Semiconductor Device Fabrication, Robotics, Power Electronics, Signal Processing and Communication Systems. EEE faculty members have received significant research funding during my tenure as Chair (approximately $ 2 Million).
- o Helped develop a faculty workload plan to guide and assist the faculty and enable the department to achieve its objectives (implemented beginning with the spring 2002 semester)
- o Established strong liaison programs and partnerships with employers of our graduates and alumni. This resulted in extensive support for the department in terms of scholarships for students, faculty internships and equipment grants.
- o Strongly supported Distance and Distributed Educational (DDE) Initiatives to improve access and visibility for our programs in the professional scientific and engineering community. I personally taught a graduate class on Fiber Optic Communications on Cable TV and complemented it with WebCT. Other EEE faculty members taught courses on Circuits, Wireless Communications and Microprocessors through the DDE program.
- o Led the effort to develop an interdisciplinary "Introduction to Engineering" course in the College. This became an integral part of our outreach program to the high schools in our community. Qualified high school seniors can complete the course through the Accelerated College Entrance (ACE) program. I also helped develop and offer hands-on workshops for high school teachers (1998-2002), with the help of the Sacramento Engineering and Technology Regional Consortium and the Capital Center MESA program and faculty and students from all the departments in our College. Other groups in California such as the San Diego Section of IEEE and the Oakland East Bay Section of IEEE adopted our model for in service training for high school teachers.

Graduate Program Coordinator, Department of Electrical and Electronic Engineering, California State University, Sacramento: May 1991 – August 1994

- o Responsible for the administration of the Master's Degree Program in Electrical & Electronic Engineering, evaluation of applications for admission, student advising and Coordination of the Department Graduate Committee.
- o Recruited highly qualified students to the program and doubled the enrollment from approximately 80 students to over 150 students during my tenure as the program coordinator.
- o Led the effort to revise our Graduate Curriculum with industry input and implemented new core requirements
- o Created a new course on Research Methodology (EEE 201) to support graduate students pursuing the thesis/project options.

PUBLICATIONS (Refereed)

- S. K. Ramesh, "2012 IEEE Educational Activities Board Awards", **IEEE Transactions on Education, Pages 252-258, Vol. 56, No.2, May 2013**
- S. K. Ramesh, "Interdisciplinary and Integrative-Engineering Education for a Changing World", **Proceedings of IEDEC 2013**, Santa Clara, CA, March 05, 2013
- S. K. Ramesh, "2011 IEEE Educational Activities Board Awards", **IEEE Transactions on Education**, Pages 299-304, Vol. 55, No.2, May 2012
- Milica Markovic and S. K. Ramesh, "Topical Assessment of Student Learning Outcomes", **Proceedings of the Best Assessment Processes Symposium VIII**, Rose-Hulman Institute of Technology, February 2006.
- Milica Markovic, Jing Pang, Tom Matthews, JP Bayard, Dave Margolis, Pradeep Setlur, and S. K. Ramesh, "Work in Progress- Area Level Assessment Process", **Proceedings of the 35th IEEE Frontiers in Education Conference**, Session T3-C, Pages T3C 1 -2, Indianapolis, October 2005.
- S. K. Ramesh, Rosemary Papalewis, Ric Brown and Jim Fritch, "Power up Your Classroom," **Proceedings of Deans Summit II: Fostering Campus Collaborations, IEEE Educational Activities Board**, Miami, January 10, 2003.
- S. K. Ramesh, Andrew Lindsay, and Michael J. Fujita, "Experiments from Optical Engineering and Robotics for a pre-engineering program", **Proceedings of the 31st IEEE Frontiers in Education Conference**, Session T2A, Pages T2E-5-10, Reno, October 2001.
- S. K. Ramesh and Cici Mattiuzzi, "Closing the loop: Industry Site Visits for Program Outcomes Assessment", **Proceedings of the 31st IEEE Frontiers in Education Conference**, Session T2A, Pages T2A7-10, Reno, October 2001.
- S. K. Ramesh, Michael J. Fujita, Preetham Kumar, Andrew Lindsay, Steven de Haas and Elizabeth-Gillis Raley, "An Interactive Workshop for High School Teachers to Develop and Teach Pre-Engineering Curricula," Session 2793, **Proceedings of the 2001 ASEE Annual Conference and Exposition**, Albuquerque, NM, June 2001
- Eric Matsumoto, John Johnston, Ed Dammel, and S. K. Ramesh, "A Simple Beam Test: Motivating High School Teachers to develop Pre-Engineering Curricula", **Proceedings of the 2001 ASEE Annual Conference and Exposition**, Albuquerque, NM, June 2001
- S. K. Ramesh, "Introduction to Engineering: Attract Students and Strengthen the Pipeline", **Proceedings of the IEEE Frontiers in Education Conference**, Session 13d7-1, ISBN 0-7803-5643-8/99, FIE'99, November 12th.
- S. K. Ramesh and Kuo-Chu Wong, "Design and Fabrication of a Fiber Bragg Grating Temperature Sensor", **Proceedings of the SPIE Conference on Integrated Optic Devices III**, Conference Paper #3620-43, December 1998
- S. K. Ramesh, "The Optical Engineering Curriculum at CSUS", **Proceedings of the IEEE Frontiers in Education Conference**, pp. 444 - 447, San Jose, CA, November 5, 1994.

- S. K. Ramesh, "Enhancement of the Optical Engineering Curriculum at CSUS through the Sacramento Technology Coalition (STC)", **Proceedings of the 1994 ASEE/PSW Conference, Sacramento**, CA, October 7, 1994.
- S. K. Ramesh and Michael Fujita, "Relative Intensity Noise Reduction in an RF Fiber Optic Link", **Proceedings of the IEEE LEOS Annual Meeting, LEOS 91 Conference Digest**, pp.17, San Jose, CA, November 5, 1991.
- S. K. Ramesh and Thomas D. Smith, "Design and Evaluation of Optical Switching Architectures", **Proceedings of SPIE's OE/Aerospace Sensing Conference on Electro-Optics and Signal Processing**, Vol. 1474, April 1-5, 1991.
- S. K. Ramesh and Hung Phuong, "Spectrally Efficient Optical Communication Systems", **Proceedings of the IEEE Pacific Rim Conference on Computers, Communications and Signal Processing**, pp. 91-94, Vol.1, May 9, 1991.
- S. K. Ramesh and M. A. Wright, "A Novel Circuit Model of a Traveling Wave Optical Amplifier," **Proceedings of the IEEE Conference on Lasers and Electro-Optics**, pp.131, October l989.
- S. K. Ramesh, "Optical Amplifiers in Lightwave Systems," **Proceedings of the University Association of Research Scholars**, CSUS, October l989.
- S. K. Ramesh, "Optical Communications," **Proceedings of the University Association of Research Scholars**, CSUS, March l988.
- S. K. Ramesh and C.A. Goben, "Laser Modeling and System Design Issues in Long Haul Coherent Optical Communications," **Proceedings of MONTECH '86, IEEE Conference on Antennas and Communications**, pp. 289-293, September 1986.
- S. K. Ramesh and C. A. Goben, "Receiver Modeling for Coherent Lightwave Communications," **Proceedings of SPIE, Society of Photo Optical and Instrumentation Engineers, Conference on High Frequency Optical Communications**, Vol. 716, pp. 148-152, September l986.
- S. K. Ramesh and C. A. Goben, "Solitons in Coherent Lightwave Communications," **Proceedings of the 29th Midwest Symposium on Circuits and Systems**, pp. 60-62, El Sevier Science Publishing Company, l987.
- S. K. Ramesh, V. Aalo and C. A. Goben, "Dolph Chebyshev Technique to Control Far Field Lobe Widths of Phase Locked Injection Laser Arrays," **Proceedings of ICALEO '85, International Congress on the Applications of Laser and Electro-Optics**, February 1986.
- S. K. Ramesh, C. A. Goben, V. Aalo and O.Ugweje, "Modeling and Evaluation of Intersymbol Interference (ISI) in Coherent Optical Communications," **Proceedings of SPIE**, Vol. 586, pp. 32-40, August l985.
- S. K. Ramesh, "Characterization and Evaluation of Intersymbol Interference (ISI) in Digital Fiber Optic Communications, **Proceedings of ICALEO '84**, Vol 46, p. 10-17, February l985.

BOOKS/BOOK CHAPTERS

- S. K. Ramesh and Herb Tanzer, "Design and Performance of a Lightwave Data Storage Network using computer analysis and simulation", Invited Chapter (57 pages) in **Optical Switching/ Networking and Computing for Multimedia Systems**, Marcel Dekker Publishing, ISBN 0-8247-0707-9, 2002, Editors: Mohsen Guizani, and Abdella Battou.

RESEARCH REPORTS

- S. K. Ramesh, "Bridging the Gap: Enhancing AIMS^2 for Student Success", **US Department of Education**, Mid-Year Report, Year 1, April 2017.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Annual Report, Year 5, January 2017.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Annual Report, Year 4, January 2016.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Annual Report, Year 3, January 2015.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Annual Report, Year 2, December 2013.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Annual Report, Year 1, December 2012.
- S. K. Ramesh, "CSU Northridge Engineering and Computer Science HSI-STEM initiative", **US Department of Education**, Mid-Year Report, Year 1, April 2012.
- S. K. Ramesh, "Integrating LabVIEW and GPIB in the new Electronics Laboratory", Faculty Professional Development Mini Grant, **CSU Sacramento Pedagogy Enhancement Program**, Final report, August 1998.
- S. K. Ramesh, "Coherent Lightwave transceivers using low power laser diodes", **CSU Sacramento Research Awards Program**, Final report, September 1995.
- S. K. Ramesh, "Omnidirectional Optical data communication system", **CSU Sacramento Research Awards Program**, Final report, September 1994.
- S. K. Ramesh, "Broadband Lightwave Video Transmission" **CSU Sacramento Office of Research and Sponsored Projects Final report**, September 1993.
- S. K. Ramesh, "Laboratories in Electro-Optical Engineering and Fiber Optic Devices and Applications at CSUS", **National Science Foundation Instrumentation and Laboratory Improvement Program,** Final Report, September 1992.
- S. K. Ramesh, "Spatial Filtering for High Performance Laser Profilometers", **CSU Sacramento Summer Fellowship Program**, CSU Sacramento, Final report, September 92.
- S. K. Ramesh, "Design of Phase Locked Loops (PLL's) for Binary FSK Lightwave Communication Systems", **CSU Sacramento Office of Research and Sponsored Projects**, Final Report, September 92.

- S. K. Ramesh, "Optical Distance Measurement for Accurate Road Surface Characterization: A Feasibility Study", Final Report, **California Department of Transportation**, CALTRANS Office of New Technology and Research, September 1991.
- S. K. Ramesh, "Novel Switching Architectures for Optical Computing", **CSU Sacramento Office of Research and Sponsored Projects Final Report**, Grant #6287, Hornet Foundation, CSUS, August 1990.
- S. K. Ramesh, "Spectrally Efficient Modulation Schemes for High Data Rate Coherent Optical Communications", Final Report, **CSU Sacramento Summer Fellowship Grant**, August 1990.
- S. K. Ramesh, "Design of Optical Repeaters for Coherent Lightwave Communication Systems", **CSU Sacramento Office of Research and Sponsored Projects,** Final Report, Grant #6259, Hornet Foundation, CSUS, August 1989.
- S. K. Ramesh, "Characterization and Performance Evaluation of Digital Lightwave Communication Systems", **Southern Illinois University Carbondale, Office of Research and Development Administration**, ORDA Special Research Program Progress Report #2-11533, SIU Carbondale, July 1986.

PRESENTATIONS, INVITED ARTICLES, AND POSTERS (Selected from past ten years)

- "EPICS in IEEE: Working Off Grid", Invited Article in Renewable Energy World, November 2016.
- "The State of Engineering Education Worldwide", Interviewed by Kathy Pretz for the IEEE Institute, September 2016.
- "URM Retention- The AIMS^2 Program at CSU Northridge", Panel on Diversity and Inclusion, Engineering Deans Institute, National Engineering Deans Meeting, ASEE, Engineering Deans Institute, Presented March 31, 2016, San Francisco, https://peer.asee.org/27396
- "CSU Northridge Initiatives in Advanced Manufacturing, Entrepreneurship, and Innovation", Invited presentation at International Conference Enabling Make in India, January 7, 2016.
- "The AIMS^2 program", Invited workshop at the Computing Alliance of Hispanic Serving Institutions CAHSI Summit, San Juan, Puerto Rico, September 12, 2015. Co-presenters: Jan Swinton, Glendale Community College, Gloria Melara and Vidya Nandikolla, California State University, Northridge.
- "Developing good Program Educational Objectives (PEO's)" and "Assessing Soft Skills": Conducted Two Invited Workshops attended by University Administrators and Faculty from across Latin America, ICACIT 2015 Lima, Peru, September 3, 2015.
- "IEEE Pre-University Education Programs and IEEE Teacher In-Service Program Workshop, Bogota, Colombia, July 31-August 1, 2015.
- "Globalization in Engineering", Invited Keynote Address, IEEE Humanitarian Technology Conference, IHTC 2015, Ottawa, Canada, June 3, 2015.

- "Outcomes Based Education – Implementing your Outcomes Assessment to meet NBA criteria", Conducted 4 hour workshop at Kumaraguru College of Technology, Coimbatore, India, January 12, 2015.
- "Global Attributes of Engineers", Conducted 3 hour workshop during ICTIEE 2015 – Second International Conference on Transformations in Engineering Education, Bangalore, India, January 3-5, 2015.
- "Governance and Leadership", Conducted 3 hour workshop and was an invited panelist on the plenary session during ICTIEE 2015 – Second International Conference on Transformations in Engineering Education, Bangalore, India, January 3-5, 2015.
- "Outcomes Based Education", Chaired Plenary Session during ICTIEE 2015 – Second International Conference on Transformations in Engineering Education, Bangalore, India, January 3-5, 2015.
- "Advanced Manufacturing, Entrepreneurship, and Innovation", LA Economic Development Corporation, Jobs Defense Council, December 17, 2014.
- "IEEE Pre-University Education Programs and IEEE Teacher In-Service Program Workshop, Puebla, Mexico, November 7-8, 2014
- Invited Panelist, "From Consumer to Creator: Integrating Making into Existing Curricula", Higher Ed Maker Faire Summit, Arizona State University, October 23-24, 2014.
- White House STEM Workshop, Organized and hosted this signature event at CSUN (one of the four nationwide) with support from the Leona M. and Harry B. Helmsley Trust and the White House Office of Science and Technology, October 7, 2014.
- "Building effective processes of continuous improvement based on Student Outcomes assessment", and "Student Outcomes Assessment in Capstone Projects" - Conducted day long workshop at ICACIT 2014, Lima, Peru, September 3-4, 2014.
- "Recognize and Promote Academic Excellence with your IEEE-HKN Chapter", "The IEEE EAB Awards Program", "EPICS In IEEE And TISP: Two Key Programs That Impact Your Local Community and Pre-University Educators", Invited Presentations at IEEE's Triennial Sections Congress, IEEE SC 2014, Amsterdam, August 22-24, 2014.
- "Research, Education, and Outreach in Renewable Energy, Sustainability and Humanitarian Technology", Invited Keynote Address at 1 Day Workshop on Research Opportunities in Embedded Systems, Internet of Things and Smart Environments, Solarillion Foundation, India, July 31, 2014.
- "TIDES: Teaching to Increase Diversity and Equity in STEM", AAC&U Workshop for Grantee Institutions, George Washington University, Washington D.C., July 8-12, 2014.
- "Entrepreneurship and Innovation" Keynote address, 2nd Annual Art of Innovation Conference, CSUN, June 20, 2014.
- "Improving Your Business through Innovative Research & Development: CSUN's Capabilities in Advanced Manufacturing, Software Engineering and Renewable Energy", LA Economic Development Corporation, Los Angeles, October 2013.
- Student Outcomes Assessment, IUCEE Virtual Academy Webinar, September 2013.

- o Workshop on Assistive Technology Engineering, IEEE International Conference on Intelligent Interactive Systems for Assistive Technologies, Kumaraguru College of Technology, Coimbatore, India, August 2013
- o "CREST 2013", Welcome Address at the 2nd Annual Conference on Renewable Energy and Storage Technologies, CSU Northridge, May 04, 2013.
- o 2013 IEEE-HKN Student Leadership Conference "Individual Growth and Professional Development", Training Workshop for Chapter Officers, March 16, 2013
- o "KCSN Conversations on STEM majors", an interview on the importance of engineering and computer science, Aired March 10, 2013.
- o "Interdisciplinary and Integrative-Engineering Education for a Changing World", Keynote Address at IEDEC 2013, Proceedings of IEDEC 2013, Santa Clara, CA, March 05, 2013
- o "Energy Research and Assistive Technology Engineering", Keynote address, PROBE 2013, National Institute of Technology, Trichy, India, February 23, 2013
- o "Engineering for a changing world", IEEE Engineering Careers Conference, Keynote Address, Los Angeles, February 9, 2013.
- o "Implications of New Developments in Robotics for the Regional Economy", Invited Presentation at Executive Breakfast Series, ELEVATE, CSUN, Nov 2012.
- o "The Changing Face of Engineering – Projects that Inspire and Energize the Next Generation of Engineers", Invited Presentation, CSUN Foundation Board of Directors, Oct 2012
- o "Preparing for STEM Majors", CSU System wide Counselors Conference, Pasadena, Oct 2012
- o Fall 2012 Invited Presentations online through IUCEE Virtual Academy : Communication Engineering (Sep 6), Energy Research (Sep 13), Assistive Technology Engineering (Sep 20), Globalization in Engineering (Sep 27), Optical Engineering (Oct 4), Student Outcomes Assessment for Program Improvement in Electrical Engineering (Oct 11)
- o "Communications Engineering", Taught a MOOC consisting of 10 lectures, IUCEE, Jan-Mar 2012. The webinars and course materials are archived and freely available to members of the IUCEE consortium colleges.
- o "The AIMS^2 program", Session on Working with Community Colleges, National Engineering Deans Institute, Kauai, April 2012
- o "Energy Research, Sustainability and the Smart Grid", Keynote address at ITM Technovision 2012 Conference, March 17, 2012
- o "Optical Engineering and Fiber Optic Communications", IUCEE Virtual Academy, Oct 2011
- o "Perspectives on the Globalization of Engineering", Keynote, IEEE SFV Annual Banquet, Dec 2010
- o "Energy Research, Sustainability and the Smart Grid," Invited Presentation with Profs. Osorno and Johari, Annual Convention of ASEI, Anaheim, September 2010

- o "Research in Assistive Technology", Co-authored with Prof. C.T. Lin, and "Energy Research at CSUN", Co-authored with Profs. Hamid Johari, Bruno Osorno, and Shoeleh Di Julio, Posters at NSF Grand Challenges Summit, University of Texas, El Paso, February 2010
- o "Panel on Workforce Issues", Invited Presentation, Chair: Lt. Governor John Garamendi, February 2009
- o "Globalization and Design Automation", Keynote address at Northrop Grumman Design Automation Summit, September 2008.

GRANTS/CONTRACTS (EXTERNAL)

- o Champion, "**IEEE Summer Camps**", Funded by a $ 116,000 grant from the IEEE New Initiatives Committee for 2017 and continuation funding in the amount of $ 240,000 for Year 2. This proposal aims to co-develop the curriculum for "pre-engineering camps" designed for high school students interested in pursuing engineering. IEEE would also assist in the marketing of the camps to IEEE members, November 2017.
- o Champion, "**IEEE Learning Network**", Funded by a $ 732,000 grant from the IEEE New Initiatives Committee for 2017 and continuation funding in the same amount for Year 2 pending results. The IEEE Learning Network is intended as a one-stop single site for all continuing education products from across the Institute. Currently, there is neither a common platform for these offerings, nor any easy way for members and customers to find and register for IEEE courses. The IEEE Learning Network will provide that common platform. The IEEE Learning Network will give Operating Units like societies, conferences, IEEE-USA, etc., a common platform on which to place their webinars, self-study courses, MOOCs, registration for live offerings and more. In addition, it will provide Operating Units an e-tailing web site on which to make their products discoverable and purchasable, while benefiting members and customers by creating a one-stop shop for all IEEE continuing education, November 2016.
- o Principal Investigator, "Bridging the Gap: Enhancing the AIMS^2 program for Student Success" 5 Year, $ 6 Million grant funded by the **United States Department of Education** FY 2016 Title III, Part F, Hispanic-Serving Institutions (HSI) STEM and Articulation Programs five-year grant, Award Number P031C110053, CFDA Number 84.031C.
- o Co-Principal Investigator, "Sobresaliendo con Tradiciones de Exito y Motivacion (Sustaining Traditions of Excellence and Motivation)", Summative Evaluation Grant of CSU system wide HSI STEM Initiative Funded programs, **US Department of Education**, $ 40,000, Coordinated by CSU Long Beach, September 2015. PI: Prof. Nathan Durdella, CSUN.
- o Principal Investigator, The AIMS^2 program (www.ecs.csun.edu/aims2) CSU, Northridge Engineering and Computer Science HSI-STEM Initiative, 5 Year, $ 5.5 Million grant funded by the **United States Department of Education** FY 2011 Title III, Part F, Hispanic-

Serving Institutions (HSI) STEM and Articulation Programs cooperative arrangement development five-year grant, Award Number P031C110031, CFDA Number 84.031C.

o Principal Investigator, "IEEE Exhibits Program Strategic Summit", **IEEE Foundation** Grant #2014-082FF, $ 30,000, December 2014.

o "EEE Graduate Computing Laboratory and Infrastructure", **INTEL Corporation** Public Affairs Higher Education Grant, 12 High speed workstations and seed funding for the development of a novel IA based microprocessor curriculum, $ 43,000, March 2006.

o "DMEA-Equipment Donation to Clean Room and Optical Engineering Labs", **Defense Micro-Electronics Activity**, $ 200,000 (estimated value), March 2006

o "DMEA-Equipment Donation to Optical Engineering and Mixed Signal Design Labs", **Defense Micro-Electronics Activity**, $ 167,000 (estimated value), March 2005.

o "EEE Development Fund- **INTEL** Folsom Contribution for IEEE IEL Online Subscription", $ 2,000, February 2005.

o "DMEA-Educational Partnership Agreement" $ 1 Million worth of equipment was donated to the Optical Engineering lab and the clean room at CSUS, **Defense Micro-Electronics Activity**, April 20, 2000.

o "INTEL/Level One Scholarship for EEE Students", $ 12,000 (renewal), **INTEL Corporation**, August 2002.

o "Electronics Lab Upgrade"- Co-PI for grant sponsored by **Agilent Corporation**, $ 100,000, Feb 2001, Dr. Tom Matthews (PI).

o "Level One Scholarship for EEE Students", $ 24,000, **Level One Communications**, January 1999.

o "Equipment Support for Advanced Analog IC Design Laboratory", **Level One Communications**, $ 6,000 Cash Grant, January 1999.

o "EDA and DSP Software Tools", **Cadence University Alliance Program**, 1998.

o Principal Investigator, "A proposal to establish a dedicated Digital Signal Processing Laboratory at CSUS", **Hewlett Packard University Grants Program**. Co-PI: Dr. Preetham B. Kumar. Status: Funded with $ 148,610 in equipment, March 30, 1998.

o Principal Investigator, "Upgrading the Electronics Lab at CSUS", **Hewlett Packard Foundation**, Awarded $ 78,640 equipment grant in June 1996.

o "Equipment Grant from Tektronix Inc.," Test Instrumentation worth $ 10,000, **Tektronix Inc.,** April 1995.

o "Equipment Grant from ERTHCO, Inc.," Airfloat table, Argon laser and accessories worth $ 14,500, **ERTHCO Inc.,** October 1994

o Principal Investigator, "Proposal for Laser Beam Analyzer, $ 5,000 grant awarded by **SPIRICON Inc**., August 1993.

o Principal Investigator, "Binary FSK Lightwave Communication Systems," Equipment Grant from **ILX Lightwave Corporation**, $ 5,000, July 1992.

o Principal Investigator, "Optical Distance Measurement for Accurate Road Surface Characterization: A Feasibility Study," Contract 65Q347, **CALTRANS Office of New Technology and Research**, September 1991. Grant amount: $ 13,798.

- o Equipment Grant from Grass Valley Group of 53 Semiconductor Lasers (1300 nm) for Fiber Optics Laboratory (Valued at $10,000), **Grass Valley Group**, March 1991.
- o Principal Investigator, "Laboratories in Electro-Optical Engineering and Fiber Optic Devices and Applications at CSUS," Funded by the **National Science Foundation** (NSF) under the Instrumentation and Laboratory Improvement Program (ILI). Grant # 9051859. Award Period: 1990 - 92; Amount: $60,000
- o Principal Investigator, Compatibility Specifications for Automatic Vehicle Identification Equipment, **CALTRANS Office of New Technology**, December 1990
- o Equipment Grant from Newport Corporation of Mirror Mounts for Optical Engineering Laboratory (Valued at $2,500), **Newport Corporation**, November 1989.

GRANTS/CONTRACTS (INTERNAL)

- o "Integrating LabVIEW and GPIB in the new Electronics Laboratory", Faculty Professional Development Mini Grant, CSU Sacramento Pedagogy Enhancement Program, 3 units assigned time, plus $ 500 in student assistant support, 1997-98.
- o "Coherent lightwave transceivers using low power laser diodes" Research Awards Program (1994-95), CSU Sacramento. Reassigned time: 6 units. Monetary grant: $ 1,480.
- o "Omnidirectional Optical data communication system" Research Awards Program, CSU Sacramento (1993-94). Reassigned time: 6 units. Monetary grant: $ 1,480.
- o "Broadband Lightwave Video Transmission", Office of Research and Sponsored Projects, CSU Sacramento (1992-93). Assigned time: 6 units; Student Assistant: $1472
- o "Design of Phase Locked Loops (PLL's) for Binary FSK Lightwave Communication Systems", Office of Research and Sponsored Projects, CSU Sacramento (1991-92). Assigned time: 6 units; Student Assistant: $1480
- o "Spatial Filtering for High Performance Laser Profilometers", 1992 Summer Fellowship Program, CSU Sacramento, Duration: 2 months
- o "Distortion Prediction and Evaluation in RF Fiber Optic Links", Office of Research and Sponsored Projects (ORSP), CSU Sacramento (1990-91). Reassigned time: 6 units; Student Assistant: $1479
- o "Spectrally efficient modulation schemes for high data rate coherent lightwave communication systems", 1990 summer fellowship program, CSU Sacramento, May l990. Duration: 2 Months.
- o "Novel switching architectures for digital optical computing", Office of Research and Sponsored Projects (ORSP), CSU Sacramento (l989-90). Reassigned time: 6 units; Student Assistant: $1480
- o "Design of optical repeaters for coherent lightwave communication systems", Office of Research and Sponsored Projects (ORSP), CSU Sacramento (l988-89). Reassigned time: 6 units; Student Assistant: $ 739

PROFESSIONAL SERVICE

- IEEE Board of Directors, (2016 – present)
- ABET Board of Delegates, (2016- 2018)
- ABET Board of Directors, (2013- 2015)
- Engineering Accreditation Commission of ABET Program Evaluator in Electrical Engineering representing IEEE, 2010-present
- Member, Deans Advisory Council, Center for Translational Applications of Multiferroic Nanoscale Systems, (2012 – present)
- Member, Strategic Planning Council, CSUPERB, CSU system wide program to promote biotechnology (2007 – 2016).
- Member, Program planning committee, National Engineering Deans Institute (EDI) 2011-2012. Chaired panel discussions on Global Competitiveness, and K-12 outreach at the annual meetings
- Member of the Indo-US Collaboration for Engineering Education and selected as program faculty (US Expert) in Electrical Engineering
- Board of Directors, SFV Engineers Council, and Chair Awards Committee, 2008-2010
- Coordinator, LA Clean Tech Incubator Steering Committee, (2013- 2015)
- Search and Screen Committee for Dean of the College of Business, CSU Northridge (2013)
- Member, Honorary Degree Screening Committee, 2015 – present
- Member, Academic Technology Committee (ACAT), 2012-13
- Member, Performance review of VP for Information Technology, CSUN, 2011
- Member, Advisory Council, Center on Disabilities, CSUN, 2009-present
- Member, Advisory Board, Institute for Sustainability, CSUN, 2010-present
- Member, WASC Committee on Theme 1: Student Engagement and Learning, CSUN, 2008-2011
- Member, Strategic Enrollment Management Committee, CSUN, 2007-present
- Member, Government and Community Relations Advisory Team, CSUN, 2009-present

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

- Fellow IEEE (Photonics, and Education)
- IEEE-HKN (Electrical Engineering Honor Society)
- SIGMA XI (Scientific Research Society)
- PHI BETA DELTA (Honor Society for International Scholars)
- ASEE (American Society for Engineering Education)

OFFICES HELD (IEEE)

- President, IEEE-HKN (2016)
- Past-President, IEEE-HKN (2017)

- Vice President IEEE Educational Activities (2016-17)
- IEEE Board of Directors (2016-17)
- ABET Board of Delegates (2016- 2018)
- ABET Board of Directors (2013-2015)
- Associate Editor in Chief, IEEE e-learning Library (2013 – 2015)
- President-Elect, IEEE-HKN, 2015-16
- Board of Governors, IEEE-HKN, Elected to represent Western USA 2012 – 2014
- Treasurer, IEEE-HKN (2012-2014)
- IEEE Educational Activities Board, 2007-2008, 2009-present
- Chair, IEEE Educational Activities Board, Pre-University Education Coordinating Committee, 2014 - 2016
- Chair, IEEE Educational Activities Board, Awards and Recognition Committee, 2010-2013
- Chair, Sacramento Chapter of IEEE LEOS (2004- 2006)
- Central Area Chair, IEEE Region 6, (October 2000 – December 2004)
- IEEE Region 6 Executive Committee (2001 – 2004)
- Student Activities Chair, Sacramento Section of IEEE (1993-2006)
- Branch Counselor, CSUS Student Branch of IEEE (1990-2006)
- Central Area IEEE Region 6 Student Activities Chair, (1994-95) and (1998-2000)
- Membership Development Chair, Sacramento Section of IEEE (1993-94)
- Chairman, Sacramento Section of IEEE (1992-1993).
- Vice-Chairman, Sacramento Section of IEEE (1991-1992).
- Secretary, Sacramento Section of IEEE (1990-91).
- Founding Chairman, Sacramento Chapter of IEEE LEOS (1989-1992)

OFFICES HELD (OTHER GROUPS AND SOCIETIES)

- President, CSUS Chapter of SIGMA XI (1993-2006)
- Board of Directors, SARTA (Sacramento Area Regional Technology Alliance), (2004-2006)
- Board of Directors, MTISAC (McClellan Technology Incubator), (2004-2006)
- Board of Directors, Capital Public Radio (1997-2003)
- Chair, Programming and Technology Committee, Capital Public Radio (2000-2003)

COLLABORATORS AND OTHER AFFILIATIONS

(i)   GRADUATE ADVISING

I have served as the Thesis Advisor for over thirty graduate students during my career at Sacramento State. Also I have served on three PhD dissertation committees during the past five years.

(ii)   JOURNAL REVIEWS

I have served/or I am serving as a reviewer for the following journals and conferences:

- Interdisciplinary Engineering Design Education Conference (IEDEC 2014)
- IEEE Conference on Intelligent Interactive Systems and Assistive Technologies
- Journal of Optical Engineering and Technology
- NSF Instrumentation and Laboratory Improvement Program (now the TUES program)
- California Energy Commission, PIER II Grant Program
- US Civilian Research Development Agency
- IEEE Transactions on Education
- IEEE International Conference on Telecommunications
- ASEE Annual Conference
- IEEE Frontiers in Education Conference
- CSUN International Conference on Disabilities
- CRC Press
- Prentice Hall
- Blackwell Scientific
- Holt, Rinehart and Winston
- McGraw Hill Publishing
- CSF Thompson

PROFESSIONAL DEVELOPMENT ACTIVITIES (last five years)

- AA C&U Workshop on "Teaching to Improve Diversity in STEM", Washington D.C., July 2014
- CASE On Campus: Development for Academic Leaders workshop, Woodland Hills, June 2011
- Program Evaluator Training for ABET, Baltimore, MD, April 2010

SHORT COURSES/WEBINARS

- Upcoming invited presentations at IEEE's Triennial Sections Congress (SC 2017) in Sydney, August 11-13, 2017:
  - Continuing and Professional Education: Helping Your Members Get the Information They Need to Stay Current in their Fields
  - Add value to your next Section or Chapter event with the IEEE Certificates Program
  - A Section Leader's Guide to Understanding IEEE-HKN, the IEEE Student Honor Society
  - IEEE Educational Activities Board Awards Program

- "Developing good Program Educational Objectives (PEO's)" and "Assessing Soft Skills": Conducted Two Invited Workshops attended by University Administrators and Faculty from across Latin America, ICACIT 2015, Lima, Peru, September 3, 2015.
- "Building effective processes of continuous improvement based on Student Outcomes assessment", and "Student Outcomes Assessment in Capstone Projects", ICACIT 2014, Lima, Peru, September 3-4, 2014.
- Invited Presentations online through Indo-US Collaboration for Engineering Education, IUCEE Virtual Academy: Communication Engineering (Sep 6), Energy Research (Sep 13), Assistive Technology Engineering (Sep 20), Globalization in Engineering (Sep 27), Optical Engineering (Oct 4), Student Outcomes Assessment for Program Improvement in Electrical Engineering (Oct 11), Conducted during 2012.
- "Communications Engineering", Taught a Massive Online Open Course consisting of 10 lectures, IUCEE, Jan-Mar 2012. The webinars and course materials are archived and freely available to members of the IUCEE consortium colleges.
- "Fiber Optics Technology and Applications", Short course taught at CALTRANS Marysville on March 25th and 26th 1991. Attended by over 30 engineers and managers from CALTRANS.