**PHILLIP L. DE LEON**
Associate Vice Chancellor for Research | Chief Research Officer
University of Colorado at Denver
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## PROFESSIONAL SUMMARY

Electrical engineer with extensive university teaching and research experience in digital signal processing (DSP) for audio and speech applications, machine learning including deep learning, time-frequency signal analysis, and embedded systems and mobile application programming. Experienced software developer for embedded microcontrollers and digital signal processors, database programming, mobile application programming, scientific computing including large scale simulation and graphics processing unit (GPU) computing, and data science/machine learning code development. Led successful proposal writing teams and managed government- and industry-funded research and development projects at individual-, team-, and center-levels. Technical consultant to industry and government organizations. Administrative appointments at center-, department-, college-, and university-levels including Associate Department Head, Associate Dean of Research, Associate Vice President/Vice Chancellor for Research, and Chief Science/Research Officer.

Current experience and responsibilities at CU Denver include providing leadership in research development, building research capacity, developing researchers at individual- and team-levels and managing internal research funding and research office operations. Prior experience and responsibilities included providing strategic leadership in engineering, science, and interdisciplinary research across the NMSU system; championing faculty research to government agencies, national laboratories, industry, and foundations; serving as academic liaison and manager of relations for Department of Energy national laboratories and Department of Defense agencies; modernization and management of research infrastructure, resources core, and information technology to support the research and creativity missions; and development of administrative research policies.

## EDUCATION

**University of Colorado at Boulder**
Ph.D. in Electrical Engineering, Dec. 1995
Master of Science in Electrical Engineering, Dec. 1992

**University of Texas at Austin**
Bachelor of Arts in Mathematics, Aug. 1990
Bachelor of Science in Electrical Engineering, Dec. 1989

## ACADEMIC AND ADMINSTRATIVE EXPERIENCE

**University of Colorado at Denver** August 2022 - Present
*Associate Vice Chancellor for Research and Chief Research Officer*
*Professor of Electrical Engineering*
As inaugural AVCR/CRO for CU Denver, provided university-level leadership for elevating the research and creative activity enterprise.

- Beginning in FY 2023, led CU Denver to new highs for the research enterprise in terms of proposals, awards, and expenditures for externally-sponsored projects. Historically, expenditures from FY2013-FY2022 ranged from $17.3M - $21.2M.

| | *Expenditures* | *Proposal Submissions* | | *Awards* |
|---|---|---|---|---|
| Fiscal Year | Amount (% change) | Number (% change) | Amount (% change) | Amount (% change) |
| 2025 | $29.6M (+17%) | 198 (–12%) | $62.0M (–47%) | $27.5M (–12%) |
| 2024 | $25.4M (+3%) | 246 (+8%) | $116.8M (+32%) | $31.3M (+10%) |
| 2023 | $24.7M (+31%) | 227 (–5%) | $88.6M (–26%) | $28.4 M (+54%) |
| 2022 | $18.9M | 239 | $120.1M | $18.5M |

- Managed execution of the "Grand Challenge" (GC) initiative (2022 - 2024) which awarded over $2M in funding for CU Denver research teams in pursuit of center-level research and creative activity and planning. Met regularly with PI and research teams and supported public communications, research development, grant writing efforts, review of quarterly reporting, and fiscal monitoring. Coordinated support of teams including engagement of college research offices, university strategic planning office, government relations, Hanover Research, and external partners. Of the 14 awards invested in 11 teams, five teams (Informatics, STEM Ed, Communities, Genome/Epigenic, Democracy) are reasonably well-organized, collaborating on research, submitting grant proposals, and attracting external funds. To date, this initiative as involved 100+ faculty, 100+ student researchers, 245 grant proposals for $117M, and 55 grant awards for $13.8M.
- Restructured five internal seed funding programs ($350K) into two focused seed grants programs: arts and humanities and open/all-disciplines. These programs directly supported Goal 3 of the CU Denver 2030 Strategic Plan, “become internationally known for our research and creative work.” Worked with University Research Council to develop application process, review process, recommendations, and selection.
- Initiated new PI training program as a series of workshops for researchers to prepare faculty on the research grants lifecycle, communicate processes, and connect with research support staff. Initiated a new University Research Council (URC) to advise AVCR, contribute to directing CU Denver's research strategy, and serve as a communications conduit to faculty.
- Coordinated CU Denver's successful participation on $160M NSF Regional Innovation Engine, "Scaling the Regional, Technology-Driven, Innovation Ecosystem in Climate Solutions and Community Resiliency in Colorado and Wyoming." Served on governance working group and proposal review panel, and managed initial subaward to CU Denver.
- Managed approval, via CU Ventures (Boulder), of provisional patent filings and patent applications (domestic and international) and advised on tech transfer policy. Also inform Budget Office of approvals.
- Implemented significant IT infrastructure in support of research administrators, faculty, and staff including comprehensive website, SharePoint site, Intranet, Power BI and Tableau dashboards, Pivot-RP, and PowerAutomate flows.
- Reorganized and rebuilt a researcher-centric staff (5.5 FTE) focused on building research capacity. Responsible for hiring key staff including Assistant Director of Research Development and Assistant Director Strategic Development & Initiatives. Oversaw annual budget of $1.2M excluding $750K shared budget (with CU Anschutz) in support of research enterprise.
- Collaborated on University Communications plan or promoting research and creative activities. Work included rebuild of website, intranet, monthly research news articles, monthly newsletter, and state of research address. On average 25 research news stories per year are published in CU Denver News. All new grant awards are also published on social media (@CUDenResearch on X) which has approximately 300 followers.

**New Mexico State University** Oct. 2019 – Jul. 2022

**Office of the Vice President for Research (OVPR)**
*Associate Vice President for Research and Chief Science Officer*

- Provided strategic leadership for engineering, science, and interdisciplinary research across the NMSU system. Duties and responsibilities include: initiating and developing the university's strategic research directions, working with federal agencies, national laboratories, and other university partners to increase the university's visibility and participation in large programs.
- Strategic research leadership efforts include initiation of quantum information science teaching and research programs (course development, doctoral student recruitment, faculty research funding, and proposal writing efforts); expansion and acceleration of AI/machine learning teaching and research programs; and renewed focus on cybersecurity teaching and research programs. Helped define, promote, and direct investment in existing institutional strengths in biomedical science; energy, environment, and water; and food production, safety, science, and security.
- While at NMSU's OVPR, actively participated in the seeding, management, and oversight of three consecutive years of growth in research expenditures, strong growth in proposal submissions (both in number of proposals and requested amount), and a general increase in grants and contracts awarded (both in number of proposals and requested amount). Summary:

| | Expenditures | Proposal Submissions | | Awarded Grants and Contracts | |
|---|---|---|---|---|---|
| Fiscal Year | Amount (% change) | Number (% change) | Amount (% change) | Number (% change) | Amount (% change) |
| 2022 | $121.0 M (+9.4%) | N/A | $414.1(–4.1%) | N/A | $129.5 (+16.0%) |
| 2021 | $110.6M (+3.1%) | 805 (+10.4%) | $431.8M (+28.3%) | 873 (–3.9%) | $111.6M (–5.9%) |
| 2020 | $107.3M (+5.7%) | 729 (+17.4%) | $336.7M (+44.1%) | 908 (+1.5%) | $118.6M (+15.6%) |
| 2019 | $101.5M (+7.4%) | 621 (+3.5%) | $233.6M (–4.0%) | 895 (+5.9%) | $102.6M (+5.1%) |

- Worked closely with VPR and budget manager on research operations annual budget (~$3.7M) including planning and allocation for research administration services, research integrity and compliance, research IT, and administrative assistant staff.
- Project lead for implementing a new state-of-the-art, cloud-based system electronic research administration (eRA) to support the research enterprise. Responsibilities included developing system and workflow transition plans, contributing to technical and functional meetings, managing communications to research community, identifying and including staff experts and key stakeholders, and overseeing implementation progress and status including budget and timeline. Implementation budget and first year costs approximately $412K.
- Initiated and co-developed the Research Cores Program (RCP), with direct supervision of the Director of RCP, in order to centrally manage and provide resources to critical laboratory infrastructure. Research cores included Chemical Analysis and Instrumentation Lab (CAIL), Microscopic Imaging Core Suite (MICS), and High-Intensity X-Ray Diffractometer (XRD); Worked with director to hire lab managers and manage initial $450K budget.
- Led modernization effort of research administration IT. Served as Director of Research IT overseeing six staff responsible for major research enterprise applications, servers, research website, desktop support, service unit email systems and routing, remote work, and cloud solutions for the organization. Led internal committee responsible for evaluating and implementing a new electronic research administration (eRA) enterprise system in state-wide coordinated adoption. Modernization efforts led to over $500K in cost savings in FY2020.
- Direct responsibility for management of university's new faculty start-up packages. Led development of startup package policy with Associate Deans of Research where policy was more objective, equitable, fiscally-responsible, and aligned with strategic research directions. Oversaw and managed 51 packages valued at $8.9M during FY2020 -- FY2022. This work included close teaming and coordination with department heads, associate deans of research, and college deans.

- Initiated and led inaugural annual seed funding program ($250K) for proposal development efforts in the arts and humanities in order to elevate creative activities consistent with NMSU's LEADS 2025 strategic plan. Worked with committee composed of department heads and faculty to define funding priorities, application process, review process, and selection.
- Served as liason to the Department of Energy National Laboratories including management coordinator of the Memorandum of Understanding to Sandia National Laboratories and Los Alamos National Laboratory. Participated in monthly reviews, at the request of LANL/SNL, of DoE-funded activity at NMSU. Identified and developed NMSU/SNL strategic roadmaps for research collaborations in clean energy and hypersonics. Assisted with identifying potential collaborators and attracting research funding for faculty researchers.

**New Mexico State University** Oct. 2016 - Oct. 2019
**College of Engineering**

*Associate Dean for Research*

- Oversight of a staff of six in the Office of Engineering Research (OER) responsible for managing faculty research proposal development/submission (approximately 120 new proposal submissions annually) and post-award grant/contract management (approximately 100 active research projects annually). Responsible for OER's $1M+ budget involving multiple revenue sources which supports OER staff, faculty startup packages, project cost sharing and fund matching, research project seed funding (mini-grants), engineering research center planning grants, distinguished lecture series, and graduate assistantships. Oversight for the Carlsbad Environmental Monitoring Research Center (CEMRC) and the Freeport-McMoRan water quality laboratory.
- Additional duties and responsibilities include strategic planning related to engineering research initiatives; coordination and budgeting (with department heads and vice president for research) for new engineering faculty start-up packages; coordination, planning, and oversight of cost-share/matching funds in faculty proposals; and support of existing- and pursuit of new engineering research centers.
- Contributed to arresting seven straight years (FY 2011-FY 2017) of declining research. In FY 2019 expenditures, indirect cost recovery (IDC) were up 26.8%, 24.9% and in FY 2020 these were up 6.5%, 10.6% respectively. In FY 2019 (vs. FY 2018), the number of research grant awards rose 43% (to 142 from 99) and award amount rose 59% (to $11.7M from $7.7M). In FY 2020 (vs. FY 2019), the number of research grant awards rose 23% (to 174 from 142) and award amount rose 50% (to $18.4M from $12.3M). Contributions included carefully working with the Dean in defining research areas of priority and clear identification of research strengths, advocating for and establishing stronger university ties with Sandia National Laboratories (Memorandum of Understanding signed April 2019) and Los Alamos National Laboratories, initiating new programs for research seed funding ($50K-$80K per year) and for engineering research center planning grants (expected $50K-$100K per year), pursuing aggressive cost sharing strategies for major research initiatives, and increasing overhead return to faculty for research re-investment.
- Responsible for promoting and growing research programs with federal agencies, national laboratories, and industry. Most recent efforts were directed at pursuing collaborative research opportunities for engineering faculty at the Sandia National Laboratories resulting in contracts for three faculty groups totaling $650K+. This was the first increase in contracting with Sandia National Laboratories since 2010 after ten straight years of reduced research collaborations and funding. Currently serve as point of contact for the NMSU - Sandia National Laboratories Memorandum of Understanding.
- Led expanded effort of graduate student recruiting activities for the College including multi-university recruiting trip to India (2018) and coordinating and leading recruiting efforts in Mexico (2019). Oversaw development of recruiting website for prospective graduate students and new

graduate recruiting brochures (English and Spanish). Represented NMSU at Sandia and SACNAS graduate student recruiting events.
- Initiated new faculty research productivity measurements that allow careful and deliberate use of investment resources and assists the Dean and Department Heads to identify highly-active research faculty and adjust teaching loads appropriately.

**New Mexico State University** Jan. 1996 – Jul. 2022
**Klipsch School of Electrical and Computer Engineering**

*Paul W. and Valerie Klipsch Distinguished Professorship in Engineering 2015 - 2022*
*John and Tome Nakayama Professorship in Engineering for Teaching Excellence 2012 - 2015*

*Professor 2006 - 2022*
*Associate Professor 2002 - 2005*
*Assistant Professor 1996 - 2001*

*Associate Department Head 2011 - 2013*
*Director, Advanced Speech & Audio Processing Laboratory 2002 - 2015*
*Associate Director for the Center for Space Telemetering and Telecommunications 1999 - 2003*

- Research expertise in Digital Signal Processing (DSP) including audio and speech processing, adaptive filtering, multirate filterbanks; time-frequency signal analysis and classification; artificial intelligence and machine learning including deep learning; embedded microcontroller/DSP systems and mobile (iOS) application programming. Research supported by over $7 million in grants and contracts. Supervised 34 MS/PhD students and 2 post-doctoral fellows. Research history:
  (2014-) Co-developed new mathematical theory for time-frequency signal analysis known as the "Instantaneous Spectral Analysis" (ISA) which has been mathematically proven to ideally localize energy in the time-frequency plane. Investigated several implementations of ISA including use of Empirical Mode Decomposition (EMD) and have contributed to major improvements in EMD performance.
  (2010-) Among first researchers in the world to investigate speech biometric security, i.e. speaker verification including research into spoofing detection and countermeasures to thwart potential cyber attacks for both GMM-UBM and iVector systems. This field has grown dramatically and is now a major research area, has government- and industry-sponsored annual evaluations, and has matured into the larger field of "deep fakes."
  (2015-2019) Began new research into using inertial sensors on smartphones and advanced machine learning to assess falls risk in elderly adults. Among first in the world to use deep learning to make predictive assessments on falls risk. Worked to develop entire continuous monitoring and predictive system, i.e. sensor-to-deep learning prediction on a smartphone device.
  (2004-2013) Speaker recognition using GMM-UBMs and iVector systems including new algorithm designs improved for performance over lossy networks, performance in echoic and reverberation environments, and fast search algorithms for speaker identification applications.
  (2008-2011) Speech enhancement techniques including noise removal using machine learning techniques and feature-based methods for low bit rate speech coding.
  (1997-2006) Systems designs for satellite communications including high-speed parallel signal processing using FPGAs, RF propagation models, and 802.11 wireless standards for space applications (in support of NASA contract for the NMSU Center for Telemetry)
  (2001-2002) Wireless ad hoc networks and wireless network modeling using Network Simulator (NS2).
  (1996-2000) Adaptive filtering with applications to acoustic echo cancellation and blind separation of speech signals from a signal mixture and adaptive playout buffer prediction for VoIP applications

- Recognized as an energetic, inspiring, and passionate faculty and consistently ranked as a top instructor for two decades in student evaluations and departmental annual performance reviews. Awarded the first university professorship for teaching excellence, Nakayama Professorship in Engineering for Teaching Excellence (2012 – 2015). Developed new undergraduate courses in DSP (EE395), embedded DSP systems (EE492), mobile application development (EE443), and signals and systems (EE311/312); developed new graduate courses in adaptive filtering (EE594), advanced linear systems (EE555), DSP (EE545), embedded DSP (EE592), pattern recognition and machine learning (EE565), mobile application programming (EE593), digital speech processing (EE589) and quantum computing (EE490/EE590). Developed nationally recognized laboratories for teaching with support of sponsors including IBM, Motorola, Tektronix, Texas Instruments, and Xilinx. Developed complete web sites to host course related materials including lecture notes, homework assignments and solutions, exam archives, and signals and data for student assignments and projects. Instructed over 1100 students in signal processing, many of which have gone on to become professors, researchers at prominent national and industry laboratories, and engineers at the world's most innovative companies.

- Helped lead department ABET effort in 2010 and developed ABET course assessment database and tracking system in 2011. Lead curriculum revision committee (2015) which resulted in a major curriculum change in order to bring electrical and computer engineering education to state-of-the-art while reducing required credits for graduation.

**New Mexico State University** 2011-2013
**Klipsch School of Electrical and Computer Engineering**

*Associate Department Head*

- Graduate Admissions: Developed software to automatically evaluate, score, and process graduate applicant data from the Hobsons online application system. As Chair of the Graduate Studies Committee (GSC), responsible for recruiting graduate students, coordinating admissions committee's evaluations of applicants, notifications letters, and assistantship offers.
- Teaching Assistants (TAs): Managed approximately 30 teaching assistants each semester for core undergraduate labs and a budget of $280K. Responsible for coordinating faculty nominations of qualified graduate students, recruitment and selection of TAs, developing TA orientation meeting, selecting outstanding TA award recipients, tracking performance evaluations and degree progress.
- Graduate Program Coordinator: Updated MS and PhD requirements for department, developed ABET assessment for graduate program, advised all non-regular admission graduate students, coordinated record checks, and maintained department website.

## VISITING FACULTY RESEARCHER

**University College Cork, Ireland** Mar. 2022, Mar. 2023, May 2024, Apr. 2025
**Department of Computer Science**
*Visiting Professor*

- Investigated and evaluated watermarking techniques for AI generated speech signals. Evaluated resilience against channel effects and tampering.
- Developed new metric to evaluate tandem performance of voice spoofing countermeasures and speaker identification.
- Conducted collaborative research in cybersecurity for voice assistants (VAs) which. included developing new techniques for voice spoofing detection for this application
- Developed VA-appropriate, low-complexity architectures for voice spoofing detection.

**Paris Institute of Technology (ParisTech), Paris, France** Apr. - May 2016
**Telecom ParisTech, Signal and Image Processing Department**
*Visiting Professor*

- Ported a large set of custom MATLAB codes for digital signal processing, digital speech processing, and adaptive signal processing to the Python programming language. Codes were benchmarked against MATLAB for accuracy and processing performance.
- Investigated application of Hilbert Spectrum (now termed "Instantaneous Spectrum") in High Dynamic Range (HDR) image processing for estimation of luminance component.

**EURECOM, Sophia Antipolis, France** Feb. - Mar. 2016
**Multimedia Communications Department, Speech and Audio Processing Research Group**
*Visiting Professor*

- Investigated machine learning methods for anomaly/novelty detection including one-class support vector machine (OC-SVM) and the support vector data description (SVDD) detectors. This work led to new research into prediction of falls risk (see publications for more information).
- Investigated new signal features based on the Hilbert Spectrum (now termed "Instantaneous Spectrum") for discriminating between human and artificial speech for speaker recognition countermeasures.

**Vienna University of Technology (TU-Wien), Vienna, Austria** Aug. - Dec. 2008
**School of Electrical Engineering, Institute of Communications and Radio-Frequency Engineering**
*Visiting Professor and U.S.-Austria Fulbright Faculty Scholar*

- Awarded Fulbright Faculty Scholar award from U.S. Department of State
- Taught a graduate-level course in digital speech processing
- Investigated graph diffusion machine learning methods and application to speech processing
- Investigated security of speaker recognition systems when presented with synthetic speech. Developed detection methods and counter-measures for spoofed speech. This work was among the first in its field for biometric spoofing and more generally "deep fakes" (see publications for more information).
- Developed low-complexity speech detector for mobile application (see publications for more information).

**University College Cork, Ireland** Jan. - May 2002
**Department of Computer Science**
*Visiting Professor*

- Conducted sabbatical research in wireless ad hoc networks. This work included routing algorithms, link cache design/analysis for DSR algorithms, extensions to cache to include mobility prediction and route repair (see publications for more information).
- Conducted sabbatical research in content distribution over Internet. This work included disk architecture and management algorithms for PRISM project (with AT&T Labs)

## NATIONAL and INDUSTRY LABORATORY EXPERIENCE

**Department of Energy**
**Sandia National Laboratories, Albuquerque, New Mexico** Jun. 2016 - Sep. 2023
**Advanced Engagement Systems Department**
*Faculty Fellow*

- (2022) Worked with Prof. Sandoval on furthering signal analysis techniques in problems of interest with Sandia technical staff.

- (2021) Developed algorithms and software codes for a multichannel sensor data compression. Investigated classical sub-sampling techniques, delta encoding with scalar quantization, tensor decomposition, vector quantization, wavelet-based, and deep neural networks (autoencoding) methods. Developed novel evaluation methods.
- (2020) Developed algorithms and software codes in MATLAB for sensor signal processing and machine learning based classifier. Conducted tests and simulations to model performance and accuracy as well as limitations.
- (2020) Lab Directed R&D (LDRD) research to investigate use of Software Defined Radios (and GNU radio) for RF burst capture and advanced telemetry applications. Published database / data corpus of radio bursts from wireless devices (WIDEFT) for cybersecurity research community.
- (2019) Developed algorithms and software codes in MATLAB and Python (using OSMnx) for the general problem/task of map matching. Conducted tests and simulations to model performance and accuracy as well as limitations.
- (2017-2019) Lab Directed R&D (LDRD) research in radio frequency (RF) device fingerprinting using advanced time-frequency signal analysis. RF device fingerprinting research was to establish new techniques for unique device identification for cybersecurity applications.
- (2018) Developed algorithms and software codes in MATLAB and Python which also utilized Google Maps APIs for path- and shape-matching applications. Conducted tests and simulations to model performance and accuracy as well as limitations.
- (2017) Developed algorithms and software codes for sensor signal processing and machine learning (support vector regression machines and random forests) for automatic recognition of human activity recognition.
- (2016) Developed and wrote software codes in MATLAB and Python (using Google's TensorFlow library) in support of deep learning applications involving multidimensional sensor data.

**AT&T Bell Laboratories, Murray Hill, New Jersey** May - Aug. 1993, May - Aug. 1994
**Acoustics Research Department**
*Member Technical Staff (Cooperative Research Fellowship Summer Intern)*

- AT&T Bell Laboratories Cooperative Research Doctoral Fellowship
- Conducted research in acoustic echo cancelation. Awarded two patents as a result of research work
- Conducted experiments/performed analysis of subband acoustic echo cancelers with increased bandwidth analysis filters
- Wrote simulation software for block- and skewed-block LMS algorithms
- Provided verification of slow asymptotic convergence of LMS acoustic echo cancelers
- Analyzed postfiltering for both fullband and subband echo cancelers

**AT&T Bell Laboratories, Naperville, Illinois** May - Aug. 1990
**Advanced Technology Laboratory**
*Member Technical Staff (Cooperative Research Fellowship Summer Intern)*

- Developed ethernet performance model for central office systems
- Developed traffic and congestion simulation for various network configurations

**Southwestern Bell Telephone, San Antonio, Texas** Jan. - Jun. 1990
**Network Operations Division**
*Student Manager*

- Developed Informix-SQL and UNIX shell script software for office automation
- Software test engineer for ICIS software system,
- Wrote technical documentation, developed training video, and taught software class

## BUSINESS AND CONSULTING EXPERIENCE

**Streamlyne, San Diego, California** Oct. 2022 – Sep. 2024
*Independent Consultant*

- Facilitation of campus communications strategy during implementations: including review of webpages about implementation news and internal support
- Worked with Streamlyne customers on developing town halls/panel discussions and offer suggestions for content and discussions
- Provided advice on other campus communications strategies: such as newsletter topics related to Streamlyne implementation updates, migration, and deployment strategies
- Facilitate implementation team structure / composition / meetings and decision-making responsibilities
- Provided initial reviews, feedback on features and products under development

**Pacific Northwest National Laboratory, Richland, Washington** Feb. 2018 – Feb. 2024
**Sandia National Laboratories, Albuquerque, New Mexico**
*Independent Consultant*

- Provided independent assessment and served as program reviewer for PNNL research programs related to cybersecurity, sensors and electronics
- Provided independent assessment and served as program reviewer for PNNL research programs related to small satellite remote sensing, image analysis, and machine learning
- Provided independent assessment and served as program reviewer for SNL research programs related to small satellite remote sensing, image analysis, and machine learning

**Electronic CareGiver Inc., Las Cruces, New Mexico** Aug. 2015 – Jun. 2020
*Independent Consultant*

- Conducted research and developed a Python code (using Open CV) to read numerical value of temperature from a off-the-shelf, digital thermometer. Work included image processing, parameter tuning, and testing.
- Lead engineer in research and development into using smartphone technology for continuous gait monitoring for falls risk prediction and fall detection in elderly adults.
- Developed iPhone app to log accelerometer/gyroscope data and store to device; written in Swift programming language.
- Developed MATLAB codes to process accelerometer/gyroscope data, extract signal features, and train classifier (support vector machine). Conducted simulations to evaluate performance of classifier and anomaly detector (see publications for more information).
- Served on technical advisory board to advise CEO and CTO of emerging health care technologies.

**VoiceCipher, Inc. Las Cruces, New Mexico** Aug. 2012 – Nov. 2018
*President and CEO*

- Winner of 2013 Arrowhead Launch competition for startup companies; awarded $25K seed funding
- Co-wrote business plan, developed business model, and licensing models
- Co-developed Internet security software consisting of demonstration website, PHP scripts, SQL database, and backend signal analysis engine (MATLAB and Python); configured Apache website and network; managed software architecture and led developer team.
- Applied for patents on voice-based, biometric, online authentication

**Las Cruces Parks and Recreation** 2015 - 2017
*iOS Software Developer*

- Developed iPhone/iPad app, as a community service, for the City of Las Cruces Parks and Recreation Department. App (version 1.0) accepted to the Apple AppStore January 2016 followed by minor 1.x revisions. Latest release v1.4 in 2018.
- App utilized CoreLocation and MapKit frameworks.

**PhotoVoltaic (PV) Monitor** 2013 - 2016
*iOS Software Developer*
- Developed iPhone/iPad app to monitor photovoltaic (solar) energy and power production. App (version 1.0) accepted to the Apple AppStore May 2013 followed by minor 1.x, 2.x revisions. Latest release v2.5 April 2016.
- App utilized Enphase API and Yahoo Weather API for web data acquisition.

**Invertix Corp., McLean, Virginia** Aug. 2006 - May 2012
*Independent Consultant*
- Designed algorithms and code for signal analysis, detection, and classification of radar signatures
- Assisted in analysis of field evaluations of radar system
- Partnered with Invertix to win Army SBIR Phase I ($75K), Phase I option ($50K), and Phase II ($700K) for methods of signal separation in voice communications systems and a pattern-recognition approach to digital demodulation in challenging channel environments

**NetLogic Corp., Mountain View, California** Jan. - Dec. 2010
*Independent Consultant*
- Provided technical assistance to chip-design engineers on digital speech signal processing, automatic speech recognition, and statistical modeling
- Provided technical analysis on computational requirements for automatic speech recognition

**Army Research Laboratory (ARL)** Oct. 2002
**Survivability & Lethality Analysis Dir (SLAD), Information & Electronic Protection Div (IEPD)**
*Independent Consultant*
- Program reviewer for ARL's SCIMITAR and IRAT Programs
- Prepared technical report evaluating programs

**Datafusion Corp., Westminster, Colorado** Jan. - Dec. 1996
*Independent Consultant*
- Developed theory of subband Kalman filtering
- Implemented subband Kalman filter for multiple target tracking

## PUBLICATIONS[1]

92. S. Sandoval and P. L. De Leon, "Unifying Common Signal Analyses with Time-Frequency Atoms," in review *IEEE Trans. Sig. Proc.*, Jan. 2026.

91. S. Faziludeen, A. Sankar, P. L. De Leon, and U. Roedig "LINGUARD: Authenticating Speech Recordings using Speech Recognition and Watermark," accepted*, Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP),* May 2026.

[1] (December 2025) Scimago Journal Rank (SJR) h-index for recent publications: *Entropy* (112), *IEEE J. Biomed. Health Inform* (168), *Gait & Posture* (179), *IEEE Trans. Sig. Proc.* (314), *IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)* (199), *IEEE Int. Conf. Systems, Signals, and Image Processing (IWSSIP)* (23), *Midwest Symp. on Circuits and Systems (MWSCAS)* (45), *Speech Communication* (118).

90. A. Sankar, P. L. De Leon, and U. Roedig "A Performance Metric for Joint Evaluation of Spoofing Detection and Speaker Identification in Voice Assistants," in review*, Speech Commun,* Aug. 2025.
89. S. Faziludeen, A. Sankar, P. L. De Leon, and U. Roedig "Limitations of Watermarking AI-Generated Speech using AudioSeal," *Proc. IEEE Int. Conf. Trust, Privacy, and Security in Intell. Syst., and Applications (TPS-ISA)*, 2025.
88. A. Sankar, P. L. De Leon, and U. Roedig "Spoofing Detection for Personal Voice Assistants," *Proc. Int. Workshop on Security and Privacy of Sensing Systems (Sensors S&P)*, 2023.
87. S. Smith, S. Sandoval, T. Schaub, and P. L. De Leon, "Practical Implementation of Instantaneous Frequency Mass Spectrometry," *Proc. Midwest Symp. on Circuits and Systems (MWSCAS)*, 2023.
86. A. Sankar, P. L. De Leon, and U. Roedig "Detection of Voice Conversion Spoofing Attacks using Voiced Speech," *Proc. Nordic Conf. Secure IT Systems (NordSec)*, 2022.
85. A. Sankar, P. L. De Leon, S. Sandoval, and U. Roedig "Low-Complexity Speech Spoofing Detection using Instantaneous Spectral Features," *Proc. IEEE Int. Conf. Systems, Signals, and Image Processing (IWSSIP)*, 2022.
84. S. Sandoval and P. L. De Leon, "Recasting the (Synchrosqueezed) Short-Time Fourier Transform as an Instantaneous Spectrum," *Entropy*, vol. 24, no. 4, Apr. 2022. Best Paper Award 2024.
83. A. Bucker Siddik, D. Drake, T. Wilkinson, P. L. De Leon, S. Sandoval, and M. Campos, "WIDEFT: A Corpus of Radio Frequency Signals for Wireless Device Fingerprint Research," *Proc. IEEE Int. Symp. Technol. Homel. Secur. (HST)*, 2021.
82. S. Sandoval, M. Bredin, P. L. De Leon, and S. Terrazas, "Controlling the Operating Point of Complex Empirical Mode Decomposition," *Proc. Midwest Sym. on Circuits and Systems (MWSCAS)*, 2020.
81. A. Bucker Siddik, D. Drake, T. Wilkinson, P. L. De Leon, S. Sandoval, and M. Campos, "WIDEFT: A Corpus of Radio Frequency Signals for Wireless Device Fingerprint Research," *Zenodo*, https://zenodo.org/record/4116383#.YPGmtS1h3Jy, Oct. 2020.
80. M. Martinez and P. L. De Leon, "Falls Risk Classification of Older Adults Using Deep Neural Networks and Transfer Learning," *IEEE J. Biomed. Health Inform*., vol. 24, no. 1, pp. 144-150, Jan. 2020.
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78. S. Sandoval and P. L. De Leon, "The Instantaneous Spectrum: A General Framework for Time-Frequency Analysis," *IEEE Trans. Sig. Proc*., vol. 66, no. 21, pp. 5679-5693, Nov. 2018.
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76. S. Sandoval, M. Bredin, and P. L. De Leon, "Dominant Component Tracking for Empirical Mode Decomposition using a Hidden Markov Model," *Proc. IEEE GlobalSIP*, 2018.
75. J. Yamagishi, T. H. Kinnunen, N. Evans, P. De Leon, and I. Trancoso, "Introduction to the Issue on Spoofing and Countermeasures for Automatic Speaker Verification," *IEEE J. Sel. Topics Signal Process*., vol. 11, issue 4, pp. 585-587, Jun. 2017.
74. S. Sandoval and P. L. De Leon, "Advances in Empirical Mode Decomposition for Computing Instantaneous Amplitudes and Instantaneous Frequencies," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, 2017.
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72. M. Martinez and P. L. De Leon, "Unsupervised Segmentation and Labeling for Smartphone Acquired Gait Data," *Proc. Int. Telemetering Conf. (ITC)*, 2016.
71. M. Biswal, Y. Hao, P. Chen, S. Brahma, H. Cao, and P. De Leon, "Signal Features for Classification of Power System Disturbances using PMU Data," *Proc. Power Systems Computation Conference (PSCC)*, 2016.
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69. S. Sandoval, P. L. De Leon, and J. M. Liss, "Hilbert Spectral Analysis of Vowels using Intrinsic Mode Functions," *Proc. IEEE Automatic Speech Recognition & Understanding Workshop (ASRU)*, 2015.
68. M. Martinez and P. L. De Leon, "A Smartphone-Based Gait Data Collection System for the Prediction of Falls in Elderly Adults," *Proc. Int. Telemetering Conf. (ITC)*, 2015.
67. R. McClanahan and P. L. De Leon, "Reducing Computation in an i-Vector Speaker Recognition System using a Tree-Structured Universal Background Model," *Speech Communication*, vol. 66, pp. 36-46, Feb. 2015.
66. G. Hinojos and P. L. De Leon, "Face Recognition using Distributed, Mobile Computing," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 2179-2183, 2014.
65. R. D. McClanahan, B. Stewart, and P. L. De Leon, "Performance of i-Vector Speaker Verification and the Detection of Synthetic Speech," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 3779-3783, 2014.
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63. P. L. De Leon and S. Sanchez, "Voice Activity Detection using a Sliding-Window, Maximum Margin Clustering Approach," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 6674-6678, 2013.
62. P. L. De Leon and B. Stewart, "Synthetic Speech Detection based on Selected Word Discriminators," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 3004-3008, 2013.
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60. L. E. Boucheron and P. L. De Leon, "Low-SNR, Speaker-Dependent Speech Enhancement using GMMs and MFCCs," *Proc. Interspeech*, 2012.
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58. P. L. De Leon, B. Stewart, and J. Yamagishi, "Synthetic Speech Discrimination using Pitch Pattern Statistics Derived from Image Analysis," *Proc. Interspeech*, 2012.
57. L. Boucheron, P. L. De Leon, and S. Sandoval, "Low Bit-Rate Speech Coding through Quantization of Mel-Frequency Cepstral Coefficients," *IEEE Trans. Audio, Speech, Language Process*., vol. 20, no. 2, pp. 610-619, Feb. 2012.
56. P. L. De Leon, I. Hernaez, I. Saratxaga, M. Pucher, and J. Yamagishi, "Detection of Synthetic Speech for the Problem of Imposture," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 4844-4847, 2011.

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54. V. Apsingekar and P. L. De Leon, "Speaker Verification Score Normalization Using Speaker Model Clusters," *Speech Communication*, vol. 53, no. 1, pp. 110 - 118, Jan. 2011.

53. P. L. De Leon, M. Pucher, and J. Yamagishi, "Evaluation of the Vulnerability of Speaker Verification to Synthetic Speech," *Proc. Odyssey 2010: Speaker and Language Recognition Workshop*, pp. 151-158, 2010.

52. P. L. De Leon, V. R. Apsingekar, M. Pucher, and J. Yamagishi, "Revisiting the Security of Speaker Verification Systems Against Imposture using Synthetic Speech," *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 1798-1801, 2010.

51. V. R. Apsingekar and P. L. De Leon, "Support Vector Machine Based Speaker Identification Systems Using GMM Parameters," *Proc. Asilomar Conf. on Signals, Systems and Computers*, pp. 1766-1769, 2009.

50. S. M. Brahma, R. G. Kavasseri, and P. L. De Leon, "Investigating the Option of Removing Anti-Aliasing Filter From Digital Relays," *IEEE Trans. Power Delivery*, vol. 24, no. 4, pp. 1864 - 1868, Oct. 2009.

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48. A. Akula, V. Apsingekar, and P. L. De Leon, "Speaker Identification in Room Reverberation using GMM-UBM," *Proc. IEEE DSP Workshop*, pp. 37-41, 2009.

47. V. Apsingekar and P. L. De Leon, "Speaker Model Clustering for Efficient Speaker Identification in Large Population Applications," *IEEE Trans. Audio, Speech, Lang Process*., vol. 17, no. 4, pp. 848-853, May 2009.

46. V. R. Apsingekar and P. L. De Leon, "Efficient Speaker Identification using Distributional Speaker Model Clustering," *Proc. Asilomar Conf. on Signals, Systems and Computers*, pp. 1260-1264, 2008.

45. K. Ravulakollu, V. R. Apsingekar, and P. L. De Leon, "Efficient Speaker Verification System using Speaker Model Clustering for T- and Z-Normalizations," *Proc. IEEE Int. Carnahan Conf. on Security Technology (ICCST)*, pp. 56-62, 2008.

44. L. E. Boucheron and P. L. De Leon, "On the Inversion of Mel-Frequency Cepstral Coefficients for Speech Enhancement Applications," *Proc. IEEE Int. Conf. Signals and Electronic Systems (ICSES)*, pp.485-488, 2008.

43. A. Akula and P. L. De Leon, "Compensation for Room Reverberation in Speaker Identification," *European Signal Processing Conf. (EUSIPCO)*, 2008.

42. V. R. Apsingekar and P. L. De Leon, "Efficient Speaker Identification using Speaker Model Clustering," *Proc. European Signal Processing Conf. (EUSIPCO)*, 2008.

41. A. Daga, G. Lovelace, D. Borah, and P. De Leon, "Terrain-Based Simulation of IEEE 802.11a and b Physical Layers on the Martian Surface," *IEEE Trans. Aerosp. Electron. Syst*, vol. 43, no. 4, pp. 1617-1623, Oct. 2007.

40. V. Apsingekar and P. DeLeon, "Reducing Speaker Model Search Space in Speaker Identification," *Proc. IEEE Biometrics Sym*., pp. 1-6, 2007.

39. P. DeLeon and A. Trevizo, "Speaker Identification in the Presence of Room Reverberation," *Proc. IEEE Biometrics Sym*., pp. 1-6, 2007.

38. A. Daga, D. Borah, G. Lovelace and P. DeLeon, "Physical Layer Effects on MAC Layer Performance of IEEE 802.11 a and b WLAN on the Martian Surface," *Proc. IEEE Aerospace Conf*., 2006.

37. S. Berner and P. De Leon, “Subband Transforms for Adaptive, RLS Direct Sequence Spread Spectrum Receivers,” *IEEE Trans. Signal Process*., vol. 53, no. 10, pp. 3773 - 3779, Oct. 2005.

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34. V. Chukkula and P. DeLeon, “Simulation and Analysis of the Multipath Environment of Mars,” *Proc. IEEE Aerospace Conf*., pp. 1678-1683, 2005.

33. D. Borah and P. DeLeon, “Speaker Identification in the Presence of Packet Losses,” *Proc. IEEE DSP Workshop*, vol. 2, pp. 302-306, 2004.

32. J. San Filippo and P. DeLeon, “Evaluation of Spherically Invariant Random Process Parameters as Discriminators for Speaker Identification,” *Proc. IEEE DSP Workshop*, pp. 307-310, 2004.

31. V. Chukkula, P. De Leon, S. Horan, and V. Velusamy, “Modeling the Radio Frequency Environment of Mars for Future Wireless, Networked Rovers and Sensor Webs,” *Proc. IEEE Aerospace Conf*., vol. 2, pp. 1329-1336, 2004.

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29. P. De Leon, Q. Wang, S. Horan, and R. Lyman, “A Design for Satellite Ground Station Receiver Autoconfiguration,” *Proc. Int. Telemetering Conf*., 2003.

28. A. Cahill, P. De Leon, C. Sreenan, “Link Cache Extensions for Predictive Routing and Repair in Ad Hoc Wireless Networks,” *Proc. Fourth IEEE Conf. on Mobile and Wireless Communications Networks (MWCN)*, pp. 53-57, 2002.

27. N. Chen and P. De Leon, “Blind Image Separation through Kurtosis Maximization,” *Proc. Asilomar Conf. on Signals, Systems and Computers*, vol. 1, pp. 318-322, 2001.

26. S. Berner and P. De Leon, “Subband Transforms for Adaptive Direct Sequence Spread Spectrum Receivers,” *Proc. Asilomar Conf. on Signals, Systems and Computers*, vol. 2, pp. 1103-1107, 2001.

25. P. De Leon and Y. Ma, “Blind Separation of L Sources from M Mixtures of Speech Signals,” *Proc. 140th Meeting of the Acoustical Society of America*, 2000.

24. P. De Leon and Y. Ma, “Blind Source Separation of Mixtures of Speech Signals with Unknown Propagation Delays,” *Proc. 140th Meeting of the Acoustical Society of America*, 2000.

23. P. De Leon and Y. Ma, “Normalized, HOS-Based, Blind Speech Separation Algorithms,” *Proc. Asilomar Conf. on Signals, Systems and Computers*, vol. 2, pp. 1197-1201, 2000.

22. S. Berner and P. De Leon, “Parallel Digital Architectures for High-Speed Adaptive DSSS Receivers,” *Proc. Asilomar Conf. on Signals, Systems and Computers*, vol. 2, pp. 1298-1302, 2000.

21. P. De Leon, “Short-Time Kurtosis of Speech Signals with Application to Co-Channel Speech Separation,” *Proc. IEEE Int. Conf. on Multimedia and Expo (ICME)*, vol. 2, pp. 831-833, 2000.

20. P. De Leon, “Computer Music in Undergraduate Digital Signal Processing,” *Proc. American Society for Engineering Education/Gulf-Southwestern Region*, 2000.

19. P. L. De Leon, W. Kober, K. Krumvieda, and J. Thomas, “Subband Kalman Filtering with Applications to Target Tracking,” *Proc. 1999 Int. Conf. on Signal Processing Applications & Technologies (ICSPAT)*, 1999.

18. P. L. De Leon and B. J. Scaife, “Spread Spectrum Carrier Estimation with Unknown Doppler Shift,” *Proc. Int. Conf. on Signal Processing Applications & Technologies (ICSPAT)*, 1999. Finalist, Best Paper Award.
17. S. Berner and P. L. De Leon, “FPGA-Based Filterbank Implementation for Parallel Digital Signal Processing,” *Proc. 8th NASA Sym. on VLSI Design*, 1999.
16. P. De Leon and H. Jiang, “Parameter Distributions for Speech Signals Modelled with Spherically Invariant Random Processes,” in Proc. 42nd Midwest Sym. on Circuits and Systems, vol. 1, pp. 245-248, 1999.
15. P. L. De Leon and C. J. Sreenan, “An Adaptive Predictor for Media Playout Buffering,” *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, vol. 6, pp. 3097-3100, 1999.
14. B. J. Scaife and P. L. De Leon, “Doppler Shifted Spread Spectrum Carrier Recovery using Real-Time DSP Techniques,” *Proc. Int. Telemetering Conf*., 1998.
13. P. L. De León, “On the Use of Filter Banks for Parallel Digital Signal Processing,” *Proc. 7th NASA Sym. on VLSI Design*, 1998.
12. J. P. Leblanc and P. L. De León, “Speech Separation by Kurtosis Maximization,” *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, vol. 2, pp. 1029-1032, 1998.
11. P. De Leon, “Building a digital signal processing laboratory,” *Proc. American Society for Engineering Education/Gulf-Southwestern Region*, 1998.
10. E. S. Otto and P. L. De León, “Digital CPFSK Transmitter and Noncoherent Receiver/Demodulator Implementation” *Proc. Int. Telemetering Conf*., 1997. 1st prize, student paper.
9. J. P. Leblanc and P. L. De León, “Source Separation of Speech Signals using Kurtosis Maximization,” *Proc. Allerton Conf. on Communication, Control, and Computing*, 1997.
8. P. L. De León, “Real-Time DSP-Based Carrier Recovery with Unknown Doppler Shift” *Proc. Int. Conf. on Signal Processing Applications and Technology (ICSPAT)*, 1997.
7. P. L. De León, “Optimization of the LMS Subband, Adaptive Filter System” *Proc. Int. Conf. on Signal Processing Applications and Technology (ICSPAT)*, 1997.
6. P. L. De León and D. M. Etter, “Experimental Results of Subband Acoustic Echo Cancelers Under Spherically Invariant Random Processes,” *Proc. IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP)*, vol. 2, pp. 961-964, 1996.
5. P. L. De León and D. M. Etter, “Examining the Effects of Room Response in Oversampled, Subband Acoustic Echo Cancelers,” *Proc. Asilomar Conf. on Signals, Systems and Computers*, vol. 1, pp. 464-467, 1995.
4. P. L. De León and D. M. Etter, “Mean Square Error Calculations for the Subband Adaptive Filter System,” *Proc. IEEE ASSP Workshop on Applications of Signal Processing to Audio and Acoustics*, pp. 107-110, 1995.
3. P. L. De León and D. M. Etter, “Experimental Results with Increased Bandwidth Analysis Filters in Oversampled Subband Acoustic Echo Cancelers,” *IEEE Signal Process. Lett*., vol. 2, no. 1, pp.1-3, Jan. 1995.
2. P. L. De León and D. M. Etter, “Experimental Results of a Modified Architecture for Oversampled Subband Acoustic Echo Cancelers,” *Proc. 6th IEEE DSP Workshop*, pp. 294-296, 1994.
1. P. L. De León and D. M. Etter, “On the Design of Analysis/synthesis Filters for a 2-Channel, Perfect Reconstruction Filter Bank,” *Proc. NAECOM*, vol. 1, pp. 94-100, 1993.

## BOOK CHAPTERS

Co-authored chapter 7 "Speaker Recognition Anti-Spoofing" with Nicholas Evans, Tomi Kinnunen, Junichi Yamagishi, Zhizheng Wu, Federico Alegre, and Phillip De Leon in *Handbook of Biometric Anti-Spoofing*, edited by Sébastien Marcel, Mark Nixon, and Stan Z. Li, Springer, 2014.

Co-authored chapter 11 with Delores M. Etter in *Subband and Wavelet Transforms: Design and Applications* edited by Ali Akansu and Mark J. T. Smith, Kluwer Academic Publishers, 1995.

## RESEARCH AWARDS, CONTRACTS, GIFTS, and GRANTS

*TOTAL: $8.1M*

50. Dept. of Energy, Sandia National Laboratories, “Collaborative Faculty and Student Research in Signal Processing and Machine Learning,” $325,094 (co-PI), 2022.
49. Dept. of Energy, Sandia National Laboratories, “Faculty Research in Signal Processing and Machine Learning,” $86,384 (PI), 2020.
48. Dept. of Energy, Sandia National Laboratories, “Using Software Defined Radios for Wireless Device Data Acquisition,” $64,108 (PI), 2020.
47. National Science Foundation, “CC*Compute: From Classroom to the Lab: NMSU Responds to the Changing HPC Landscape in New Mexico,” $399,869 (co-PI), 2020.
46. Dept. of Energy, Sandia National Laboratories, “Instantaneous Spectral Analysis for Identification and Classification of Bursty Data in Congested Frequency Bands,” $98,425 (co-PI), 2019.
45. Dept. of Energy, Sandia National Laboratories, “Faculty Research in Signal Processing and Machine Learning,” $55,027 (PI), 2019.
44. Northrup Grumman Corp., “Micro-Scale Initial Implementation (MSII) Program Bandpass Filter Development,” $87,100 (PI), 2019.
43. Dept. of Energy, Sandia National Laboratories, “Faculty Research in Signal Processing and Machine Learning,” $42,726 (PI), 2018.
42. Dept. of Energy, Sandia National Laboratories, “Instantaneous Spectral Analysis for Identification and Classification of Bursty Data in Congested Frequency Bands,” $162,690 (PI), 2018.
41. SameDay Security Corp., "Preparing the NMSU 3D Motion Capture System for Biomechanical Data Collection," $23,797 (PI), 2018.
40. Dept. of Energy, Sandia National Laboratories, “Faculty Research in Signal Processing and Machine Learning,” $46,633 (PI), 2018.
39. Dept. of Energy, Sandia National Laboratories, “Hilbert Spectral Analysis for Identification and Classification of Bursty Data in Congested Frequency Bands,” $98,600 (PI), 2018.
38. Dept. of Energy, Sandia National Laboratories, “Summer Faculty Research in Deep Learning, Mobile Analytics, and Signal Processing,” $47,330 (PI), 2017.
37. Dept. of Energy, Sandia National Laboratories, “Hilbert Spectrum Analysis of Moving Targets in ISR Data,” $94,251 (PI), 2017.
36. National Science Foundation, “Collaborative Proposal: Using Lean LaunchPad to Promote Transfer Students' Persistence in Engineering,” $348,043 (participant), 2014-2017.
35. Arrowhead Inc, winner of Launch competition for startup companies, “VoiceCipher, Inc,” awarded $25K in seed funding, 2013.

34. U.S. Army / Small Business Innovation Research (SBIR) grant Phase II, "Content Dependent Bandwidth Enhancement," with Invertix Corp $700,000, 2011.
33. U.S. Army Research Laboratory (ARL)/Army High Performance Computing Research Center (AHPCRC), "Utilizing a Graphics Processing Unit (GPU) for Pattern Recognition with Applications in Digital Speech Processing," $118,288 (PI), 2011.
32. U.S. Army Research Laboratory (ARL)/Army High Performance Computing Research Center (AHPCRC), "Utilizing a Multicore Graphics Processing Unit (GPU) for Low Bitrate Speech Coding," $140,426 (PI), 2010.
31. U.S. Army / Small Business Innovation Research (SBIR) grant Phase I + Phase I option, "Content Dependent Bandwidth Enhancement," with Invertix Corp $155,000, 2010.
30. U.S. Department of State, J. William Fulbright Foreign Scholarship Board, Fulbright Scholar Award - Austria, $25,000, 2008.
29. Sarnoff Corp/Rosettex Technology and Ventures Group, "Model-Based, Single-Microphone Speech Enhancement Model-Based, Single-Microphone Speech Enhancement," $179,000, 2007 (PI).
28. Texas Instruments, "Proposal for Donation of TI DSP Boards," $6000 [fifteen TMS320C6416DSKs DSP boards)], 2005 (PI).
27. Texas Instruments, "Proposal for Donation of TI DSP Boards," $4000 [ten TMS320C6416DSKs DSP boards)], 2004 (PI).
26. Motorola, "Future Development Tools for the Real-Time DSP Laboratory," $8400 (equipment donation) (PI), 2003.
25. NASA, "Research Supporting Satellite Communications Technology," $200,000 (co-PI), 2003.
24. NASA, "Effective Utilization of Commercial Wireless Networking Technology in Planetary Environments," $647,000 (PI), 2003-2005.
23. IBM, "Undergraduate Research Experience in Automatic Speech Recognition," $2000 cash grant, $1000 Software donation (PI), 2002.
22. NASA, "Renewal of the Center for Space Telemetering and Telecommunications Systems Grant," $160,000 (co-PI), 2002.
21. Xilinx Corp., "Xilinx University Professor's Workshop," $2180 (equipment donation) (PI), 2001.
20. NASA, "Renewal of the Center for Space Telemetering and Telecommunications Systems Grant," $700,000 (co-PI), 2001.
19. Motorola Foundation, "Utilizing Next Generation Software Development Tools in the Motorola DSP Laboratory," $10,500 (PI), 2001.
18. Air Force Research Laboratory, Human Effectiveness Directorate, "Techniques for Preprocessing Speech Signals for More Effective Audio Interfaces," $125,000 (PI), 2000.
17. Motorola Foundation, "Utilizing Next Generation Software Development Tools in the Motorola DSP Laboratory," $16,500 (cash grant) (PI), 2000.
16. NASA, "Renewal of the Center for Space Telemetering and Telecommunications Systems Grant," $700,000 (co-PI), 2000.
15. Motorola Foundation, "Instrumentation Grant for the Real-Time Digital Signal Processing Teaching Laboratory," $15,000 (PI), 1999.
14. Air Force Research Laboratory, Human Effectiveness Directorate, "Techniques for Preprocessing Speech Signals for More Effective Audio Interfaces," $125,000 (PI), 1999.

13. Motorola Semiconductor Products Sector (SPS), “Proposal for Seven Addition DSP56302EVMs,” $1743 (equipment donation) (PI), 1999.
12. NASA, “Renewal of the Center for Space Telemetering and Telecommunications Systems Grant,” $700,000 (co-PI), 1999.
11. Aldec Corp., “Proposal for VHDL Simulator License Donation,” license donation of three Active-VHDL Simulators, $5,000 (equipment donation) (PI), 1999.
10. Motorola Semiconductor Products Sector (SPS), “Proposal for Six Additional DSP56302EVMs,” $1494 (equipment donation) (PI), 1998.
9. Motorola Foundation, “Proposal for a Digital Signal Processing Teaching Laboratory,” $10,000 (PI), 1998.
8. Xilinx Corp., “Proposal for Xilinx Foundation Express and FPGA Evaluation Boards,” $8,693 (equipment donation) (PI), 1998.
7. NASA, “Renewal of the Center for Space Telemetering and Telecommunications Systems Grant,” $644,000 (co-PI) 1998.
6. Motorola Semiconductor Products Sector (SPS), “Proposal for Twelve DSP56302EVMs,” $5,437 (equipment donation) (PI), 1998.
5. Motorola Semiconductor Products Sector SPS, “Proposal for a Digital Signal Processing Teaching Laboratory,” $11,500 (PI), 1997.
4. NASA, “Renewal of the Center for Space Telemetering and Telecommunications Systems Grant,” $700,000 (co-PI) 1997.
3. Motorola Semiconductor Products Sector SPS, “Proposal for a Digital Signal Processing Teaching Laboratory,” $1750 (PI), 1997.
2. Tektronix Inc., “Instrumentation for Digital Signal Processing Teaching Laboratory”, $3615 (equipment donation) (PI), 1997.
1. Motorola Semiconductor Products Sector (SPS), “Proposal for Twelve DSP56002EVMs,” equipment donation of twelve Motorola DSP56002EVM Evaluation Modules, $3875 (equipment donation) (PI), 1996.

## TEACHING EXPERIENCE

*TOTAL: 11 courses, 1110 students*

EE312 Signals and Systems I

| | | |
|---|---|---|
| Fall 2016, 39 students | Fall 2015, 43 students | |
| Spring 2015, 28 students | Fall 2014, 30 students | Fall 2013, 37 students |
| Summer 2013, 16 students | Spring 2010, 22 students | Fall 2009, 38 students |
| Fall 2007, 36 students | Spring 2007, 31 students | Fall 2006, 45 students |

EE395 Introduction to Digital Signal Processing

| | | |
|---|---|---|
| Fall 2012, 15 students | | |
| Fall 2011, 20 students | Fall 2010, 18 students | Fall 2009, 20 students |
| Fall 2001, 43 students | Fall 2000, 16 students | Fall 1999, 29 students |
| Fall 1997, 27 students | Spring 1997, 22 students | Spring 1996, 13 students |

EE418/EE419 Senior CAPSTONE Design

Summer 2011, High-Dynamic Range Video Processing
Spring 2011, High-Dynamic Range Video Processing

EE545 Digital Signal Processing

Fall 2007, 25 students | Fall 2006, 30 students | Fall 2005, 28 students
Fall 1999, 15 students | Fall 1997, 11 students | Spring 1996, 12 students

EE442 (undergraduate)/EE592 (graduate) Real-Time Digital Signal Processing
Spring 2011, 7 /12 students | Spring 2009, 10/7 students
Spring 2007, 2/7 students | Spring 2006, 4/8 students | Spring 2005, 3/16 students
Spring 2004, 5/16 students | Spring 2003, 4/19 students | Spring 2001, 6/13 students
Spring 1999, 6/12 students | Spring 1997, 3/9 students | Fall 1996, 3/9 students

EE443 (undergraduate)/EE593 (graduate) Mobile Application Development
Spring 2018, 11/7 students | Fall 2015, 11/0 students | Spring 2014, 17/3 students
Spring 2013, 9/7 students

EE555 Advanced Linear Systems
Spring 2005, 16 students | Spring 2003, 20 students | Fall 2001, 9 students

EE565 Pattern Recognition and Machine Learning
Fall 2016, 16 students | Fall 2014, 9 students | Spring 2012, 10 students
Spring 2010, 12 students

EE589 Digital Speech Processing
Spring 2011, 7 students | Fall 2008, 11 students (TU-Wien) | Fall 2005, 8 students
Fall 2003, 14 students

EE490 (undergraduate)/EE590 (graduate) Quantum Computing (w/Profs. Badawy, Harding, Keifer, Mitchell, Misra)
Spring 2020, 10/11 students

EE594 Adaptive Signal Processing
Fall 2004, 15 students
Fall 2002, 10 students | Spring 2000, 4 students | Spring 1998, 10 students

EE596 Wavelets and Multirate Filterbanks
Summer 1999, 6 students

## POSTDOC and GRADUATE STUDENT ADVISING

Postdoctoral Fellows

2. Vijendra Apsingekar, 2010
1. Laura Boucheron, 2007-2009

Ph.D. Students

5. Matthew Martinez, “Falls Risk Classification Using Smartphone Based Inertial Sensors and Deep Learning,” Sandia National Laboratories Doctoral Fellow, 2018
4. Bryan Stewart, "Synthetic Speech Detection using Binary Images of Pitch Patterns and Selected Word Discriminators", 2015
3. Richard McClanahan, "Reducing Computation in Speaker Recognition Systems using a Tree-Structured Universal Background Model," Sandia National Laboratories Doctoral Fellow, 2014
2. Vijendra Apsingekar, "Efficient Speaker Recognition using Speaker Model Clusters," 2009
1. Stephan Berner, "Subband Transformation for Adaptive Direct Sequence Spread-Spectrum Receivers with Application to Parallel Implementation," 2001

Masters Students

30. Sasha Smith, “Instantaneous Spectral Analysis of Chemical Signatures,” 2022
29. Andre Nunes-Gerrero, “Walking Analysis System,” 2016

28. Phillip Chen, "Automatic Classification of Power Disturbance Events," 2015
27. Gregario Hinojos, "Distributed, Mobile Device-Based Face Recognition," 2013
26. Salvador Sanchez, "Real-Time Voice Activity Detection using a Sliding Window, Maximum Margin Clustering Algorithm," 2012
25. Richard Gutierrez, "Support Vector Machine Based Speaker Verification using a Graphics Processing Unit," 2012
24. Steven Sandoval, "Low Bit-Rate Speech Coding using Mel-Frequency Cepstral Coefficients," 2009
23. Kiran Ravalokula, " Efficient Speaker Verification System using Speaker Model Clustering for T- and Z-Normalizations," 2008
22. Aditi Akula, "Speaker Identification in the Presence of Room Reverberation using GMM_UBM Model," 2008
21. Steve Spence, "Real-Time Blind Speech Separation," 2007
20. Audrey Wallace Trevizo, "Speaker Identification in the Presence of Room Reverberation," 2007
19. Jason Greer, " Realization of a Sound Field Simulator in VHDL Using Xilinx System Generator," 2007
18. Vijendra Apsingekar, "Fast Speaker Identification using Speaker Model Clustering," 2006
17. Matt King, "Speaker Identification using a Genetic Algorithm," 2006
16. Murali Balasundaran, "Speaker Identification using Simulated Annealing," 2005
15. Nitin Mittal, "A Comparison of Two Subband Acoustic Echo Cancelers," 2005
14. Vishwanath Chukkala, "Modeling the Radio Frequency Environment of Mars for Future Wireless, Networked Rovers and Sensor Webs," 2004
13. Vijayakumar Velusamy, "Validation of the Radio Frequency Propagation Model with Applications to Proximity Wireless Networks on Mars," 2004
12. Laxmi Botla, "Automatic Speech Recognition Using a Blind Source Separator," 2003
11. Joe San Filippo, "Evaluation of Sphereically Invariant Random Process Parameters as Discriminators for Speaker Identification and Verification," 2002
10. Philip Stanley, "Linux-Based Receiver for Lightweight Optical Communications without a laser in Space," 2001
9. Ning Chen, "Analysis of the Multiresolution Frequency Domain Algorithm for Blind Source Separation, " 2001
8. Yungsheng Ma, "Generalization, Extension, and Enhancement of the Kurtosis Maximization Algorithm for Co-Channel Speech Separation," 2000
7. Stephan Berner, "FPGA-Based Filterbank Implementation for Parallel Digital Signal Processing," 1999
6. Piyasat Nilkaew, "Real-Time Implementation of a 2× Oversampled, Polyphase DFT Filter Bank using the Motorola DSP56002EVVM and DSP56302EVM," 1999
5. Honglin Sun, "Design Techniques for Uniform-DFT, Linear Phase Filter Banks," 1999
4. Hui Jiang, "Parameter Plane Characterization of G-Function SIRP Model for Bandlimited Speech Signals," 1999
3. Brad Scaife, "DSP-based spread spectrum carrier recovery with unknown Doppler shift," 1999
2. Tim Baggett, “High Speech A/D DSP Interface for Carrier Doppler Tracking,” 1998
1. Eric Otto, “Digital CPFSK Transmitter and Noncoherent Receiver/Demodulator Implementation,” 1997

Undergraduate Students (Senior/Honors Thesis Research)

3. Kian Bianco, "Text Analytics for Unstructured Text in Performance Evaluations," 2021

2. Kousei Richeson, "Data Visualization of the Instantaneous Spectrum using Julia and Plotly," 2020

1. Kevin Thompson, "Fast k-Means Clustering Using a GPU-based Accelerator," 2011

## HONORS and AWARDS

18. New Mexico State University, College of Engineering, Paul W. and Valerie Klipsch Endowed Professorship, 2015
    College of Engineering's oldest endowed Professorship for excellence in research, teaching, and service
17. College of Engineering Foreman Faculty Excellence Award, 2014
16. Winner of 2013 Arrowhead Launch competition for startup companies; awarded $25K seed funding, 2013
15. New Mexico State University, College of Engineering, John and Tome Nakayama Professorship for Excellence in Teaching, 2012
    College of Engineering's first endowed Professorship for excellence in teaching
14. New Mexico State University, College of Engineering, Bromilow Award for Research, 2010
    College of Engineering's highest faculty award for research
13. Received 2nd prize with Dr. Vijendra Apsingekar at New Mexico State Univ. University Research Council Research Fair, 2009
12. United States Department of State, Fulbright Faculty Scholar Award, Austria, 2008
11. 2nd Place Supercomputing Challenge and Teamwork award and Governor's Award of Excellence Technical (technical adviser to "Team 48," 2004
10. Finalist, Best Paper Award, Proc. Int. Conf. on Signal Processing Applications & Technologies (ICSPAT), 1999
9. 1st Prize 1997 International Telemetering Conference Student Paper Contest for "Digital CPFSK Transmitter and Noncoherent Receiver/Demodulator Implementation" with E. S. Otto
8. AT&T Bell Laboratories Cooperative Research Doctoral Fellowship, 1990 - 1995
7. NASA Astronaut Candidate Program (advanced to FAA flight physical), 1999
6. NASA Astronaut Candidate Program (advanced to FAA flight physical), 1998
5. National Science Foundation Graduate Fellowship Semi-Finalist, 1990
4. Eta Kappa Nu (National Honor Society for Electrical Engineering)
3. Pi Mu Epsilon (National Honor Society for Mathematics)
2. National Hispanic Scholar Award Recipient, 1987 - 1989
1. Texas Achievement Award (University of Texas at Austin), 1985 – 1989

## PATENTS

6. United States Patent #9865253, "Synthetic Speech Discrimination Systems and Methods," Inventors: P. L. De Leon and S. Spence, 2018.
5. United States Patent #8639502, "Speaker Model-Based Speech Enhancement System," Inventors: L. E. Boucheron and P. L. De Leon, Jan. 2014.
4. United States Patent #7948420, "Eliminating the use of Anti-aliasing filters in Digital Relays by Oversampling," Inventors: P. L. De Leon S. Brahma and R. Kavasseri, 2011.

3. United States Patent #7720012, “Speaker Identification in the Presence of Packet Losses,” Inventors: D. Borah and P. De Leon, 2010.
2. European Patent #95307423.4-2215, “Adaptive Finite Impulse Response Filtering Method and Apparatus,” Inventors: P. L. De Leon and D. R. Morgan, Lucent Technologies Bell Laboratories, 1995.
1. United States Patent #5553014, “Adaptive Finite Impulse Response Filtering Method and Apparatus,” Inventors: P. L. De Leon and D. R. Morgan, Lucent Technologies Bell Laboratories, 1996.

## INVITED RESEARCH TALKS

14. University of Colorado System's Excellence in Leadership Program (ELP), 2024
13. National Academies of Sciences, Engineering, and Medicine (NASEM), Defense Research at Historically Black Colleges and Universities and other Minority Institutions, "Best Practices, Challenges, and Successes in Building and Expanding Institutional Capacity to Compete for and Execute Department of Defense STEM Research Awards", 2021.
12. EURECOM, Multimedia Communications Department, Sophia Antipolis, France, " The Hilbert Spectrum: A General Framework for Time-Frequency Analysis", 2017.
11. Sandia National Laboratories, Albuquerque, New Mexico, "Theory of Hilbert Spectrum", 2016.
10. ParisTech, Telecom Institute, Paris, France, "Theory of Hilbert Spectrum", 2016.
9. EURECOM, Multimedia Communications Department, Sophia Antipolis, France, "Theory of Hilbert Spectrum", 2016.
8. University of Texas at El Paso (UTEP), Dept. of Computer Science, "Speaker Recognition", 2010.
7. Massachusetts Institute of Technology/Lincoln Laboratories (MIT/LL), "Speech Processing Research at NMSU", 2010
6. The Telecommunications Research Center Vienna (ftw), "Efficient Speaker Identification in Large Population Applications", 2009
5. Technical University Vienna (TU-Wien), "Introduction to Diffusion Maps," 2009
4. University of Arizona, Tucson (UofA), "Fast Speaker Identification in Large Population Applications" 2008
3. College of Engineering Dean’s Council, keynote speech, "Wireless Proximity Networks for Planetary Exploration," 2005
2. NASA (Houston, TX), "Effective Utilization of Commercial Wireless Networking Technology in Planetary Environments", 2003
1. University College Cork (UCC-Ireland), Dept. of Computer Science, "Advances in Blind Speech Separation,” Mar. 2002

## TECHNICAL SKILLS

***Programming*** – Assembly, C, CUDA-C, MATLAB, Objective-C, Python, Swift, TensorFlow. Familiarity with C++, HTML, PHP, revision control systems (GitHub, subversion, Mercurial). Developed Assembly/C software for Freescale and TI DSPs for real-time processing including specialized code optimization techniques. Developed GPU CUDA-C software for high-performance parallel computing. Developed several iOS applications for iPhone and iPad in Objective-C and Swift. Developed Python codes (using TensorFlow and PyTorch libraries) for machine learning and deep learning and (using OpenCV) for Image Processing.

***Speaker recognition***: developed software for GMM-UBM, Support Vector Machine, and i-Vector based speaker recognition systems. Developed algorithm and codes for fast and efficient search techniques for speaker identification and efficient computation in speaker verification. Developed codes to classify speech signals as human or synthetic to guard against biometric attacks.

***Speech enhancement, noise reduction, and echo cancellation***: developed software for spectral subtraction, iterative wiener filtering. Developed software for acoustic echo cancellation using subband adaptive filtering for hands-free and speakerphone applications.

***Speech coding***: developed software for scalar and vector quantization (VQ)-based codecs and LPC-based codec. Familiar with CELP, MELP, and MELPe codecs. Experience with various subjective/objective audio quality assessment methods.

***Embedded systems/DSP***: developed assembly and C codes for digital filtering, adaptive filtering, modem, and FFT-based applications. Target hardware includes Texas Instruments TMS320C6416, Motorola DSP56002, Motorola Freescale DSP56302. Past experience in FPGA (VHDL Xilinx).

***Machine learning and pattern recognition***: Bayesian classifiers, diffusion maps, Gaussian mixture models, (kernel) matching pursuit, K nearest neighbor, neural networks, principle component analysis, and support vector machines. Developed software for content-based email spam filtering, recognition of handwritten digits, and various classifiers for data sets. Developed MATLAB and Python codes (using TensorFlow and PyTorch libraries) for machine learning and deep learning.

***Adaptive filtering***: developed software for many adaptive algorithms including LMS, NLMS, RLS, fast RLS algorithms. Developed software for adaptive noise reduction and equalization.

***PortAudio API***: developed real-time signal processing PC-based software using PortAudio API. Projects included adaptive filters, digital audio effects, BPSK modem, and music synthesizer

## PROFESSIONAL ACTIVITIES AND SERVICE

**Advisory Committees**

Hispanic Serving Research Universities (HSRU), 2023-2025
Fulbright Austria Alum Advisory Panel, 2023-2025
Electronic CareGiver, Scientific Advisory Board, 2016-2020
MIT/Lincoln Laboratories Graduate Fellowship, 2009-2012
IEEE Technical Committee Industry Digital Signal Processing Technology (TC-IDSP), 2010-2014
Lucent Technologies/Cooperative Research Fellowship Program (CRFP) (Murray Hill, NJ), 1999

**Conference Committees**

IEEE Workshop on Automatic Speech Recognition and Understanding, program committee, 2009
IEEE DSP Workshop, finance chair, 2004
Xilinx University Professor's FPGA Workshop, organizer, 2001

**Conference Review Activities**

IEEE Int. Conf. on Acoustics, Speech & Signal Processing (ICASSP), 2008-2023
Interspeech Conference, 2011-2019
IEEE Emerging Signal Processing Applications (ESPA) Conference, 2011
IEEE Conference on Mobile and Wireless Communications Networks, 2006
IEEE International Symposium on Circuits and Systems (ISCAS), 2005

European Signal Processing Conference, 2000, 2016, 2017, 2018
American Society for Engineering Education/Gulf-Southwestern Region Conference, 2000
42nd Midwest Symposium on Circuits and Systems, 1999

**Conference Session Chairs**
IEEE Aerospace Conference, 2005
American Society for Engineering Education/Gulf-Southwestern Region, 2000
42nd Midwest Symposium on Circuits and Systems, 1999

**Editorial/Review Activities**
ACM Computing Surveys, 2011
IEEE J. Selected Topics in Signal Processing, Special Issue on Spoofing and Countermeasures for Automatic Speaker Verification, Guest Editor, 2016, 2017
IEEE Trans. Aerospace., 2007, 2010
IEEE Trans. Antennas and Propagation, 2013
IEEE Trans Broadcasting, 2009
IEEE Trans. on Circuits and Systems, 1996, 1997, 1999
IEEE Trans. Inform Forensics and Security, 2014
IEEE Transactions on Information Forensics & Security, 2014, 2015, 2025
IEEE Trans Multimedia, 2010, 2011
IEEE Trans. Signal Proc., 1997, 2000, 2002, 2003, 2006, 2007, 2018
IEEE Trans. Speech and Audio Proc., 1999, 2000, 2006, 2007, 2009, 2012, 2013, 2014
IEEE Signal Proc. Letters, 1999, 2003, 2006, 2007, 2011
Signal Processing, 2010

**Professional Societies**
Acoustical Society of American, 1996-1999
American Society of Engineering Education, 1998-2000
IEEE 1996-present
IEEE (Senior Member) 2003-present
National Academy of Inventors
Society of Hispanic Professional Engineers

**Professional Review Panels**
National Academies of Sciences, Engineering, and Medicine, Defense Research at Historically Black Colleges and Universities and Other Minority Institutions, Speaker and Panelist, 2021.
National Science Foundation, SCH Proposal Review Panelist, 2019
National Science Foundation, SCH Proposal Review Panelist, 2017
GEM Program, application review panelist, 2014
National Science Foundation, CISE Proposal Review Panelist, 2004
National Science Foundation, CISE Proposal Review Panelist, 2003
NASA Proximity Wireless Networks Workshop (Houston, TX), 2003
Multimodal Speech and DARPA Speech in Noisy Environments Workshop, 2002
NASA Space Communications Program, Panel Member, 2002
Massachusetts Institute of Technology (MIT) Minority Introduction to Engineering, Science, and Entrepreneurship (MITE2S), Panel Member, "Overcoming Social & Cultural Barriers to Succeed in Engineering and Science," 25th Anniversary Conference, 2000

## UNIVERSITY SERVICE

**University**

CU System AI Committee, 2025
CU System Data Governance & Management , 2024-2025
CU Denver Provost search committee co-chair, 2025
AI Research Working Group co-chair, 2025
Budget Allocation and Realignment Committee (BARC), 2024-2025
CU System Innovation and Entrepreneurship Showcase, planning committee 2024, 2025
LEADS 2025 Goal 2 Research and Creativity Team, 2020-2021
Faculty appointments task force, 2019-2020
University research support systems task force (chair), 2017-2018
Graduate Research Ethics Committee, 2012
Appointed by NMSU Provost Wendy Wilkins

New Mexico State University, University Research Council
Chair, 2010-2011
Chair Elect, 2009-2010
College of Engineering representative, 2009-2012

Research Processes Committee, 2010-2011
Appointed by NMSU President Barbara Couture as co-Chair with Vice President for Research V. Chaitanya

Information Sciences umbrella committee, 2002, 2003, 2004

**College of Engineering**
Associate Dean of Research, College of Engineering search committee, 2022
Director, Carlsbad Environmental Monitoring and Research Center, chair search committee, 2021
Department Head, Mechanical and Aerospace search committee, 2019
Harold Foreman Endowed Professorship Review Committee, 2017
Wells-Hatch Endowed Professorship Review Committee, 2016
Aggie Innovation committee, 2013-2016
Distinguished Professor selection committee, 2012

**Department**
Undergraduate curriculum revision committee (Chair), 2014, 2015
Graduate studies committee (Chair), 2013
Graduate studies committee (Chair), 2012
ABET Committee, 2011
Graduate studies committee (Chair), 2011
Undergraduate studies committee, 2011
ABET coordinator, course assessment database developer, 2010
Undergraduate studies committee, 2010
Undergraduate curriculum revision committee, 2007
Faculty search committee (Communications), 2006
Department Head advisory committee, 2005, 2006.
Klipsch School department head search committee, 2005
Faculty search committee for Communications position, 2005
Graduate studies committee, 2005
Graduate studies committee, 2004
Department Head search committee, 2004
Graduate studies committee, 2003
Graduate studies committee, 2002
Faculty search committee (two positions in Computer), 2002
Graduate studies committee, 2001
Graduate studies committee, 2000

Faculty search committee (Communications), 2000
Faculty search committee (Control/VLSI/DSP), 1999
Graduate studies committee, 1999
Faculty search committee (Chair, Communications), 1998
Ph.D. qualifying examination committee, 1998
Faculty evaluation revision committee, 1997
Ph.D. qualifying examination committee, 1997