



Research Tool for Faculty

Visit this website to find faculty and capabilities at the University of Texas at San Antonio.

www.utsa.edu/experts

UTSA College of Engineering	Name	Email	Phone
Electrical & Computer Engineering			
Communications			
Positioning and navigation algorithms; GPS, A-GPS, Galileo, GNSS; indoor positioning, WLAN fingerprinting; collaborative positioning; activity sensors, sensor fusion and filters; mobile computing and applications; automated messaging, mHealth; CDMA acquisition techniques; signal processing for communications; software-defined radio; implementation platforms; transforms, filterbanks, wavelets	David Akopian	david.akopian@utsa.edu	210-458-7718
Smart power grids, renewable energy management, wireless communications and networking, and cyber-physical systems, with focus on optimization methods and resource allocation	Nikolaos Gatsis	nikolaos.gatsis@utsa.edu	210-458-5519
Wireless communications, networks and 4G; smart grid power systems; cyber-physical systems; software defined radio	Brian Kelley	brian.kelley@utsa.edu	210-458-6484
Fiber optic communications; photonic generation and transmission of millimeter waves; broadband communications systems; optical sensing	Mehdi Shadaram	mehdi.shadaram@utsa.edu	210-458-4431
Computer Engineering			
Computer architecture and systems, new memory technologies, emerging computer architectures	Lide Duan	lide.duan@utsa.edu	210-458-5208
Energy efficient computing; energy efficient circuits and systems; low power vlsi systems; power aware cloud computing; post-award and secure systems; computer architecture and benchmarking	Eugene John	eugene.john@utsa.edu	210-458-5590
Cybersecurity issues in domains such as cloud and mobile computing, internet of things and social networking; foundational aspects of authorization in information systems including access control, security policy specification and enforcement, formal analysis of security policies, etc.	Ram Krishnan	ram.krishnan@utsa.edu	210-458-6293
Computer architecture with emphasis on heterogeneous architecture, embedded system and system-on-chip architecture, high-performance storage, and hardware-assisted security	Junghee Lee	junghee.lee@utsa.edu	210-458-8539
Secure virtualization, accountable cloud computing, root-kit detection, and secure Internet of Things (IoT)	Wonjun Lee	wonjun.lee@utsa.edu	210-458-5942
Computer architecture; parallel and distributed computing; computer network; autonomous performance optimization; neural network and deep learning	Wei-Ming Lin	weiming.lin@utsa.edu	210-458-5529
Cloud computing, virtual resource placement optimization, auto-deploy and configure domain specific cloud resources, quantum computation, quantum key security	J. Jeff Prevost	jeff.prevost@utsa.edu	210-458-5027
Control and Systems			
Autonomous vehicles, cyber-physical systems, distributed multi-agent systems, sensor networks, human-robot interaction	Yongcan Cao	yongcan.cao@utsa.edu	210-458-6269
Large-scale systems, cyber-physical systems, big data analytics, computational intelligence, mobile and cloud-based robotics	Mo Jamshidi	mo.jamshidi@utsa.edu	210-458-7074
Mathematical modeling of cardiovascular systems; boolean network control; systems biology	Yufang Jin	yufang.jin@utsa.edu	210-458-5588
Solar forecasting and modeling high penetration photovoltaic (pv) impact; solid-state transformer; real-time modeling and analysis of power networks and smart micro-grid; modeling , simulation and analysis of power electronics systems, focused on stability, fault analysis, and integration of renewable energy generation; design and control of three phase converters and AC drives	Hariharan Krishnaswami, Sara Ahmed	hariharan.krishnaswami@utsa.edu, sara.ahmed@utsa.edu	210-458-5086, 210-458-8513
Robust and adaptive control of nonlinear systems, homogeneous systems theory, output feedback control, observer design and fault detection, intelligent control systems, control of nonholonomic systems, underactuated mechanical systems, aerospace systems, communication network, robotics	Chunjiang Qian	chunjiang.qian@utsa.edu	210-458-5587

Stability and optimization of dynamical systems; cyber-physical and networked control systems; power systems operations; linear system theory and design; networked unknown input observers; multi-level, multi-objective optimization	Ahmad Taha	ahmad.taha@utsa.edu	210-458-5568
Electronic Materials and Devices			
Energy-efficient logic and memory devices for data-centric computing; carbon-based and other emerging nanomaterials; experimental and computational nanodevices, specifically electronic/thermal/magnetic transport; beyond-cmos nanoelectronics	Ethan C. Ahn	chiyui.ahn@utsa.edu	210-458-4491
Electronic and optoelectronic materials and devices, including: ferroelectric, piezoelectric, pyroelectric, dielectric, and multiferroic ceramics and crystals; electro-optical-mechanical-magnetic sensors, modulators, actuators, energy-convertors, and tunable devices	Ruyan Guo, Amar Bhalla	ruyan.guo@utsa.edu, amar.bhalla@utsa.edu	210-458-7057, 210-458-6268
Digital Signal Processing			
Big visual data analytics and fusion, artificial intelligence and predictive models, multimedia signal processing and coding, information security and digital forensics, computational vision, computer-aided biometric and medical imaging systems, 3D imaging, sensors and health informatics	Sos Agaian	sos.agaian@utsa.edu	210-458-5939
Computational biology; computational neuroergonomics; brain computer interface; deep learning; bayesian methods	Yufei Huang	yufei.huang@utsa.edu	210-458-6270
Signal processing for bioinformatics and biomedical applications, information theory and applications in genomics, wireless communications	Michelle Zhang	michelle.zhang@utsa.edu	210-458-6856
Mechanical Engineering			
Labs: Turbulence in Natural Systems, Robotics and Motion, Manufacturing Systems and Automation, Flexible Manufacturing and Lean Systems, Built Environment Simulation & Testing (BEST), Computational Bioengineering and Nanotechnology, Multiphase Flow Simulation, Vascular Biomechanics and Biofluids, Cardiovascular Biomechanics, Advanced Robotic Manipulators, Control of Flow and Dynamical Systems, Computational Reliability and Visualization, Manufacturing Systems and Automation, Mechanics of Biological Materials/Structures, Nonequilibrium Phenomena, Computational Mechanics	Hai-Chao Han	hai-chao.han@utsa.edu	210-458-4952
Reliability and quality control; applied multivariate analysis; statistical learning and data mining; design of experiments; response surface methodology and process optimization	Adel Alaeddini	adel.alaeddini@utsa.edu	210-458-8747
Waves/current interactions in the ocean, turbulent oscillatory and pulsatile flows; diffusion of turbulent plumes; coastal flows	Kiran Bhaganagar	kiran.bhaganagar@utsa.edu	210-458-6496
Legged robotics; humanoid robotics; human-robot interaction; optimal control; iterative learning control	Pranav Bhounsule	pranav.bhounsule@utsa.edu	210-458-6570
Mathematical programming; computational optimization methods; large-scale systems modeling; applications: logistics and transportation, bioenergy supply chain	Krystal K. Castillo	krystal.castillo@utsa.edu	210-458-8746
Design and analysis of advanced (flexible) manufacturing systems; intelligent scheduling and shop floor control; manufacturing cell design and cell control; neural network applications in manufacturing; enterprise modeling and process re-engineering; supply chain management and integration; activity-based costing	F. Frank Chen	ff.chen@utsa.edu	210-458-5382
Building performance simulation; building controls and diagnostics; indoor environment quality; energy informatics; probabilistic graphical models; numerical optimization	Bing Dong	bing.dong@utsa.edu	210-458-8189
Biomechanics and bioheat transfer; computational cancer research; image-guided real-time surgical control; haptic device enabled surgical simulation; medical device design and optimization; mathematical modeling, parallel computing and large scale visualization; Center for Simulation, Visualization and Real-Time Prediction	Yusheng Feng	yusheng.feng@utsa.edu	210-458-6479

Multiphase flow modeling and simulation; computational fluid dynamics; heat and mass transfer in engineering systems	Zhi-Gang Feng	zhigang.feng@utsa.edu	210-458-573
Vascular biomechanics; abdominal aortic aneurysms; pulmonary hypertension; non-destructive tissue mechanics	Ender Finol	ender.finol@utsa.edu	210-458-8058
Mechanical behavior of materials; low dimensional nanomaterials; biological and bio-inspired materials and structures; computational material design; advanced materials manufacturing, characterization and testing	Wei Gao	wei.gao@utsa.edu	210-458-5567
Cardiovascular biomechanics; left ventricular remodeling post-myocardial infarction due to aging; vascular modeling in response to mechanical stress; mechanism of artery buckling and tortuosity	Hai-Chao Han	hai-chao.han@utsa.edu	210-458-4952
Medical device design; controlled drug delivery; mems/nems; microneedles; photothermal therapies; implant development; minimally-invasive interventions	R. Lyle Hood	robert.hood@utsa.edu	210-458-7909
Physical human-robot interaction (phri), exoskeletons, compliant mechanisms	Amir Jafari	amir.jafari@utsa.edu	210-458-6544
Metastable thermodynamics; phase change heat transfer; system thermal management	Amir Karimi	amir.karimi@utsa.edu	210-458-5514
Hydraulic fracturing; geomechanics and reservoir dynamics; finite deformation for solid materials; micro-scale modeling for porous media; parallel computing for large systems	Ruijie (Jerry) Liu	ruijie.liu@utsa.edu	210-458-5511
Multi-scale flow control; turbulent and vortex flow control; dynamical systems control; unmanned aerial systems; wind energy	Victor Maldonado	victor.maldonado@utsa.edu	210-458-8288
Energy conversion, uncertainty analysis, engineering education	Randall Manteufel	rmanteufel@utsa.edu	210-458-5522
Risk assessment methods for fatigue and fracture of aircraft structures; enhanced finite element methods for sensitivity analysis; probabilistic methods development; high performance computational solid mechanics	Harry Millwater	harry.millwater@utsa.edu	210-458-4481
Manufacturing engineering; shop floor control; distributed decision-making; lean six sigma applications; radio frequency identification; automation; Center for Advanced Manufacturing and Lean Systems	Can (John) Saygin	can.saygin@utsa.edu	210-458-7614
Stress corrosion cracking; hydrogen embrittlement; coating adhesion; passivation; localized corrosion; atmospheric corrosion; corrosion inhibitors	Brendy Rincon Troconis	brendy.rincon@utsa.edu	210-458-6773
Sustainability of manufacturing systems; leanness of manufacturing systems: assessment, value stream mapping, implementation methods, and training programs; web-based applications in manufacturing	Hung-da Wan	hungda.wan@utsa.edu	210-458-6325
Nanomechanics of bone; prediction/prevention of age-related bone fragility fractures; bioinspired design of hybrid nanocomposites; digital model of trabecular bone	Xiaodu Wang	xiaodu.wang@utsa.edu	210-458-5565
Materials-by-design, extreme materials, dynamic failure, shock physics, planetary science	Justin Wilkerson	justin.wilkerson@utsa.edu	210-458-5521
Computational mechanics, multiscale modeling and simulation, nanomechanics and microcontinuum theory	Xiaowei Zeng	xiaowei.zeng@utsa.edu	210-458-7698
Biomedical Engineering			
Orthopedic and cardiovascular biomaterials	C. Mauli Agrawal	mauli.agrawal@utsa.edu	210-458-4110
Bioreactors for musculoskeletal tissues; bone tissue engineering; interplay of biophysical and biochemical stimuli; cell and drug delivery for orthopedic regeneration; mechanical modeling of biological architectures; materials characterization	Teja Guda, Joo L. Ong	teja.guda@utsa.edu, anson.ong@utsa.edu	210-458-8529, 210-458-7084
Biosensor based on photonic crystal structures, Photoacoustic imaging and fiber optic based two-photon fluorescence biosensing and imaging, Nanobiotechnology	Jing Yong Ye	Jingyong.Ye@utsa.edu	210-458-5056
Cell-based therapies for orthopaedic injuries; tissue engineering strategies for improving tissue perfusion; bioreactor technology development for skeletal muscle injuries/diseases	Christopher R. Rathbone	chris.rathbone@utsa.edu	210-458-7199

UTSA College of Sciences			
Astronomy & Physics			
Materials science of thin films; Metamaterials; Microdevices; Photovoltaics; sensors	Arturo Ayon	arturo.ayon@utsa.edu	(210) 458-6564
Advanced photonic materials; Wave phenomena in periodic and random media	Andrey Chabanov	andrey.chabanov@utsa.edu	(210) 458-6426
Electronic thin films & heterostructures; Energy materials & catalysis; smart materials & control systems; Surface and interface;	Chonglin Chen	chonglin.chen@utsa.edu	(210) 458-6427
Biophysics; Theoretical and computational physics	Liao Chen	liao.chen@utsa.edu	(210) 458-5457
Condensed matter theory; Nanophotonics; Plasmonics; Physics of materials and nanostructures	Nicolas Large	nicolas.large@utsa.edu	(210) 458-8279
Biophysics; Optical techniques; Plasmonics; Single molecule studies;	Kathryn Mayer	kathryn.mayer@utsa.edu	(210) 458-8281
Magnetism; Nanotechnology; Organic electronic devices; Plasmonics	Carlos Monton	carlos.monton@utsa.edu	(210) 458-6564
Biophotonics; Nanomaterials; Optical spectroscopy; Photonic materials	Kelly Nash	kelly.nash@utsa.edu	(210) 458-6153
Active galactic nuclei; Infrared instrumentation; Infrared observations; Stellar discs	Chris Packham	chris.packham@utsa.edu	(210) 458-8671
Astrophysics of interacting binary stars; Supernovae; X-ray emission of spiral galaxie	Eric Schlegel	eric.schlegel@utsa.edu	(210) 458-6425
Catalysis and diffraction; Electron microscopy; Nanoparticles; Nanotechnology; Physics of materials; International Center for Nanotechnology and Advanced Materials (ICNAM); Kleberg Advanced Microscopy Center (KAMC)	Miguel Jose-Yacaman	miguel.yacaman@utsa.edu	(210) 458-6954
Chemistry			
Chemical imaging; mass spectrometry; metal clusters; nanomaterials	Stephan B. H. Bach	stephen.bach@utsa.edu	(210) 458-6896
Functionalization of nano-sized cavities; nanoparticles; nanoporous metal-organic frameworks	Banglin Chen	banglin.chen@utsa.edu	(210) 458-5461
Catalytic oxidation processes; Design and development of chiral catalysts; Diazo chemistry; Highly enantioselective catalytic reactions; Medicinal chemistry	Michael P. Doyle	michael.doyle@utsa.edu	(210) 458-4196
Computational spectroscopy; modeling heavy-element compounds; theoretical chemistry	Walter C. Ermler	walter.ermler@utsa.edu	(210) 458-7005
Asymmetric catalysis; Heterocyclic synthesis; Medicinal chemistry; Physical organic chemistry; Process chemistry	Doug E. Frantz	doug.frantz@utsa.edu	(210) 458-7048
Electrochemical enzyme assays; electrochemical (bio)sensors and modified electrodes; electrode films	Waldemar Gorski	waldemar.gorski@utsa.edu	(210) 458-4961
Asymmetric catalysis; Organic synthesis; Polymer and combinatorial chemistry	Hyunsoo Han	hyunsoo.han@utsa.edu	(210) 458-5456
Muscular Dystrophy and signal transduction; Transcription factor purification	Harry Wellington Jarrett II	harry.jarrett@utsa.edu	(210) 458-7053
Bioinorganic chemistry; Non-heme iron enzymes	Donald M. Kurtz Jr	donald.kurtz@utsa.edu	(210) 458-7060
Enantioselective catalysis; Medicinal chemistry; Synthesis of biologically active natural products	Oleg V. Larionov	oleg.larionov@utsa.edu	(210) 458-6050
Cofactor biosynthesis; mechanistic enzymology; metabolism; oxygen activation; protein biochemistry; redox regulation	Aimin Liu	aimin.liu@utsa.edu	(210) 458-7062

Medicinal chemistry; Small molecule drug discovery in cancer, infectious disease, and neuroscience areas; Synthesis of natural products; Synthetic methodology; Center for Innovative Drug Discoveries	Stanton F. McHardy	stanton.mchardy@utsa.edu	(210) 458-8676
Bioinorganic chemistry; catalysis and materials; Green chemistry; inorganic chemistry	Ghezai Musie	ghezai.musie@utsa.edu	(210) 458-5454
Asymmetric synthesis; β -Homoamino acids; Chemical carcinogenesis; Green chemistry; Novel lipopeptides	George R. Negrete	george.negrete@utsa.edu	(210) 458-5448
Simulation of chemical reactions; simulation of photodissociation dynamics; theoretical chemistry	Raymond Sadeghi	raymond.sadeghi@utsa.edu	(210) 458-5747
Conjugated polymers; Luminescence imaging; Photochemistry and photophysics; Photoresponsive materials	Kirk S. Schanze	kirk.schanze@utsa.edu	(210) 458-6813
Bioinorganic chemistry; catalysis » Kinetics and mechanism of inorganic reactions; odd-electron organometallics; synthetic inorganic and organometallic chemistry	Zachary Tonzetich	zachary.tonzetich@utsa.edu	(210) 458-5465
Asymmetric synthesis and reaction; Oxidation; Phosphorus chemistry; Small ring compound	John C.-G. Zhao	cong.zhao@utsa.edu	(210) 458-5432
Computer Science			
Computer and Information Security, Computer Networks	Rajendra Boppana	Rajendra.Boppana@utsa.edu	(210) 458-4434
Big data; machine learning; natural language processing; biomedical informatics	Mikhail Gubanov	Mikhail.Gubanov@utsa.edu	(210) 458-4166
Cloud Computing and Big Data, Computer and Information Security, High Performance Computing, Parallel and Distributed Systems, Programming Languages and Compilers	Tongping Liu	Tongping.Liu@utsa.edu	(210) 458-5550
Computer and Information Security, Software Engineering	Jianwei Niu	Jianwei.Niu@utsa.edu	(210) 458-7360
Bioinformatics and Computational Biology	Kay Robbins	Kay.Robbins@utsa.edu	(210) 458-5543
Computer and Information Security	Ravi Sandhu	Ravi.Sandhu@utsa.edu	(210) 458-6081
Computer and Information Security, Programming Languages and Compilers, Software Engineering	Xiaoyin Wang	Xiaoyin.Wang@utsa.edu	(210) 458-5734
Computer and Information Security	Gregory White	Greg.White@utsa.edu	(210) 458-2166
Computer and Information Security	Shouhuai Xu	Shouhuai.Xu@utsa.edu	(210) 458-5739
Computer and system security; Cloud computing; Virtualization	Meng Yu	Meng.Yu@utsa.edu	(210) 458-4967