Search Committee
President
South Dakota Mines

September 20, 2024

Dear Board of Regents
Dear members of the search committee,

I am applying with great passion and enthusiasm for the position of **President at South Dakota Mines.** I reviewed the University's website and the search announcement: https://www.sdsmt.edu/about/university-leadership/office-of-the-president/presidential-search.html

In particular, I reviewed the University Profile, Academic Departments, University Mission, Vision and Values, and **Position Summary and Requirements**. This position matches perfectly my background and aspiration. I believe that I have the credentials and skills to work closely with the Board of Regents as well as the University faculty, students, alumni and administrators and lead the university very effectively. This is particularly the case for South Dakota Mines with a mission "to educate scientists and engineers to address global challenges, innovate to reach our creative potential, and engage in partnerships to transform society." My CV constitutes a partial list of my qualifications, skills, abilities and achievements that relate to this position including my first job at Jeffery Mining Machinery Division of Dresser Industries!

Currently, I serve as the Dean of the GameAbove College of Engineering and Technology at Eastern Michigan University. Faculty members in my college include engineers, computer scientists, engineering technologists, scientists, business professionals, and others. We are also the proud home of our ROTC program on campus.

Below are partial descriptions of my background as it relates to each of the **qualities and experiences as president of South Dakota Mines**:

- **A strategic and forward-thinking visionary with an ability to bring people together to move the university forward.**
  Over the past 9 years, our college advanced strategic initiatives in new programs development (e.g. engineering, cybersecurity, aviation technology and more), accreditation, corporate engagement, recruitment, fundraising, globalization and more.

- **Ability to effectively build relationships with students, faculty, staff, community leaders, industry partners and policymakers.**
  Examples include initiating and supporting societies of women engineers and black engineers, hiring diverse faculty in engineering, raising funds to offer free tutoring to our student, developing scholarships for students, securing grant and research opportunities for faculty and more.

- **An outstanding communicator and listener willing to embrace the values, traditions, and culture of the university, Rapid City community, and state of South Dakota.**
  Held several platforms to listen to faculty and students (council meetings, all college meetings, coffee with the dean hour, student clubs and more) and embrace our values and vision. I accompanied our President to the State Capital to make the case for Capital Outlay (finally winning a $42M grant to renovate one of our buildings). I participated in the city and community engagement activities to help advance our communities.

- **Ability to build and foster relationships with the City of Rapid City and its partner organizations to drive economic development and provide opportunities for students and graduates.**
  I played a significant role in building a strong relation with the Michigan Economic Development Corporation to develop a skilled workforce to help our communities grow and industries flourish. I also worked with several local industrial and government partners to create internship and employment opportunities for our students and secure grants for our faculty supporting their teaching and research. I have a strong relation with the city of Ypsilanti.

- **A committed and inspiring leader who empowers others and optimizes the efficiency of a skilled and dedicated leadership team, faculty, and staff.**
  I believe that good leaders train future leaders. I have worked very closely with both the President and Board of Regents at EMU, advising them about how to grow programs in our college as well as other colleges, domestic and global recruitment, ranking, infrastructural development to support academic programs and the University mission and much more. I have travelled with President Smith (at EMU) in several international trips to support our vision to globalize our campus.
  I have helped inspire faculty to pursue and secure grants with local industry and government with strong internal seed grants. I have helped advance six faculty members (including three women) to administrators' roles. I led or co-led university-wide committees on strategic planning and participated in many other high-level strategic decisions and planning (including leading a provost search committee and serving on a VP enrollment management search committee).

- **A student-centered leader who will enrich the student experience, foster a culture of innovation and opportunity, be committed to student success, and support the needs of STEM students.**
  We have taken several initiatives to advance student success. We developed new academic programs and built relation with major companies that led to successful employment opportunities with higher starting salaries. We supported societies to emphasize inclusion (establishing the society of women engineers and the society of black engineers). We established programs that offer free tutoring to our student, focusing on our freshmen and sophomore students, in the areas English and Mathematics. We successfully reached out to sponsors to help provide financial help (scholarships) to students.

- **Ability to advance the university's expanding research agenda and promote a forward-thinking culture through collaboration with stakeholders.**
  I am working closely with our faculty and the university administrators to create a research environment. I was successful in aligning faculty teaching load to be consistent with a strong research agenda. In addition, we created new programs in cybersecurity and attracted leading faculty in that and related field. We are working on creating new ones on Internet of Things and Artificial Intelligence. I have secured a $1.0M grant form MEDC to create the infra structure for research in cybersecurity and a $1.6M gift from GameAbove to help advance the research.

- **A commitment to excellence in teaching and ensuring that academic programs meet industry and workforce needs.**
  We have led campus in creating hi-flex class rooms for online and in person simultaneous education, Tech Talks (where we invite industry leader to deliver talks to our students and faculty, several new labs on emerging technologies) and more. In addition, we created more than 12 industrial advisory board members that engage about 200 industry leaders to give feedback about curriculum, employer expectations and internship and employment opportunities.

- **A skilled fundraiser with experience in cultivating relationships, developing partnerships, and building a positive culture of philanthropy and community engagement.**
  Our college delivered the most (amongst all other academic colleges to our Capital Campaign that concluded last year with $120M funds raised. We have engaged our previous alums and other intuition in giving to our college that resulted in significant contributions. My CV shows details of our successes. Examples include
  - https://today.emich.edu/story/story/11684
  - https://today.emich.edu/story/story/11789
  - https://today.emich.edu/story/story/12109

- **Ability to "tell the story" of SDM and be a champion for the university and its role in the community, state, and region.**
  In order to help improve recognition of our academic excellence, we created an externally funded position of a marketing specialist in the college. Working with many on campus, we established several communication platforms for the College:
  - Conducted several interviews with key media reporters and talk show hosts:
    https://thegreatvoice.com/Episode/mohamed-qatu-the-guy-gordon-show/14955
    https://www.youtube.com/watch?v=FoLPL8lQSjA
  - Published several influential News Releases and articles:
    https://www.automationalley.com/articles/the-challenge-of-finding-engineering-and-technical-talent-in-michigan
    https://today.emich.edu/story/story/12191
    https://today.emich.edu/story/story/12179
  - Created social media outlets for our College (LinkedIn, Instagram, Facebook) and Programs
  - Delivered several key presentations to the College faculty and the community,

  In addition, we started the biannual magazine (INNOVATE) and a monthly electronic newsletter (VELOCITY) for the College**.** At the State level, our engagement helped advance our new innovative programs and brought $42M of capital outlay funding**.**

- **A high level of understanding of fiscal issues affecting institutions of higher education, in particular, an astute knowledge of public university finances and state-level budgeting and appropriations.**
  I am recognized on campus for my data-driven and sound decision-making processes, building collaborative partnerships across units and disciplines, and for strong planning for and development of undergraduate, graduate and online programs. Examples include the development of new programs, requesting faculty lines and reallocating resources. In addition, I have demonstrated a deep understanding of resource allocation and finance and budgetary processes (yielding a surplus for many years). Our college is recognized and commended for its lean course offerings and optimal usage of space and laboratories.

- **Knowledge of key issues and trends impacting public higher education and the willingness to be a change agent who can proactively address challenges.**
  I have attended almost all of the meetings by the ASEE's Engineering Dean's Institute and the Public Policy Colloquium for the last 10 years. This is in addition of several key conferences in evolving field of artificial intelligence and cybersecurity to keep our college at the forefront of innovation and research.

- **An earned doctorate, or advanced terminal degree, and/or significant executive leadership experience that would earn the respect of the academic community is required. A graduate degree combined with significant experience may be accepted.**
  I have a PhD in engineering from the Ohio State University with more than 30 years of experience in industry and academia. These include 8 years in leadership roles in industry and 15 years in leadership roles in higher education with major achievements. I am the author or co-author of 4 books and more than 100 research articles with strong citation for my research. I have been recognized to be one of the top 2% global researchers: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3

- **Candidates should demonstrate significant, successful leadership experience in a complex organizational setting.**
  I am very familiar with complex organizations. I graduated from the Ohio State University (one of the largest academic institutions in the US) and worked in leadership roles for complex industries. I account for the perspectives of students, parents, alumni, government, doners, employers, faculty, staff, other administrators (communications, CFO, general counsel) and more when I approach any issue. I also worked with Ford Motor Company (one of the largest companies in the US in a leadership role for many years and understand the industrial and business perspectives.

Please note our focus on Inclusion and Access. We have studied the challenges students face by visiting high schools and community colleges. In addition, we established the K-12 STEM outreach office to promote and enable STEM college education for high school (specially minority and female) students. We worked with other community organization to establish programs promoting STEM. Examples include programs like Digital Divas (to encourage middle and high school female minority students to consider STEM fields) and Girls in Engineering Academy to advocate STEM field to urban young female students and bring them to campus for a summer camp (in collaboration with the Engineering Society of Detroit).

I am happy to share my list of references to attest to my traits in acting with honor and integrity of the highest order; exhibiting high energy, authenticity, stamina, warmth, optimism, humbleness and confidence; transparency, listening to all constituencies of the College; demonstrating intercultural competence and global perspective; and committing to providing access to higher education and to diversity, equity and inclusion.

In addition to the above, my CV describes other skills that relate to the Leadership Agenda, Required and Preferred Qualifications and other position requirements. It will be my great honor if selected for an interview.

Very truly yours,

M.S. Qatu

Mohamad S. Qatu, PhD, PE
Fellow, ASME, SAE, ESD
Dean, GameAbove College of Engineering and Technology
Eastern Michigan University
Ypsilanti, MI 48197, Cell: 248 410 4196; email: mqatu@emich.edu

MOHAMAD S. QATU

Dean and Professor,
GameAbove College of Engineering and Technology
Eastern Michigan University, Ypsilanti, MI 48197

EDUCATION

Ph.D. Engineering Mechanics, June 1989. **The Ohio State University**.
M.S. Engineering Mechanics, December 1986. The Ohio State University.
B.E. Engineering (Honor), June 1985. Yarmouk University, Jordan.
MBA Master of Business Administration (Certificate in Quality), May 2002.

PROFESSIONAL APPOINTMENTS

2015-Present **Dean,** GameAbove College of Engineering and Technology, Eastern Michigan University, Ypsilanti, MI. (Formerly, College of Technology)
2011-2015 **Director,** School of Engineering &Tech, Central Mich Univ, Mount Pleasant, MI
2008-2011 **Professor, Mechanical Engineering,** Mississippi State Univ, MS State, MS
2000-2008 **Manager/Technical Leader,** Ford Motor Company, Dearborn, MI
1997-2000 **Senior Research Engineer,** Dana Corporation, Auburn Hills, MI
1995-1997 **Associate Prof, Mechanical Eng,** Lake Superior State Univ, Sault Ste Marie, MI
1992-1995 **Program Chair,** Mechanical Eng Tech, Franklin University, Columbus, Ohio
1989-1991 **Test and Analysis Engineer,** Dresser Industries, Columbus, Ohio
1985-1989 **Graduate Teaching/Research Associate,** Ohio State University, Columbus, Ohio

Adjunct/visiting Professor: Oakland Univ., MI; AnNajah National University, West Bank; Wuhan University of Tech., PR China; and King Abdul Aziz Univ., KSA

Consultant: Honda of America 1992, Structural Dynamic Research Corporation (SDRC) 1996

MAJOR CAREER ACHIEVEMENTS

- Academic Leadership: 7+ years as Dean and 4 years as School Director
- Funds Raised (Gifts): $8+M, Grants won: $2+M,
- Established a joint College of Engineering in PR China (capacity 1200 students)
- Industrial Leadership: 8 years as supervisor/manager at Ford Motor Company
- Experience: 33 years beyond PhD in academia (20 years) and industry (13 years)
- Book Author: Vibration of laminated shells and plates, Elsevier, 2004
- Book Co-Author: Road vehicle dynamics, SAE, 2008
- Book Co-Author: Road vehicle dynamics: problems and solutions SAE, 2010
- Book Co-Author: Vibration of continuous systems, McGraw Hills, 2011
- Founder and Editor-In-Chief: Int J of Vehicle Noise and Vibration (Since 2004)
- Member of Editorial Board: Composite Structures, Elsevier (since 2004)
- Member of Editorial Board: J. Vibration and Control, Sage Publications (since 2010)
- Member of Editorial Board: SAE Journal of Passenger Cars: Mech. Systems (2011-17)
- Author: More than 140+ research papers and articles. 100+ refereed
- Inventor: 2 Patents/prior art registered with the US Patent Office
- Google Scholar H Factor: 30+; Citations: 6000+
- Recipient of ASME Fellow (2005), and SAE Fellow (2007), ESD Fellow (2024) and others
- Invited speaker for several events and by different schools (15+)
- Frequent reviewer for more than 30 Journals and conferences
- Organized/Chaired more than 20 sessions for national and international conferences

1. ACADEMIC AND INDUSTRIAL LEADERSHIP

EASTERN MICHIGAN UNIVERISTY

Ypsilanti, MI

2015-present Dean, GameAbove College of Engineering and Technology

KEY DELIVERABLES

STRATEGIC PLANNING AND ORGANIZATIONAL LEADERSHIP

- Played a significant role in raising about $100M to help the college grow
- Led or co-led University-wide committees on **strategic planning** and provost search and participated on many others
- Presented and discussed top college priorities with Faculty Council and reported on progress in all-college-faculty meetings twice a year.
- Founded the College of Engineering and Technology (formerly the College of Technology). This included establishing, launching and securing accreditation of several new engineering programs
- Promoted **interdisciplinary collaboration with other colleges**:
  - Supported work with College of Arts and Sciences on STEM outreach, simulation, animation and gaming, data analytics and other programs
  - Worked with College of Business on information technology, management, entrepreneurship, curricular development and other programs
  - Worked with College of Health and Human Services on using our 3D printing and VR labs for orthotics and prosthetics and nursing applications.
  - Worked with College of Education on STEM outreach and other initiatives
- Recognized for **creating a surplus** for several years despite recognized challenges. Invested fund in lab development and infra-structure.
- Developed a strategy that strengthens the College's **unique brand** amongst constituencies and other Colleges in Michigan.
- Ran a **very diverse college** with 4 schools, 1 department and various offices and engagement programs, 20 undergraduate programs with 2400 undergraduate students, 10 graduate programs with 200 students, more than 100 tenured/tenure track, full time lecturers and part time faculty):
  - School of Engineering
  - School of Engineering – International Operations
  - School of Information Security and Applied Computing
  - School of Technology and Professional Services Management (**Aviation**)
  - Department of Military Science (ROTC)
  - Offices for K-12 STEM outreach, BPoA, DECA, Skills USA, Staff and Command, and others

ACCESS, DIVERSITY, EQUITY, AND INCLUSION

- Established a new committee on Diversity, Equity, and Inclusion (DEI) to advance Equity and Inclusion in the College
- Achieved the highest percentage of African American Students enrolled (and graduated) in Engineering and Technology among peer universities in Michigan
- We created the K-12 STEM outreach office that focuses on recruitment, specially from underprivileged communities
- We supported the Society of Black Engineers and the Society of Women Engineers in the College

- Supported the "Girls in Engineering Academy" Program with the Engineering Society of Detroit that brought a total of 120 minority female students on campus to study STEM for a four-week summer camp.
- Supported the Digital Divas program that focuses on Middle School and High School students:
  - Brought hundreds of minority female students per year to campus
  - Offered a one full day experience, free to the student
  - Focused on STEM education
- Ran a college with a very diverse faculty and student portfolio
- Promoted and hired diverse faculty (particularly women in engineering)

INDUSTRIAL AND COMMUNITY ENGAGEMENT

- Worked with major companies like Ford Motor Company, Toyota, Roush, Woods Construction, General Motors and developed programs, internship opportunities, projects, and/or other initiatives (serving on our industrial advisory boards)
- Established strong relations with National companies (Gulf Stream Aviation, Textron Aviation, …)
- Collaborated with State institutions (The American Center for Mobility – founding member, the Michigan Economic Development Corporation) and advanced several initiatives and collaboration opportunities
- Built programs with community and professional organization (the Engineering Society of Detroit) to advance the University and College Goals
- Developed, hosted, or helped maintain more than twelve industrial advisory boards with 150+ participating industrial leaders serving on these boards

GLOBAL ENGAGEMENT

- Established a**n office of International operations with ab out 800 students in collaboration with Beibu Gulf University (China)**
  - Approved by the Chinese Ministry of Education April 2021. Started September 2021.
  - Involves 4 engineering/technology programs and 1 program in constructions management
  - Capacity is up to 1200 students (with admission and graduation rate up to 300 students/year)
  - Admitted 166 students in the first year (Fall 2021) and 208 students (Fall 22) and 224 students (Fall 23) and 226 students (Fall 2024).
- Led and/or supported the Development of many MOUs with global universities and entities in the Middle East, Asia and India.
- Accompanied the President in many international recruitment visits.

INFRASTRUCTURAL DEVELOPMENT

- Worked with EMU's President and Board of Regents (BoR) and made the case for the College infrastructural development in 4 phases over 20 years. Phase I of $**42M** was approved by BoR in February 2018 and completed by January 2021.
- Worked with EMU's President and BoR on a request from the State for an additional **$42M** funding (Capital Outlay) of a Phase II project as the University's top priority. Proposal submitted July 2022. It is approved in December 2023.
- Supported establishing several new state-of-the art teaching and research labs in flight simulations, computer engineering, advanced circuit analysis, 3D printing,

cybersecurity, virtual reality, drone technology, robotics, materials, simulation labs and more.

FUNDRAISING AND GRANTS

- We worked with the Foundation and secured a **$8+M** gift for naming the new College (GameAbove)
  https://today.emich.edu/story/story/11684
  - Worked for 18 months to nurture relations with key alums of the College and the University leadership
  - Worked with faculty at the College to expose faculty expertise for possible collaboration with various industrial leaders
  - Secured the funding of $5M in February, 2021.
- We secured a **$1M** gift for naming the automotive Lab (Roush)
  https://today.emich.edu/story/story/11789
  - Worked with the Foundation to develop a strong relationship with Roush
  - Were able to secure a $1M gift that goes to equipment, endowment for maintenance, and endowment for math tutoring.
    https://today.emich.edu/story/story/12109
- We secured a **$1M** grant from Michigan Enhancement Grant for Cyber Security, State of Michigan
  - Secured matching with an additional **$0.6M** of internal funding
  - **Developed new capabilities in the areas of vehicle cybersecurity, advanced multi-mode classrooms to teach cybersecurity and a cyber research lab**
- Secured a **$0.5M** grant from GameAbove to support research in cybersecurity (2022-2025)
- Secured additional fundraising through substantial gifts in kind (partial list):
  - Fanuc Robotics for robotics lab ($350K),
  - Ford Motor Company for virtual reality lab ($150K)
  - GTE for construction lab ($10K)
  - AT&T for Digital Divas and STEM outreach ($50K)

ACADEMIC EXCELLENCE AND RANKING

- Securing a strong ranking for Engineering programs (at schools without a PhD) in the US News and World Report.
- Built a regionally recognized profile for EMU's (actively involved in many professional organizations and engaged with community centers and major industrial partners, …).
- Developed a culture of research. Several incentives offered that resulted in
  - Enhanced admission requirements for the PhD program
  - Increased scholarly output by creating new opportunities for faculty
  - Increased grant activity (grants submitted; grants won) in the College
- Offered effective leadership for the College that promotes deserving faculty
  - Supported 20+ re-appointment, 22 promotion, tenure, and several sabbatical and research fellowship applications
  - Hired 20+ competent tenure track faculty members and helped them achieve their goals in research, teaching, and service for tenure. Almost all of them did.
  - Hired school directors, tenure track faculty members and lecturers
- We supported the development and implementation of new **programs and accreditation** efforts. This resulted in
  - Hosting the AABI accreditation team for accreditation of the two Aviation

Programs in the College (**new**, 22/23)
- Hosting the ABA accreditation team for Paralegal in 2022 (renewal). Preliminary positive feedback is received.
- Hosting ACCE accreditation team for Construction Management in 2022 (renewal). Preliminary positive feedback is received.
- Securing CIDA and NASAD accreditation for Interior Design (renewal)
- Introducing new programs in mechanical engineering, information technology, electrical and computer engineering and civil engineering programs.
- Securing ABET-EAC accreditation for Mechanical Engineering in 2020 (**new**).
- Securing ABET-EAC accreditation for Electrical and Computer Engineering in 2021 (**new**)
- Securing ABET-ETAC accreditation for Mechanical Engineering Technology (renewal), Electronic Engineering Tech. (**new**) and Product Design Engineering Tech (**new**) in 2018.
- Securing ABET-CAC accreditation for Information Security and Cyber Defense to become ABET-CAC accredited in 2018 (**new**)

DOMESTIC RECRUITMENT

The College grew this Fall to **the second largest on campus in student enrollment** (from 5th place in 2015). We are the proud home of more than 2400 students. Most of the growth is coming from our international operation. The College is growing to have about 20% of students at the University campus by 2025 students (up from about 9% in 2015).

- We supported new and/or renewals of tens of articulation agreements with several community colleges in Southeast Michigan and beyond
- We visited high schools and community colleges to recruit students
- We participated in several recruitment efforts including Explore Eastern, and national (cybers summit) and international exhibits
- We moved the college from a status of declining enrollment to one of the most stable/growing colleges on campus

RESEARCH ADVANCEMENT

- Supported and secured funding for several **new** state-of-the-art teaching and research labs
  - Flight simulations (funded by GameAbove),
  - Advanced Circuits and Computer Engineering Lab (Funded by GameAbove),
  - Construction Lab (Funded by Woods Construction)
  - Robotics lab (Funded by Fanuc Robotics),
  - 3D printing (Funded by GameAbove),
  - Cybersecurity (Funded by MEDC),
  - Virtual reality (Funded by Ford Motor Co.),
  - Drone technology (Funded by GameAbove),
  - Vehicle dynamic simulator (Funded by Roush and VI Grade),
  - Vehicle cybersecurity (Funded by MEDC),
  - Maker spaces (Baja, supported by Roush and other companies)
- Updated many existing labs (construction management, materials, several computer labs, motion capture lab, robotics, foundry, and others)
- We developed a culture of supporting research and scholarly activities. We supported the Ph.D. program and several research initiatives in the college.
  - Increased funding to support professional membership,

- Increased support for faculty travel to present at conferences,
- Supported faculty by assigning them Graduate Assistants.
- Additional research initiatives are under consideration

IMPACTFUL COMMUNICATION

- Started the biannual INNOVATE magazine to communicate the vision and mission of the college and its achievements
- Started and distributed a monthly electronic newsletter for the College (VELOCITY)
- Conducted several interviews with key media reporters and talk show hosts. Examples include:
  https://thegreatvoice.com/Episode/mohamed-qatu-the-guy-gordon-show/14955
  https://www.youtube.com/watch?v=FoLPL8lQSjA
- Helped publish several influential News Releases and articles. Examples include:
  https://www.automationalley.com/articles/the-challenge-of-finding-engineering-and-technical-talent-in-michigan
  https://today.emich.edu/story/story/12191
  https://today.emich.edu/story/story/12179
- Created social media outlets for the College (LinkedIn, Instagram, Facebook) and its Programs
- Delivered several key presentations to the College faculty and the community,

CENTRAL MICHIGAN UNIVERISTY

Mount Pleasant, MI
2011-2015 Director, School of Engineering and Technology,

KEY DELIVERABLES

- Developed and followed up with an aggressive recruitment effort the first year with visits to more that 10 high schools and community colleges. This and other efforts on campus resulted in
  - Doubling enrolment in 3 years (almost tripling enrollment in engineering).
  - Increasing average ACT score for graduating students by 1 point.
  - Establishing a process for selective admission (to improve student quality)
- Built a regionally recognized profile for CMU's engineering (actively involved in many professional meetings like ASEE, ASME, SAE ..; active participation in conferences; engaged with industry, ..). This resulted in
  - Offering graduate programs (MS) in Engineering and engineering management
  - Achieving a strong ranking by USNews in 2013 (initially not ranked).
  - Listing us by a key industrial partner (Ford) as one of 20 premier universities.
- Developed a culture of research at the School of Engineering and Tech.
  - Delivering an MS program in engineering (admitting inaugural class Fall 2015)
  - Increasing key performance indicators (publication, grants won) in the School.
  - Giving faculty the opportunity to teach advanced courses in their research area
  - Reducing teaching load for faculty by a more efficient system of class offering
- Developed a disciplined approach for senior projects and expanded it to by engaging many industrial partners. This resulted in
  - Being recognized by key regional industries for our senior projects
  - Developing internship/employment opportunities for students (e.g. Ford, Dow).
  - Winning research projects from industry
- Led the development and implementation of many curricular changes (e.g.

introducing more electives in engineering and moving all relevant technology program to engineering technology and deleting others). This resulted in
    - New program offerings in computer engineering, MS in engineering and others
    - Having a smooth ABET accreditation visit in September 2014.
    - Developing a solid course for ABET accreditation of our Computer Engineering and Mechanical Engineering Technology programs by Fall/2016.
- Offered effective leadership for the school that promotes deserving faculty
    - Evaluated more than 25 sabbatical, tenure, promotion and re-appointment packages (achieved: 4 tenure and promotion, 1 promotion, 7 sabbaticals, and 12 reappointments. Declined: 1 tenure application)
    - Handled issues of budgeting ($4-6M), space allocation, strategic planning, fiscal management
    - Hired 3 tenure track faculty members and 5 fixed term faculty.
- Enhancing diversity and promoted multi- and interdisciplinary work:
    - Worked with Chemistry and Physics to enhance the Science of Applied Materials (SAM) PhD Program
    - Worked with Chemistry and Biology to develop a pre-medical track in engineering
    - Enabled and supported the Society of Black Engineers and the Society of Women Engineers in the School
    - Supported the Society of Women Engineers
    - Hired a diverse group of new faculty members
    - Enhanced multi-disciplinary senior project experience

MISSISSIPPI STATE UNIVERSITY

MS State, MS

2008-2011 Professor, Mechanical Engineering, Mississippi State University,

KEY DELIVERABLES

- Led trips to develop relations and recruit new graduate students to five universities in Europe and the Middle East. Played a key role in the development of memorandums of understandings (MOUs) with 2 international universities
- Developed and taught industrial-related, team-based, product-focused senior design projects in mechanical engineering:
    - Established a culture of an industrial setting and team-based projects
    - Delivered an involved 8-step process for design delivery and assessment
    - Secured support of administration, peers and relevant industrial partners
    - Developed and delivered seminars on ergonomics, FMEA, cost analysis, product safety, project management, ethics and others.
    - Invited experts to deliver seminars on product liability, entrepreneurship
    - Extracted projects to support on-campus teams (formula SAE, EcoCAR)
- Recruited more than 10 graduate students within 24 months of initial employment with Mississippi State University including support of their graduate studies. These include 2 MS students in mechanical engineering, 6 PhD students in mechanical engineering and 2 PhD students in computational engineering.
- The main (major) advisor of 8 graduate students (5PhD and 3 MS). List of students and their areas of research is given under mentoring. Served and is serving on committees of several graduate students in mechanical and other disciplines (aerospace, computational) in the college.
- Participated in the strategic planning of the whole university and the college of engineering by serving on:

- The council of the vice president of research and development (a university-wide council that develops strategy, seeks opportunities and establishes policy)
- The strategic development plan committee for the Bagley College of Engineering at MSU to perform SWOT analysis for the college.
- Chaired the mechanical design graduate committee. This includes setting PhD qualifier exams, conducting oral examination and other tasks. Member of the dynamics and vibration, solid mechanics, and mathematics committees
- Chaired the mechanical systems and solid mechanics committee for ABET Accreditation. This includes mentoring junior faculty in performing the ABET portfolio for each of the classes in mechanical systems
- Chaired the automotive certificate committee. This includes determining certificate requirements and other administrative tasks.
- Ran several Fundamentals of Eng. sessions on design, mechanics and Ethics
- Awarded Professorship in computational engineering to advise PhD students.
- Awarded the MSU StatePride Faculty Award
- Awarded the Bagley College of Eng. Hearin Faculty Excellence Year Award

FORD MOTOR COMPANY

Dearborn, MI
2000-2008 Supervisor/Manager, Ford Motor Co, Dearborn MI 48123

KEY DELIVERABLES

- Managed (including developing their roles and responsibilities and writing and conducting their performance reviews) a team of highly qualified individuals (mostly PhDs). These include tens of direct supervisees; most have PhD .
- Managed and led NVH & CAE teams responsible for powertrain subsystems for about 5 years (engine as installed, transmission as installed, driveline, exhaust, induction, mounts and others) in vehicle development. This task included support of the launch of the Five Hundred, Free Style, Taurus, Fusion, Milan, MKZ and other vehicles. Recognized by the company executives for producing the best Duratec engine for its sound at Ford Motor Company.
- Developed a Ph.D. program between academia and industry (Oakland University and Ford Motor Company) while at Ford Motor Company. This program had 5 PhD students; one of them graduates in 2009.
- Managed the NVH and CAE development of the new Gasoline Turbo-charges Direct Injection (GTDI) 3.5 L engine. This included managing more than $500k of CAE work with external entities (FEV).
- Awarded Guest or Visiting Professor status at three international universities for delivering seminars and classes. These include King Abdul Aziz Univ., Saudi Arabia in 2007; Wuhan University of Technology, Wuhan, PR China in 2005, and AnNajah University, Nablus, West Bank in 2004.

DANA COPORATION

Auburn Hills, MI
1997-2000 NVH/CAE Senior Research Engineer

KEY DELIVERABLES

- Led a team to develop NVH testing lab and software for steering vibrations. The team included a recent PhD graduate from the University of Bath; a PhD student at Oakland University, one engineer and two technicians. A $500k laboratory for characterizing components for fluid borne noise (FBN) is developed as a result

(and copied by Delphi and Visteon); a MATLAB-based software is also developed (DVTR), and a training program is conducted for 20 engineers at Fluid Systems Group of Dana Corporation.
- Awarded 3 plaques and 50 shares of Dana

LAKE SUPERIOR STATE UNIVERSITY
Sault Ste Marie, MI
1995-1997 Associate Professor, Mechanical Engineering,

- Co-led the development of industrial based senior projects, and supervised senior students' projects and seminars. This included co-leading a team of 5 faculty members from various disciplines.
- Co-Chaired the committee to study and develop a mechanical eng. program. This included developing curricula and laboratories. The program is implemented.

FRANKLIN UNIVERSITY
Columbus, Ohio
1991-1995 Program Chairperson, Mechanical Engineering Technology

- Secured ABET accreditation. Led the process of ABET accreditation and was awarded a 5-year renewal of ABET accreditation. Recognized by the ABET team for dynamic leadership.
- Developed the material for and ran a successful EIT (FE) course for graduate engineers to help them secure a professional engineering (PE) registration.
- Chaired the mechanical engineering technology program (Developed Curriculum, laboratories and courses; hired adjunct faculty; held advisory board sessions, hosted ABET ...)
- Built a 2+2 program with community colleges (Mansfield, Ohio)
- Chaired and served on many search committees to hire new faculty in different disciplines in engineering technology, business and mathematics.

DRESSER INDUSTRIES
Columbus, OH
1989-1991 Test and Analysis Engineer, Jeffery Mining Machinery Division

- Led the testing efforts for vibrations and stresses of machines and components.
- Build the first ever Finite Element Analysis (FEA) laboratory ($200k) for the company. Led the FEA analysis of for major frames and components.
- Designed and analyzed beams, shafts, gears and other components

THE OHIO SATE UNIVERSITY
Columbus, OH
1985-1989 Teaching and Research Associate, Department of Engineering Mechanics

- Was recognized for excellent students' evaluations while teaching undergraduate mechanics classes in statics, dynamics and strength of materials
- Delivered research report on finite element analysis of joints

2. COURSES TAUGHT

Graduate courses:

- PhD Seminar for Science of Advanced Materials, Central Michigan univ., Spring 2013
- Composite Structures, Central Michigan university, Spring 2013
- Advanced Vibration, Mississippi State University, Fall 2009
- Noise and Vibration Control, Oakland University, Fall 2002
- Vehicle Noise and Vibration, Oakland University, Spring 2003

Split level (graduate and undergraduate) courses:

- Automotive Engineering, Central Michigan University, Spring 2014
- Introduction to Automotive Engineering, Mississippi State University, Spring 2009, Spring 2010
- Applied Mathematics for Engineers, AnNajah University, West Bank, Fall 2004
- Mechanical System Design, (and Senior Project) Mississippi State University 2008-2011 (taught cap-stone course more than 20 times)

Undergraduate courses:

- Statics, The Ohio State University, 1985-1989, Franklin University, 1991-1995, Lake Superior State University, 1995-1997
- Dynamics, The Ohio State University, 1985-1989, Franklin University, 1991-1995, Lake Superior State University, 1995-1997
- Strength of Materials, The Ohio State University, 1985-1989, Franklin University, 1991-1995, Lake Superior State University, 1995-1997
- Finite Element Analysis, Franklin University, 1991-1995
- Experimental Stress Analysis, Franklin University, 1991-1995
- Introduction to Vibrations, Franklin University, 1994-1995
- Engineering Design and Problem Solving, King Abdul Aziz University, Spring 2007.
- Fluid Mechanics, Lake Superior State University, 1995-1997
- Machine Design, Franklin University, 1991-1995, Lake Superior State University, 1995-1997, An Najah University, West Bank, Fall 2004, Mississippi State University 2008-2011
- Mechanical System Design, (and Senior Project) Franklin University, 1991-1995, Lake Superior State University, 1995-1997 (taught cap-stone course more than 20 times)

Training/Professional Development Classes (Developed and Delivered)

1. Engineer-In-Training (Fundamentals of Engineering) Exam Preparation, Franklin Univ., 1992 (10 evening sessions); Mississippi State University, 2009 (1 session), 2010 (1 session); Central Michigan university (2 sessions)
2. Bearing Calculations and Design, delivered for Society of Manufacturing Engineers, November 1995, Dearborn, MI (2 days).
3. Leadership Skills, King Abdul Aziz University, April 2007, ½ days.
4. Introduction to Mechanical Drive Systems, Mississippi State University, CAVS-Extension, Nov 2010 Canton, M.S., 2 days.

5. Vehicle Dynamics and Safety, Mississippi State University, CAVS-Extension, scheduled for February 2011, Canton, M.S., 3 days.
6. Testing and Instrumentation – Level 1" Strain Gages", Mississippi State University, CAVS-Extension, Feb 2011, Canton, M.S., 2 days.
7. Testing and Instrumentation – Level 2 "Data Acquisition", Mississippi State University, CAVS-Extension, Mar 2011, Canton, M.S., 2 days.
8. Noise and Vibration Diagnosis, Mississippi State University, CAVS-Extension, April 2011, Canton, M.S., 2 days.

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3. KEY FUNDING AND RESEARCH

3.1 Proposals Won

1. Co-PI: **Curricular Development for Kuwait Technical College covering disciplines in Engineering, Technology and Business. $280K,** Funded by Kuwait Technical College. 2021-2023
    - Led the development of 15 programs for this international college
    - Employed 15 consultants (Subject Matter Experts to help)
    - Developed programs where students have the option to exit after 2 years with an Associate Degree, or pursue a B.S Degree (local or at EMU)
2. PI: **Michigan Enhancement Grant for Cyber Security, $1.0M (in addition to $0.6M internal funding).** Funded by Michigan Economic Development Corporation, January 1, 2019- December 31, 2021.
    - $1.1 M to improve infrastructure for Cyber security ($0.6M internal match)
    - $200 K for professional development of faculty in this field
    - $200K development of new lab in the area of vehicle cyber security
    - $100K overhead and other expenses
3. Team Member and task co-PI (**$ 360 k a year of research expenditure for Task 9 on natural fiber**) on the SRLID Project, Mississippi State University, 2008-2011 (total $3.5M)
    - Sponsoring one PhD student
    - Sponsor research on optimizing natural fiber composites for mechanical properties
    - Building CAE models for predicting the material properties of natural fiber composites (to start Summer 2010)
4. PI: Determination of Interior Vibration Levels from Wheel and Tire Sources using a Monte Carlo Process, $138,312 (excluding student tuition). State of Mississippi in collaboration with Nissan.
5. PI: Determination of Interior Vibration Levels from Driveline Sources using a Monte Carlo Process, $141,312 (excluding student tuition). State of Mississippi in collaboration with Nissan.
6. PI: *Enhancing "On-the-Job" Problem Solving:* A Training Program Comprised of Mississippi State University, Nissan, Holmes Community College and several Automotive Suppliers. PI for 5 courses $108,348. Department of Labor. Total ($0.5M)

3.2 Fundraising Achieved

1. $6M College naming opportunity for the College of Engineering and Technology, Eastern Michigan University
2. Annual fundraising exceeding $1.5M for FY 18 and FY 19 at EMU for the College
1. Raised funding for the new Robotics lab ($400K), Fanuc Robotics, Auburn Hills, MI

2. Raised funding for engineering software, ($710K), Siemens Corp, Troy, MI
3. Raised funding for the SAE Formula Team 2008-2009 ($35k). Was able to design and build the formula car in one year for the first time at Mississippi State university
4. Raised funding for the SAE Formula Team 2009-2010, Miss. State Univ ($25k).
5. Raised funding for the SAE Formula Team 2010-2011, Miss. State Univ ($25k).
6. Raised funding for the Formula and Baja teams, 2012-2014, Central Mich. Univ ($35K)

Pending Fundraising

1. $4M fundraising for establishing three research centers in cybersecurity, sustainability and unmanned aerial systems.

3.3 Consultation

1. "Development of lecture notes, graphics and script for an instructional videotape on static, mechanics of materials, and mathematics," Professional Publications, $10k, 1993.
2. "Development and delivering a training course on bearing calculations and design Society of Manufacturing Engineers, $5k, 1995
3. "A training course on mechanical drive systems," Honda of America Manufacturing, $5K, 1993.

3.4 Research Managed (while in industry)

1. Leader: Development for NVH courses for engineers, (2007-2008) Ford Motor Co, estimated $100K
    - Led the Development of courses for noise and vibration for all engineers at Ford
2. Leader: NVH development for the 3.5L Turbo engine, (2006-2007), Ford Motor Co, estimated $1.0M
    - Ran a team of engineers, supervisors and suppliers (e.g. Mahle, Bosch) to deliver testing and simulation
    - Ran many CAE analysis projects (totaling $0.5M) with FEV for stress, durability and modal analyses, noise assessment of turbo-charged engine components
3. Supervisor/Leader: Support for the powertrain subsystem NVH development team for the 2005/6 Fusion/Taurus/Edge programs, Ford Motor Co, (Industrial Support) estimated $5.0M (running a team of 5-13 senior engineers for 5 years) (2001-2006)
    - Led target setting for powertrain NVH
    - Led the design effort using CAE for powertrain NVH
    - Led the testing effort of prototypes for powertrain NVH, optimize design
    - Led the launch effort for powertrain NVH in Mexico
    - Recognized for developing "the best sounding engine" from company executives
4. Leader: Development of a CAE and laboratory for fluid born noise assessment and optimization (1997-1999), Dana Corporation, (Industrial Support) $0.5M
    - Sponsored one graduate student at Oakland University
    - Developed a laboratory for characterizing hydraulic pumps, lines and gears for pulse and impedance
    - Led the development of a software (DVTR) for optimizing hydraulic circuits
5. Lead analyst: "Stress analysis projects on a friction welder base," Manufacturing Tech. Inc., Structural Dynamics research Corporation, $20k. (Summer Support).
6. Lead analyst: "Finite element and experimental Frequency Response Functions (FRF) for FN 74 FORD engine components." Structural Dynamics research Corp, $27k, 1995.
7. Leader: "Development of a computational laboratory," Dresser Industries, Jeffery Mining Machinery Division, Columbus, Ohio, $100k, 1990.

4. MENTORING (MS AND PhD)

Mentor/Manager/Supervisor **for more than 20 engineers and professionals (most with PhDs)** while at Ford Motor Company

PhD Dissertations supervised and directed

1. PhD Dissertation Co-Advisor: Javed Iqbal, "Transverse Vibration of Automotive Multiple Segment Shaft Systems," Oakland University, March 2009.
2. PhD Dissertation Advisor: Mehdi Maleki, "Accurate models for unsymmetrically laminated composite beams, rings and shafts," Mississippi State University, December 2011.
3. PhD Dissertation Advisor: Ebrahim Asadi, "An accurate higher order shear deformation composite shell theory" Mississippi State University, December 2011.
4. PhD Dissertation Advisor: Wenchao Wang, "Stress and Vibration Analyses of Cylindrical Composite Shells Using the Three-Dimensional Theory of Elasticity," Mississippi State University, May 2012.
5. PhD Dissertation Co-Advisor: Omar Shubailat, "Application of a Monte Carlo Process for Driveline Vibration" Mississippi State University, May 2013.
6. PhD Dissertation Advisor: Rachel Wheeler, "Application of a Monte Carlo Process for Wheel Vibration in Automotive Vehicles" Mississippi State Univ, May 2014.
7. PhD Dissertation Advisor: Golam Mainuddin, Eastern Michigan University, anticipated 2023.

Key member of committee of PhD of Mohammad Zannoun 'Accurate Equations for a Third Order Shear Deformation Theory of Laminated Composite Shells' Central Mich Univ, June 2014

MS Thesis supervised and directed

1. MS Advisor: Matthew Bell "Chassis and steering design of Formula SAE car," May 2010.
2. MS Thesis Advisor: Ian Fulton, "Experimental study of the impact of processing pressure on stiffness of natural fiber composites" Mississippi State Univ, estimated: May 2011.
3. MS Advisor: Mohammad Abu-Shams. "Free Vibration of Thin Film Laminated Beam," Central Michigan University, May 2013.
4. MS Advisor: Golam Maiunuddin. "NVH assessment of a light utility electric truck," Central Michigan University, May 2014.

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5. HONORS, AWARDS AND RECOGNITION

- Honor Roll, All Undergraduate Semesters, Yarmouk University, Jordan
- Medal of Scientific Excellence, June 1985. Yarmouk University, Jordan.
- Graduate Teaching Associate, Ohio State Univ., September 85 to June 89.
- Honorable Mention in the Third Graduate School Eng Forum, Ohio State Univ, 1989.
- Certificate of Appreciation, Lake Superior State University, May 1995. (For commitment to the school's development of engineering programs)
- Certificate of Appreciation, Society of Manufacturing Engineers, December 1996, (For developing and delivering a course on bearing calculations and design)
- *International Who's Who of Professionals*, Jacksonville, North Carolina, 1996
- Marquis Who's Who in America, 2009
- Technical Achievement Awards (4) Dana Corp., Toledo, Ohio, 1998, 1999, and 2000.
- Technical Achievement Award. Ford Design Institute, Ford Motor Company, 2000.

- Guest Professor Award, Wuhan University of Technology, Wuhan, China, 2005
- Nominated for and granted Fellow membership grade ASME, 2005
- INUKSUK Award for technical mentoring and Leadership, Ford Motor Co, 2006
- Nominated for and granted Fellow membership grade of SAE, 2007
- 3 Recognition Awards by SAE for organizing sessions, SAE, 2007
- Several Recognition Awards by SAE, 2008, 2009 for organizing sessions
- Inducted into Academy of Fellows, Mississippi State University, 2009
- Certificate of Appreciation, Advising the SAE Formula Team, 2009
- A.N. Marquis Who's Who in America for, 2010, Dec. 2009
- The Bagley College of Engineering Hearin Faculty Excellence Award, the Hearin Foundation, Mississippi State university, September 2010
- The Mississippi State University State Pride Faculty Award, September 2010.

6. KEY INVITED PRESENTATIONS & KEYNOTE SPEAKER

1. "Developments in Engineering," Oakland University, October, 1997.
2. "Simulation of hydraulic Circuits for Power Steering Applications, Ohio State University, Columbus, Ohio, May, 1998.
3. "Fluid Born Noise in hydraulic Circuits," Kettering University, Flint, Mich, May, 1999.
4. "New Theory for Laminated Composite Deep Thick Shells," Virginia Polytechnic Institute and State University, Blacksburg, VA, May, 2001.
5. "Industrial Based Senior Projects," An-Najah University, Nablus, West Bank, Oct 2004.
6. "A new Theory for Laminated Composite Deep Thick Shells," An-Najah University, Nablus, West Bank, November, 2004.
7. "Industrial Based Senior Projects," Al-Israa University, Amman, Jordan, Nov, 2005.
8. "Analytical Analysis for Engine Vibration," Wuhan University of Technology, Wuhan, China, April, 2005.
9. "Experimental Evaluation of Engine Vibration," Wuhan University of Technology, Wuhan, China, April, 2005.
10. "Industrial Based Senior Projects," University of Akron, Akron, Ohio, May 2nd, 2006.
11. "Opportunities in Teaching Engineering Design in Engineering Curriculum," Saginaw Valley State university, Feb 12, 2007.
12. "Opportunities in Engineering Teaching and Research," University of Mississippi, Oxford, M.S., April 5, 2008.
13. "Graduate Studies in Engineering at the United States"
    - Delivered at *AnNajah National University*, West bank, June 22, 1009
    - Delivered at *Birzeit University,* West bank, June 23, 1009
    - Delivered at *University of Jordan,* Jordan, July 7, 1009
    - Delivered at *Jordan University of Science and Technology,* Jordan, July 8, 1009
14. "Rewards and Opportunities in Vehicle Noise and Vibration," American Acoustical Society, Southern Chapter, University of Mississippi, Oxford, M.S., October 31, 2009

15. "Challenges in Vehicle Noise and Vibration," The 5th Meeting of the Midsouth Chapter of the Acoustical Society of America, Univ of Mississippi Oxford, MS Oct.30-31, 2009.
16. "Automotive NVH: Opportunities and Rewards," 2009 International Conference on Automotive NVH Control Technology", Society of Automotive Engineering (China) and China Automotive Technology and Research Center, November 11, 2009.
17. "Automotive NVH: Recent research and Development," 2009 International Conference on Automotive NVH Control Technology", Chana Corporation, Chongqing, China, November 12, 2009.
18. "Automotive NVH: Opportunities and Rewards," 2009 International Conference on Automotive NVH Control Technology", Society of Automotive Engineering (China) December 10, 2010.
19. "Mechanics and Applications for Natural Fiber Composites," Plenary speaker, 16th bi-Annual conference, University of Porto, Portugal, 2011.
20. "Vehicle Design for Robust NVH Using Monte Carlo Processes," presented at the 2011 International Conference on Vehicle Noise, Vibration and Safety Technology (ICVNVST2011), Chongqing P.R. China, October 23 to 25, 2011.
21. "Recent Challenges of Automotive NVH," to be presented at the 18th Asia Pacific Automotive Engineering Conference. 10-12 March 2015, Melbourne, Australia. Sponsored by the Society of Automotive Engineers – Australasia. http://apac18.com.au/speakers/
22. MERA Sustainable Manufacturing Conference 2018, , held by the Association of Sustainable Manufacturing. "Training Future Remanufacturing Leaders: Workforce Development & Education Curriculums." Sept. 26-27, 2018, Southfield, Michigan

In addition to tens of presentations delivered at various Society of Automotive Engineers (SAE), American Society of Mechanical Engineers (ASME), and other conferences.

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7. PUBLICATIONS

7.1 Books (4):

1. **Vibration of Laminated Shells and Plates, pp 406, Elsevier (2004)**
2. **Road Vehicle Dynamics (with multiple authors), pp 852, SAE (2008)**
3. **Road Vehicle Dynamics: Problems and Solutions (with multiple authors), SAE (2010)**
4. **Vibration of Continuous Systems, with A. W. Leissa, McGraw Hills, (2011)**

7.2 Patents/Prior Art Registration (2)

1. Multi-Chamber and Tuned Pipe Systems for Fluid Borne Noise attenuation. Patent No. 6155378, Approved December 5, 2000.
2. System and Apparatus for Noise Suppression in a Fluid Line, Prior Art No. 2002-0059959, 2002. Approved, May 2002.

7.3 Refereed Journal Publications

1. Qatu, M.S., "Free Vibration and Static Analysis of Laminated Composite Shallow Shells," Ph.D. Dissertation, Ohio State University, 212 pp., June 1989.
2. Qatu, M.S., and A. W. Leissa, "Natural Frequencies for Cantilevered Doubly-Curved Laminated Composite Shallow Shells," *Composite Structures*, Vol. 17, No. 3, pp. 227-256, March 1991.
3. Leissa, AW and M. S. Qatu, "Equations of Elastic Deformation for Laminated Composite Shallow Shells," ASME, *J. of Applied Mechanics*, Vol. 58, No. 1, pp. 181-188, March 1991.
4. Leissa, AW and M. S. Qatu, "Stress and Deflection Analysis of Composite Cantilevered Shallow Shells," ASCE, *J. of Engineering Mechanics,* Vol. 117, No. 4, pp. 893-906, April 1991.
5. Qatu, M.S., "Curvature Effects on the Deflection and Vibration of Cross- Ply Shallow Shells," *Mechanics, Computing in 90's and Beyond,* Eds. H. Adeli and R. Sierakowski, Vol. 2, pp. 746-750, May 1991.
6. Qatu, M.S., "Free Vibration of Laminated Composite Rectangular Plates" *Int. J. of Solids and Structures,* Vol. 28, No. 8, pp. 941-954, August 1991.
7. Qatu, M.S., and A. W. Leissa, "Free Vibration of Completely Free Doubly- Curved Laminated Composite Shallow Shells," *J. of Sound and Vibration,* Vol. 151, No. 1, pp. 9-29, Oct. 1991.
8. Qatu, M.S., and A. W. Leissa, "Vibration Studies for Laminated Composite Twisted Cantilever Plates," *Int. J. of Mechanical Sciences*, Vol. 33, No. 11, pp. 927-940, November 1991.
9. Qatu, M.S., "Mode Shape Analysis of Laminated Composite Shallow Shells," *J. of the Acoustical Society of America*, Vol. 92, No. 3, pp. 1509-1520, September 1992.
10. Qatu, M.S., "Review of Shallow Shell Vibration Research," *Shock and Vibration Digest*, Vol. 24, No. 9, pp. 3-15, September 1992.
11. Qatu, M.S., and A. Bataineh, "Structural Analysis of Shallow Shells Using CRAY Y-MP Supercomputers," I*nt. J. Computers and Structures,* Vol. 45, No. 3, pp. 453-459, Nov 1992.
12. Qatu, M.S., and A. W. Leissa, "Effects of Edge Constraints upon Shallow Shell Frequencies," *Thin-Walled Structures,* Vol. 14, pp. 347-379, Dec. 1992.
13. Qatu, M.S., "Inplane Vibration of Slightly Curved Laminated Composite Beams," *J. of Sound and Vibration*, Vol. 159, No. 2, pp. 327-338, Dec. 1992
14. Qatu, M.S., and A. Leissa, "Buckling or Transverse Deflection of Unsymmetrically Laminated Plates Subjected to Inplane Loads," American *Institute of Aeronautics and Astronautics J.*, Vol. 103, No. 1, pp. 189-194, January 1993.
15. Qatu, M.S., "Vibrations of Doubly-Cantilevered Laminated Composite Thin Shallow Shells," *Thin-Walled Structures,* Vol. 15, No. 1, pp. 235-248, January 1993.
16. Qatu, M.S., and A. Elsharkawy, "Vibrations of Laminated Composite Arches with Deep Curvature and Arbitrary Boundaries," *Computers and Structures,* Vol. 47, No. 2, pp. 305-311, June 1993.

17. Qatu, M.S., "Theories and Analyses of Thin and Moderately Thick Laminated Composite Curved Beams," *Int. J. of Solids and Structures,* Vol. 30, No. 20, pp. 2743-2756, August 1993.

18. Qatu, M.S., and A. W. Leissa, "Vibrations of Shallow Shells with Two Adjacent Edges Clamped and the Others Free," *J. Mechanics of Structures and Machines*, Vol. 21, No. 3, pp. 285-301, August 1993.

19. Qatu, M.S., N. Jaber and A. W. Leissa, "Natural Frequencies for Completely Free Trapezoidal Plates," *J. Sound and Vibration,* Vol. 167, No. 1, pp. 183-191, October 1993.

20. Qatu, M.S., "On the Validity of Nonlinear Shear Deformation Theories for Laminated Composite Plates and Shells," *Composite Structures,* Vol. 27, pp. 395-401, January 1994.

21. Qatu, M.S., "Natural Frequencies for Cantilevered Laminated Composite Right Triangular and Trapezoidal Plates," *Composite Science and Technology* Vol. 51, pp. 441-449, June 1994.

22. Qatu, M.S., and A. Algothani, "Bending Analysis of Laminated Plates and Shells by Different Methods," *Computers and Structures,* Vol. 52, No. 3, pp. 529-539, August 1994.

23. Qatu, M.S., "Vibrations of Laminated Composite Completely Free Triangular and Trapezoidal Plates," *Int. J. Mechanical Sciences* Vol. 36, No. 9, pp. 797-809, September 1994.

24. Abu-Farsakh, G. and M. S. Qatu, "A Triangular Conforming Element for Laminated Shells," *Thin-Walled Structures*, Vol. 21, No. 1, pp. 31-42, Jan 1995

25. Qatu, M.S., "Vibration of Cantilevered Composite Triangular and Trapezoidal Doubly-Curved Shallow Shells," *Acta Mechanica.* Vol. 108, pp. 63-75, 1995.

26. Qatu, M.S., "Natural Vibration of Free Laminated Composite Triangular and Trapezoidal Shallow Shells," *Composite Structures.* Vol. 31, No. 1, pp. 9-19, January 1995.

27. Qatu, M.S., "Vibration Studies on Completely Free Shallow Shells Having Triangular and Trapezoidal Planforms," *Applied Acoustics*. Vol. 44, No. 3, pp. 215-231, March 1995.

28. Qatu, M.S., "Accurate Stress Resultant Equations for Laminated Composite Deep, Thick Shells," *Composites for the Pressure Vessel Industry*, ASME-PVP, Vol. 302, pp 39-46, 7, 1995.

29. Qatu, M.S., "Vibration Analysis of Cantilevered Shallow Shells with Right Triangular and Trapezoidal Planforms," *J. Sound and Vibration,* Vol. 191, No. 2, pp. 219-231, February 1996.

30. Qatu, M.S., "Accurate Theory for Laminated Composite Deep Thick Shells," *Int. J. Solids and Structures,* Vol. 36, No. 19, pp. 2917-2941, January 1999.

31. Qatu, M.S., "Theory and Vibration Analysis of Laminated Barrel Thin Shells*," J. Vibration and Control*, Vol. 5, pp. 851-889, 1999.

32. Qatu, M.S., D. Llewellyn and W. Spadafora "Measurement of Steering Gear Impedance," *Experimental Mechanics,* Vol. 41, No. 2, pp. 151-156, 2001.

33. Qatu, M.S., " Recent Research Advances in the Dynamic Behavior of Shells. Part 1: Laminated Composite Shells," *Applied Mechanics Reviews*. *Vol 55, no 4, pp 325-350,* 2002.

34. Qatu, M.S., " Recent Research Advances in the Dynamic Behavior of Shells. Part 2: Homogeneous Shells," *Applied Mechanics Reviews*. *Vol 55, no 5, pp 415-434,* 2002.

35. Qatu, M.S., and M. H. Sirafi, "Robustness of Powertrain Mount System for Noise, Vibration and Harshness at Idle," *Journal of Automobile Engineering,* Vol 216, pp 805-810, 2002.

36. Qatu, M.S., and A. Ghamat-Rezaei, "Industrial Based Senior Projects in Engineering Curriculum," *Int. J. of Innovation and Learning*, Vol. 1, No. 4, 2004

37. Qatu, M.S., "Theory and Vibration Analysis of Laminated Barrel Thick Shells," *Journal of Vibration and Control,* Vol. 10, pp. 319-341, 2004.

38. Sheng, G., K. Liu, J. Otremba, J. Pang, M. Qatu, R. Dukkipati, "Model and Experimental Investigation of Belt Noise in Automotive Accessory Belt Drive System," *Int. J. of Vehicle Noise and Vibration,* Vol. 1, No 1-2, pp. 68 – 82, 2004

39. Pang, J., M.S. Qatu, R. Dukkipati, and W. N. Patten, "Model Identification for Nonlinear Automotive Seat Cushion Structure," *Int. J. of Vehicle Noise and Vibration,* Vol. 1, No. 1-2, pp. 142-157, 2004.

40. Pang, J., R. Dukkipati, M. Qatu, W.N. Patten, "A nonlinear Seat Cushion and Human Body Model," *Int. J. of Vehicle Noise and Vibration,* Vol. 1, No. 3-4, pp. 194-206, 2005.

41. Iqbal, J., A. Rohilla, Q. Ahmad and M.S. Qatu, "Improving Powerplant and Powertrain Bending in East-West Engine Configurations," *Int. J. of Vehicle Noise and Vibration,* Vol. 1, No. 3-4, pp. 358-367, 2005.

42. Sheng, G., K. Liu, L. Brown, J. Otremba, J. Pang, M. Qatu, Wet Belt Friction and Friction-induced Noise in Automotive Accessory Belt Drive System, *Int. J. of Vehicle Noise and Vibration,* Vol 2, No. 3, pp. 266-281, 2006

43. Sheng, G., K. Liu, L. Brown, J. Otremba, J. Pang, M. Qatu, A new Mechanism of Belt Slip Dynamic Instability and Noise in Automotive Accessory Belt Drive Systems," *Int. J. of Vehicle Noise and Vibration,* Vol 2, No. 4, pp. 305-316, 2006.

44. Sirafi, M.H. and M.S. Qatu, " Robustness of Mount Systems for Idle Nvh, Part I: Centre Of Gravity (CG) Mounts," *Int. J. of Vehicle Noise and Vibration,* Vol 2, No. 4, pp. 317-333, 2006.

45. Sirafi, M.H. and M.S. Qatu, " Robustness of Mount Systems for Idle NVH, Part II: Pendulum Mounts" *Int. J. of Vehicle Noise and Vibration,* Vol 2, No. 4, pp. 334-340, 2006.

46. Sheng, G., K. Liu, Les Brown, J. Otremba, J. Pang, M. Qatu, " Chirp, squeal and dynamic instability of misaligned V-ribbed Belts in Automotive Accessory Belt Drive Systems," *Int. J. of vehicle noise and Vibration,* Vol 3, No 1, pp. 88 – 105, 2007.

47. Trapp, MA, Y. Karpenko, M. Qatu, K. K. Hodgdon, A. A. Atchley, "An Evaluation of Friction and Impact Induced Acoustic Behavior of Selected Automotive Materials, Part I: Friction Induced Acoustics" *Int. J. Vehicle Noise and Vibration,* Vol. 3, No. 4, pp. 355-369, 2007.

48. Trapp, MA, M. Qatu, K. K. Hodgdon, A. A. Atchley, "An Evaluation of Friction and Impact Induced Acoustic Behavior of Selected Automotive Materials, Part II: Impact Induced Accoustics" *Int. J. Vehicle Noise and Vibration,* Vol. 4, No. 1, pp. 17-34, 2008.

49. Qie, G, Dukkipati, R, Zhu, J and Qatu, M., 'Vibrations and Instability of Front-end Accessory Drive Belt System,' *Int. J. Vehicle Noise and Vibration,* Vol. 4, No. 3, 247-268, 2008.

50. Iqbal, J, Chang, Y and Qatu, M., 'Optimization of Frequencies of a Two-Span Shaft System Joined With A Hinge,' *Int. J. Vehicle Noise and Vibration,* Vol. 4, No. 4, 317-338, 2008.
51. Sheng, G, Zheng, H, Qatu, M.S, Dukkipati, R.V., Modeling of Friction-Induced Noise of Timing Belt,' *Int. J. Vehicle Noise and Vibration,* Vol. 4, No. 4, 285-303, 2008.
52. Qatu, M.S., Abdelhamid, M.K., Pang, J, and Sheng, G., 'Overview of Automotive Noise and Vibration,' *Int. J. Vehicle Noise and Vibration,* Vol. 5, No. 1/2, 1-35, 2009
53. Dukkipati, R.V., G Qie, J. Zhu, M. Qatu, "Vibrations and Instability in Automotive Front-End Accessory Drive Belt System" *SAE Int. J. of Passenger Cars.* Vol. 2, No. 1, pp. 1222-1236, 2009.
54. Wang, J., Qatu, M.S. and Dukkipati, R.V., "A Metric for Transaxle Rattle," *Int. J. Vehicle Noise and Vibration,* Vol. 5, No. 4, pp. 300-307, 2009
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59. Hajianmaleki M., Qatu M.S., Mechanics of Composite Beams, *In: Advances in Composite Materials-Analysis of Naturally and Man-made Materials,* Editor: P. Tesinova, InTech Publications, ISBN 978-953-307-449-8, 2011.
60. Qatu, M.S., King, R, Shubailat, O, Wheeler, R, "Vehicle Design for Robust Driveline NVH Due to Imbalance and Runout Using a Monte Carlo Process,' *SAE Int. J. of Passenger Cars, Mechanical System,* Vol. 4, pp. 1033-1038, 2011.
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62. Asadi, E., Wang, W., Qatu, M.S., "Static and vibration analyses of thick deep lam- inated cylindrical shells using 3D and various shear deformation theories", *Composite Structures* Vol. 94, pp. 494-500, 2012.
63. E. Asadi, M.S. Qatu, 2012, Static analysis of thick laminated shells with different boundary conditions using GDQ, *Thin-walled Structures* Vol. 51, pp.76-81, 2012.
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65. Hajianmaleki M., Qatu, M. S., "A Rigorous Beam Model for Static and Vibration Analysis of Generally Laminated Composite Thick Beams and Shafts", *International Journal of Vehicle Noise and Vibration,* Vol 8, No. 2, pp. 166-184, 2012
66. Qatu, M.S., "An Innovative Industrial-Related One Semester Capstone Course in Engineering," *International journal of Innovation and learning.* Vol. 12, No. 2, pp. 109-121, 2012.

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70. Qatu, M.S., "Recent Research on Vehicle Noise and Vibration," *International Journal of Vehicle Noise and Vibration,* Vol. 8, No. 4, pp. 289-301, Dec. 2012.
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72. Chen, G.S., Zheng, H, Qatu, M.S., "Decomposition of Noise Sources of Synchronous Belt Drives," *Journal of Sound and Vibration,* Vol. 332, No. 9, pp. 2239-2252, April 2013.
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74. Qatu M.S., Abu-Shams, M and Hajianmaleki, M, "Application of Laminated Composite Materials in Vehicle Design: Theories and Analyses of Composite Beams," *SAE Journal of Passenger Cars – Mechanical Systems,* Vol. 6, No. 2, pp. 1276-1282, July 2013.
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79. Kilicarslan, A. and Qatu, M. "Exhaust gas analysis of an eight-cylinder gasoline engine based on engine speed," *Energy Procedia* Vol. 110, pp. 459-464, 2017.
80. Xu, X. Chen, G., Colley, J., Li, P., and Qatu, M., "Nonlinear Vibrations of Innovative One-Way Clutch in Vehicle Alternator," *Inventions*, Vol. 3, No. 3, P. 53, 2018
81. Qatu, M.S., "Recent Advances on Electric Vehicle Noise and Vibration," to be submitted, *International Journal of Vehicle Noise and Vibration.*

7.4 Refereed Conference Publications - *Almost all presented at conferences*

1. M.S. Qatu, "Linear Versus Nonlinear Laminated Composite Shell Theories," *Composites for the Pressure Vessel Industry*, PVP, Vol. 302, pp. 33-38, 1995.

2. M.S. Qatu, "Vibrations of Laminated Composite Triangular Shell Segments," *Advances in Vibration Issues: Active and Passive Vibration, Mitigation, Damping and Seismic Isolation,* ASME, PVP, Vol. 309, pp. 99-106, 1995.
3. E. Smid, M.S. Qatu, and M. Dougherty, "Optimizing the Power Steering Components to Attenuate Noise and Vibrations, " *Proceedings of the 1998 European Conference on Vehicle Noise and Vibration, IMechE*, pp 103-112, U.K, May 1998.
4. M. S. Qatu, and M. L. Dougherty, "Measurement of The Bulk Modulus of Fluid Using Impedance of Hydraulic Circuits," SAE Transactions No. 1999-01-0942, *SAE International Congress and Exposition*, Detroit, March 1999.
5. M. S. Qatu, E. Smid, and M. L. Dougherty, "Effects of Tuner Parameters on Hydraulic Noise and Vibration," SAE Transactions No. 1999-01-1776, *Proceedings of 1999 Noise and Vibration Conference,* Vol. 2, SAE P-342, 975-981, Traverse City, May 1999.
6. M. S. Qatu, and M. L. Dougherty, "Repeatability of Standard Impedance and Ripple Tests for Automotive Vane Pumps" SAE Transactions No. 1999-01-1715, *Proceedings of 1999 Noise and Vibration Conference,* Vol. 2, SAE P-342, 503-508, Traverse City, May 1999.
7. D. Kumar, M. S. Qatu, and M. L. Dougherty, "Reduction of Surface Vibrations of A Cup-Shaped Rotor in a Brushless DC Motor Using FEA," SAE Transactions No. 1999-01-1792, *Proceedings of 1999 Noise and Vibration Conference*, SAE P-342, 1087-1090, May 1999.
8. M.S. Qatu, M. L. Dougherty, D. Llewellyn and W. Spadafora "Analytical Versus Test Bench Results for Vibrations of Fluid Handling Systems," *Power Transmission and Motion Control,* PTMC 99, 325-334, Edited by CR Burrows and KA Edge. September1999.
9. M.S. Qatu and R. Edwards, "Correlation between Analytical and vehicle results for Fluid Borne Noise Simulation," SAE Transactions No. 2000-01-0071, *SAE International Congress and Exposition*, Detroit, March 2000.
10. J. Pang, and M. S. Qatu, "Robustness of Exhaust Hanger Location Design," *Internoise conference*, Paper No. N 131, Dearborn, Michigan, 2002
11. J. Pang, P. Kurrle, M. Qatu, and R. Rebandt, "Attribute Analysis and Criteria for Automotive Exhaust Systems," SAE-2003-01-0221, *SAE International Congress and Exposition*, Detroit, March 2003.
12. M.H. Sirafi, and M.S. Qatu, "Accurate Modeling for the Powertrain and Subframe Modes", SAE Transactions No. 2003-01-1469, *Proceedings of 2003 Noise and Vibration Conference*, Traverse City, Michigan, May 2003.
13. M.S. Qatu, and J. Iqbal, "Robustness of Axle Mounts System for Driveline NVH," SAE Transactions No. 2003-01-1485, *Proceedings of 2003 Noise and Vibration Conference*, Traverse City, Michigan, May 2003.
14. M.S. Qatu, and A. Rohilla," Finite Element Analysis of As-Installed Power steering Pumps," SAE Transactions No. 2003-01-1671, *Proceedings of 2003 Noise and Vibration Conference*, Traverse City, Michigan, May 2003.
15. J. Pang, M.S. Qatu and R. Rebandt, "Influence of Vehicle Exhaust Y-Pipe on Tailpipe Noise," SAE Transactions No. 2003-01-1657, *Proceedings of 2003 Noise and Vibration Conference*, Traverse City, Michigan, May 2003.
16. J. Pang, and M.S. Qatu, "Exhaust System Robustness Analysis Due to Flex Decoupler Stiffness Variation," SAE Transactions No. 2003-01-1649, *Proceedings of 2003 Noise and Vibration Conference*, Traverse City, Michigan, May 2003.

17. J. Pang, R. Rebandt, G. Knapp, M. Qatu, D. Demmith, G. Sheng, "Flow Excited Noise Analysis of Exhaust," SAE Transactions No. 2005-01-2352, *Proceedings of 2005 Noise and Vibration Conference*, Traverse City, Michigan, May 2005.
18. Afaneh, A., M.K. Abdelhamid, and M.S. Qatu, "Engineering Challenges with Vehicle Noise and Vibration in Product Development," SAE Transactions No. 2007-01-2434, *Proceedings of 2007 Noise and Vibration Conference*, Peasant Run, IL, May 2007.
19. Qian, Z., J Pang and M. Qatu: Parameter Influence Analysis on Suspended Vehicle Rollover Model," 07APAC-23, 2007.
20. Qatu, M.S., Iqbal, J., Chang, "Frequencies of a Two Span Shaft System Joined with a Hinge Using Exact Solutions," NoiseCon 2008 and ASME NCAD Congress Dearborn, MI, 2008.
21. Qatu, M.S. and Iqbal J. 'Vibration Analysis of a Composite Shaft,' *Society of Automotive Engineers,* Paper No. 2009-01-2066. *Proceedings of 2009 Noise and Vibration Conference*, Peasant Run, IL, May 2009.
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23. Sheng, G., Qatu, M.S. Dukkipati, RV, and Zhang, H," Time Belt Dynamics and Noise Study ," *Proceedings of 2010 SAE Congress*, SAE paper: 10AC-0154, Paper Number: 2010-01-0902, DOI: 10.4271/2010-01-0902 Detroit, MI, April 2010.
24. Qatu, M.S., "A Curricular Model for a One Semester Capstone Course in Engineering," American Society of Engineering Educators ASEE Southeastern Conference April, 2010. http://155.225.14.146/asee-se/proceedings/ASEE2010/Papers/PR2010Qat222.PDF.
25. Fulton, I, Shi, S., and Qatu, M.S., "Application of natural fiber composites in the automotive industry," accepted for publications in the *Proceedings of 2011 SAE Congress*, Detroit, MI, April 2011, Paper No. 2011-01-0215.
26. Sheng, G., Qatu, M.S., Narravula, V., Kitchin,T " Study of Noise of Accessory Belt under Cold Condition," accepted for publications in the *Proceedings of 2011 SAE Congress*, Detroit, MI, April 2011, Paper No. 2011-01-0929.
27. Qatu, M.S., King, R, Shubailat, O, Wheeler, R, "Vehicle Design for Robust Driveline NVH Due to Imbalance and Runout Using a Monte Carlo Process,' *Society of Automotive Engineers, Proceedings of 2011 Noise and Vibration Conference*, Grand Rapid, MI, May 2011. Paper Number 2011-01-1580. Accepted as a full paper.
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29. Sheng, G., Qatu, M.S., Narravula, V.," A Study of Drying-up Friction and Noise of Automotive Accessory Belt," accepted for publications in the *Proceedings of 2013 SAE Congress*, Detroit, MI. Paper No. 09SFL-0045.
30. Qatu, M.S., Abu-Shams, Hajianmaleki, M., "Application of Laminated Composite Materials in Vehicle Design: Theories and Analyses of Composite Beams," *Society of Automotive Engineers, Proceedings of 2013 Noise and Vibration Conference*, Paper #: 2013-01-1943. Grand Rapid, MI, May 2013.
31. Qatu, M.S., Zannoun, M., Mainuddin, G. "Application of Laminated Composite Materials in Vehicle Design: Theories and Analyses of Composite Shells," *Society of Automotive*

Engineers, Proceedings of 2013 Noise and Vibration Conference, Grand Rapid, MI, May 2013.

32. Shubailat, O, King, R, Qatu, M and Hammi, Y "Vehicle design for robust driveline NVH due to imbalance and runout: A Case study, INTER-NOISE and NOISE-CON Congress and Conference Proceedings 246 (1), 779-787, 2013.
33. Kilicarslan, A. and Qatu, M.S. "Performance Investigation of an Eight Cylinder Gasoline Engine," *ASME 2014 International Mechanical Engineering Congress and Exposition,* American Society of Mechanical Engineers, V012T15A025, November 2015. https://doi.org/10.1115/IMECE2014-40417
34. Mainuddin, G. and Qatu, M., "Noise & Vibration Assessment of a Light Utility Electric Truck in Accelerating Condition," Society of Automotive Eng. 2015-01-2366, June 2011.

7.5 Book and Software Reviews (13)

1. "Introduction to Finite Element Vibration Analysis," by Maurice Petyt, Shock and Vibration Digest, Vol. 23, No. 5, pp. 15-16, May 1991.
2. "The Mechanics of Vibrations of Cylindrical Shells," by Stefan Markus, Shock and Vibration Digest, Vol. 23, No. 8, p. 21, August 1991.
3. "Introduction to Dynamics and Control," by Leonard Meirovich, Shock and Vibration Digest, Vol. 24, No. 8, p. 14, 1992.
4. "Fundamental Principles of Fiber-Reinforced Composites," by Ken Ashbee, Shock and Vibration Digest.
5. "Vibration Testing of Machines and Their Maintenance," by Gyorgy Lipovszky, Karoly Solyomvari and Gabor Varga, Shock and Vibration Digest.
6. "Vibration of Shells and Plates," by Werner Soedel, Applied Mechanics Reviews, Vol. 47, No. 2, P. B15, 1994.
7. "Non-Linear Dynamic Problems for Composite Cylindrical Shells," by A. Bogdanovich, Applied Mechanics Reviews, Vol. 48, No. 8, pp. B112, 1995.
8. "Engineering Analysis with Maple/Mathematica," by A. Beltzer, Applied Mechanics Reviews, Vol. 49, No. 3, pp. B29, 1996.
9. "The Finite Element Methods Using MATLAB," by Y. Kwon, and H Bang, Applied Mechanics Reviews, Vol. 50, No. 3, 1997.
10. "AMR Infobase of Journal Literature on CD-ROM, 1989-1996, Applied Mechanics Reviews, Vol. 51, No. 7, P. B65, 1998.
11. "Theory of Engine Manifold Design: Wave Action Methods for IC (Internal Combustion) Engines." By DE Winterborne and RJ Pearson. Applied Mechanics Reviews.
12. "Shape Optimization by the Homogenization Method," by Gregoire Allaire, Applied Mathematical Sciences 146, Springer, 2002, Applied Mechanics Reviews.
13. "Vibration of Shells and Plates," 3rd Edition by Werner Soedel, Journal of the Acoustical Society of America, 2005.

7.6 Manuals (4):

1. “Mechanical Drive Components,” Associate Development Center, Honda of America, Marysville, Ohio, April 1994.
2. “Bearing Calculations and Design,” Society of Manufacturing Engineering, Dearborn, Michigan, December, 1996, June, 1997, September, 1997.
3. “Machine Design Laboratory,” Lake Superior State University, Sault Ste. Marie, MI, December 1996.
4. "Dana Virtual Test Rig, A Fluid Borne Noise Simulation Software" Training and Reference Manuals, 1999.

7.7 Selected Short Papers, Presentations and Abstracts

1. Qatu, M.S., "Finite Element Modeling of Interfaces," The Ohio Journal of Science, Vol. 89, No. 2, p. 40, April 1989.
2. Qatu, M.S., "Application of the Ritz Method to the Analysis of Laminated Plates." The Ohio Journal of Science, Vol. 89, No. 2, p. 41, April 1989.
3. Qatu, M.S., "Application of the Ritz Method to the Free Vibration and Static Analysis of Laminated Shallow Shells," Developments in Mechanics (Proceedings of the 21st Midwestern Mechanics Conference), Vol. 15, pp. 345-346, Houghton, Michigan, August 1989.
4. Qatu, M.S., "Free Vibration and Static Analysis of Laminated Shallow Shells of Arbitrary Curvature," Proceedings of the 26th Annual Meeting, Society of Engineering Sciences, p. 14, Ann Arbor, Michigan, September 1989.
5. Qatu, M.S., "On the Theories of Laminated Composite Curved Beams," Developments in Mechanics (Proceedings of the 22nd Midwestern Mechanics Conference) Vol. 16, pp. 35-36, Rolla, Missouri, October 1991.
6. Qatu, M.S., "Bending Analysis of Cantilevered Composite Shallow Shells Using Finite Element and Ritz Methods," Developments in Mechanics (Proceedings of the 22nd Midwestern Mechanics Conf.) Vol. 16, pp. 37-38, Rolla, Missouri, 1991
7. Qatu, M.S., "Vibration Analysis of Laminated Composite Turbomachinery Blades," Proceedings of the 28th Annual Meeting, Society of Engineering Sciences, Gainesville, Florida, November 1991.
8. Qatu, M.S., "Inplane Vibration of Laminated Composite Rings," Proceedings of the 28th Annual Meeting, Society of Engineering Sciences, Gainesville, FL, Nov. 1991.
9. Qatu, M.S., "The Reliability of Finite Element Analysis of Large Structures,” Proceedings of the 2nd NISA users International Conference, TROY, MI, April 1992.
10. Qatu, M.S., "Vibrations of Laminated Composite Triangular Plates," Developments in Mechanics (Proceedings of the 23rd Midwestern Mechanics Conference), Vol. 17, pp 151-153, Lincoln, Nebraska, Oct 1993
11. Qatu, M.S., “Finite Element Modeling of Laminated Composite Shells,” ICES 95 Conference, Hawaii, 1995.
12. Qatu, M.S., “Team/Turn Teaching, Insight, Experiences and Tips,” (with A. Mahajan and D. McDonald), ASEE Annual Conference, Washington, DC, 1996 session 1261

13. Qatu, M.S., "Re-Engineering the Senior Design Experience with Industry-Sponsored Multi-disciplinary Team Projects," (multiple authors) 1996 Frontiers in Education Conference, Session 9, Paper 2. Vol. 3, pp. 1313-1316, Salt Lake City, Oct. 1996.
14. Qatu, M.S., "Vibrations of Thin Cylindrical and Barrel Composite Shells," International Symposium on Vibrations of Continuous Systems, Estes Park, Colorado, Aug. 1997.
15. "A Novel Process for Attenuating Noise in Hydraulic Circuits," 4th Chrysler Quality and Reliability Conference, Auburn Hills, MI, Oct. 1998. (with M. L. Dougherty and E. G. Smid)
16. "Attribute Assessment of Exhaust Systems," Coauthored with Jian Pang, Philippe Kurrle, and Robert Rebandt, Ford Technical Journal, Vol. 4, Issue 6, 2001 FTJ-2001-0047
17. "Robustness of Powertrain Mount System for Idle NVH," Co-authored with M. H. Sirafi, Internoise Conference, No. N504, 2002.
18. "Prediction and Solution of Exhaust Hot End Crack Problem by Durability and NVH Hybrid Analysis," Co-authors: Jian Pang, Dan Devito, and Asif Rohilla, Ford Technical Journal. 2002
19. Iqbal, J., and Qatu, M.S., "Transverse Vibration Of Multi-Segmented Composite Shafts," 15th International Conference on Composite Structures, Portu, Portugal, 2009
20. Qatu, M.S., "Recent trends in composite shell dynamics research: 2000-2008," 15th International Conference on Composite Structures, Portu, Portugal, 2009.
21. Iqbal, J, and Qatu, M.S., "Vibrations of A Three-Segment Composite Shaft with a Lumped Mass" 1st Joint Canadian & American Technical Conference, 24th ASC Annual meeting, Newark, Delaware, Sept. 15-17, 2009.
22. Hajianmaleki, M., and Qatu, M.S., "Accurate Modeling and Vibrations Studies of Laminated Composite Beams" 25th ASC Annual meeting, Dayton, OH, Sept. 20-22, 2010.
23. Asadi, E., and Qatu, M.S., "Vibrations Studies of Laminated Composite Cylindrical Shells of Arbitrary Boundaries" 25th ASC Annual meeting, Dayton, OH, Sept. 20-22, 2010
24. Wang, W., and Qatu, M.S., "Vibration Studies of Cylindrical Thick Shells Using 3D Elasticity and Finite Elements" Proceedings of the ASME 2010 International Mechanical Engineering Congress & Exposition, IMECE2010, November 12-18, 2010, Vancouver, British Columbia, Canada.
25. Asadi, E, and Qatu, M., "Vibration of laminated shells using a rigorous higher order shell theory ", ASME Applied Mechanics and Materials Conference (McMAT-2011), May 31 – June 2, 2011, The Fairmont Chicago - Chicago, IL.
26. Hajianmaleki, M. and Qatu, M., "Vibration of laminated curved thick beams using advanced theory ", ASME Applied Mechanics and Materials Conference (McMAT-2011), May 31 – June 2, 2011, The Fairmont Chicago - Chicago, IL.
27. Wang, W, and Qatu, M.S., "Vibration of three-dimensional orthotropic hollow cylinder," 16th Int. Conference on Composite Structures, Porto, Portugal, June 29- July 1st, 2011.
28. Fulton, I, Shi, S and Qatu, M.S., "Mechanical propertied of Kenaf based composites," 16th Int. Conference on Composite Structures, Porto, Portugal, June 29- July 1st, 2011.
29. Asadi, E., Qatu, M.S., An accurate higher-order shear deformation theory for deep composite thick shells," 1st International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Politecnico di Torino, Italy, June 18-20, 2012.

30. Wang, W., Qatu, M.S., and Yarahmadian, S., "Free vibration analyses of thin- and thick-walled orthotropic and composite hollow cylinders using 3d elasticity theory," 1st International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Politecnico di Torino, Italy, June 18-20, 2012.
31. Qatu, M.S., "The Challenge of Finding Engineering and Technical Talent in Michigan," Automation Alley, Troy, Michigan, 2022. https://www.automationalley.com/articles/the-challenge-of-finding-engineering-and-technical-talent-in-michigan

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8.0 PROFESSIONAL SERVICE

8.1 Professional Membership and Registration

- Registered, **Professional Engineer**, Ohio, since 1991; Michigan, since 1996
- **ASME Fellow** (2005), http://www.asme.org/member/fellow/citations.html, The American Society of Mechanical Engineers, member since 1990
- **SAE Fellow** (2007) http://www.sae.org/news/awards/list/fellow/fellows.htm. Society of Automotive Engineer, Member since 1996.
- **ESD Fellow** (2024) https://www.esd.org/groups/fellows/ Engineering Society of Detroit, Member since 2015.
- Member, American Society of Engineering Education, Member since 2009

8.2 Journal Editing

Founder & Editor-In-Chief: International Journal of Vehicle Noise and Vibration, Inderscience. http://www.inderscience.com/browse/index.php?journalID=52#top

Member of the Editorial Board (since 2004): Composite Structures. http://www.elsevier.com/wps/find/journaleditorialboard.cws_home/405928/editorialboard#editorialboard

Member of the Editorial Board (since 2010): Journal of Vibration and Control. http://www.sagepub.com/journals/Journal201401/boards

Member of the Editorial Board (2010-2017): Journal of Passenger Car– Mechanical Systems, Society of Automotive Engineers http://saepcmech.saejournals.org/site/misc/edboard.xhtml

Contributing Editor: *Composites for the Pressure Vessel Industry*, ASME- Pressure Vessels and Piping, Vol. 302, July 1995.

8.3 Conferences - Session Organization and Chair

1. Organized a session on Vibrations of Plates and Shells in the 22 Midwestern Mechanics Conference in Rolla, Missouri, October, 1991.
2. Organized three sessions on analysis and applications of composite materials in PVP with Y. Narita. ASME/JSME joint conf. on PVP, Hawaii, July 95.
3. Contributing Editor to ASME's Pressure Vessel and Piping publication: Composites for the Pressure Vessel Industry, Vol. 302, July, 1995.

4. The Editorial Chairman of the Symposium on Vibrations of Continuous Systems, Colorado, August, 1997.
5. Organized session for SAE Noise and Vibration Conference, Traverse City, MI, 2003, 2005, 2007 and 2009 and in Grand Rapids 2011 and 2013; and SAE Congress in 2014
    - Shocks and Mounts, 2003 SAE Noise and Vibration Conference
    - Shocks and mounts, 2005 SAE Noise and Vibration Conference
    - Drivetrain, 2005 (3 sessions) 2005 SAE Noise and Vibration Conference
    - Active Noise Control 2007 SAE Noise and Vibration Conference
    - Active Vibration Control 2007 SAE Noise and Vibration Conference
    - Drivetrain, 2007 SAE Noise and Vibration Conference
    - Shocks and Mounts 2007 SAE Noise and Vibration Conference
    - Acoustical Advancements in Realistic Perspective 2007 SAE Noise and Vibration Conference
    - Active Noise and Vibration Control 2009 SAE Noise and Vibration Conference
    - Drivetrain, 2009 SAE Noise and Vibration Conference
    - Shocks and Mounts 2009 SAE Noise and Vibration Conference
    - Active Noise and Vibration Control 2011 SAE Noise and Vibration Conferenc
    - Drivetrain, 2011 SAE Noise and Vibration Conference
    - Shocks and Mounts 2011 SAE Noise and Vibration Conference
    - Active Noise and Vibration Control 2013 SAE Noise and Vibration Conference
    - Drivetrain, 2013 SAE Noise and Vibration Conference
    - Shocks and Mounts 2013 SAE Noise and Vibration Conference
    - Drivetrain, 2015 SAE Noise and Vibration Conference
    - Shocks and Mounts 2015 SAE Noise and Vibration Conference
    - Drivetrain, 2017 SAE Noise and Vibration Conference
    - Shocks and Mounts 2017 SAE Noise and Vibration Conference
    - Drivetrain, 2019 SAE Noise and Vibration Conference
    - Shocks and Mounts 2019 SAE Noise and Vibration Conference
    - Drivetrain, 2021 SAE Noise and Vibration Conference
6. Organized and chaired sessions for Chassis Design for the Detroit Congress (2006).
    - Materials and NVH, 2006 (3 sessions)
    - Chassis and Steering NVH, 2006 (2 sessions)
    - Materials, 2014 SAE Congress
7. On the Organization Committee of SAE Noise and Vibration since 2001.
8. Chaired two sessions for the 15th International Conference on Composite Structures, Porto, Portugal, 2008
9. Chaired one session for the American Society of Composites (ASC) 23th conference, Memphis, TN, September 2008
10. On the Scientific Committee of the International Conference on Composite Structures, 2009.
11. Chaired one session for the American Society of Composites (ASC) 24th conference, Newark, DE, September 2009
12. Chairing one session for the American Society of Composites (ASC) 25th conference, Dayton, OH, September 2010

8.4 Reviewer/Evaluator of Technical Research

Frequent reviewer for the following Journals:

1. SAE Transactions: Annual Congress
2. SAE Transactions: Bi-annual Noise and Vibration Conference
3. SAE Journal of Passenger Cars
4. ASME Journal: Applied Mechanics Reviews
5. ASME Journal: Vibration & Acoustics
6. ASME Conferences (1995 Composites for the Pressure Vessel, Hawaii)
7. ASCE Journal of Engineering Mechanics
8. ASCE Journal of Structural Engineering
9. AIAA Journal
10. IMECHE Journal of Automobile Engineering
11. International Journal of Vehicle Noise and Vibration
12. Composite Structures
13. International Journal of Solids and Structures
14. Journal of Vibration and Control
15. Journal of Sound and Vibration
16. International Journal of Mechanical Sciences
17. Journal of the Acoustical Society of America
18. Applied Acoustics
19. International Journal of Composite Materials
20. Thin-Walled Structures
21. Structural Engineering and Mechanics – An International Journal
22. International Journal of Nonlinear Mechanics
23. International Journal of Mechanics of Material and Structures
24. Shock and Vibration
25. Composites A
26. Cellulose
27. Measurement
28. Applied Mathematical Modeling
29. International Journal of Vehicle Design
30. Applied Mathematical Modeling
31. Journal of Aerospace Engineering
32. Structures
33. Science and Engineering of Composite Materials
34. Australian Journal of Mechanical Engineering
35. Acta Meccanica
36. Journal of Natural Gas Science & Engineering
37. Materials and Design
38. European Journal of Mechanics - A/Solids
39. Journal of Engineering Mathematics
40. Mechanics Based Design of Structures and Machines, An International Journal
41. International Journal for Computational Methods in Engineering Science & Mechanics.
42. Finite Elements in Analysis and Design

9.0 PROFESSIONAL DEVELOPMENT

1. *Vibration Technology I and II*, IRD Mechanalysis, 6150 Huntley Rd, Columbus, OH 43229, February 1990. (4 days)

2. *EMRC-NISA FEM* package Training, EMRC Headquarters, 1607 E. Big Beaver Rd, Troy, MI 48084, October 1990. (3 days)
3. *Total Quality Training,* DRESSER Industries, Columbus OH 43201, March 1991. (2 days)
4. The 6th Biennial Symposium on *Manufacturing Excellence*, Ohio State University, Columbus OH, May 1992. (2 days)
5. The 10th Annual Conference *for Academic Chairpersons*, Orlando, Florida, Feb. 1993 (3 days)
6. *Experimental Stress Analysis Techniques for the Teaching Laboratory*, Measurements Group, Raleigh, NC, July 1993 (5 days).
7. *Applied Optics Course*, Sponsored by the NSF and Oakland University, Oakland University, Rochester, MI, July 1994 (2 weeks)
8. *I-DEAS FEM* Workshop, SDRC Headquarters, Cincinnati, OH May 1996 (3 Days)
9. *Star-CD* Training, Adapco Headquarters, Long Island, New York, July 1997 (3 days).
10. *Elastomer-FEA* Symposium, University of Akron, Akron, Ohio, March 1998 (2 days)
11. *Plastic Gears for Power Application,* SAE TOPTEC Pres., Dayton, OH, Aug. 1998 (2 days)
12. *Fatigue Analysis Using MSC/FATIGUE,* Livonia, Michigan, September 1998 (2 days).
13. *Numerical Methods for Noise and Vibration Analysis,* SAE TOPTEC Presentation, Grand Rapids, Michigan, October 1998 (2 days)
14. *DFMEA Course***,** SAE training, Troy, Michigan, Sept 1999, 1 day
15. *Power Transmission and Motion Control,* PMTC 99, Univ of Bath, , UK, Sept. 1999, 3 days
16. Supervisor and Leadership Training, Ford Motor Company, Dearborn, MI, 2001 (5 days)
17. *Six Sigma Green Belt Training,* Ford Motor Company, Dearborn, MI, 2001 (5 days)
18. *Design for Six Sigma Training,* Ford Motor Company, Dearborn, MI, 2001 (6 days)
19. *Training in LMS Vibration Analysis and Signal Processing,* Troy, Michigan, 2001 (4 days)
20. Secured certificates of "*Assessment of Previous Experience and Learning (APEL)*" at Ford Motor Company, (2000-2008) in the following areas:

    - Experimental Design,
    - Parameter Design,
    - Tolerance Design,
    - Reliability,
    - Failure Mode and Effect Analysis,
    - Systems Engineering and Problem-Solving Process (G8D),
    - Applied Consumer Focus,
    - Advanced Statistical Engineering

21. *Failure Mode Avoidance,* Ford Motor Co, Dearborn, MI, 2006 (3days)
22. *Conducting Design Reviews,* Ford Motor Co, Dearborn, MI, 2008 (1 day)
23. *Advanced LMS vibration analysis software,* LMS International, Troy, MI, 2011 (2 days.)
24. *CASE Training for Fundraising, Chicago, IL 2018 (2 days)*

10.0 LEADERSHIP DEVELOPMENT

Since 2011: attended several leadership meetings and conferences in engineering and related university business:

1. 2013 Engineering Deans Institute (EDI), April 14 - 16, 2013, Grand Hyatt New York

Manhattan, NY.
2. North American International Cyber Summit 2016, Cobo Center, Detroit, MI, Oct. 2016.
3. North American International Cyber Summit 2017, Cobo Center, Detroit, MI, Oct. 2017.
4. 2017 American Center of Mobility Inauguration, Willow Run Airport, Ypsilanti, MI, October, 2017.
5. 2017 Michigan Engineering Dean's Meeting, Lansing (Michigan State University), MI, September 25, 2017.
6. 2017 Engineering Dean's Institute (EDI) Annual Conference, Biltmore Hotel, Coral Gables, FL, April 2 - 5, 2017.
7. 2017 Engineering Deans Council Public Policy Colloquium (PPC), The Fairmont Washington, D.C., 2401 Washington, DC 20037, February 6 - 8, 2017.
8. North American International Cyber Summit 2016, Cobo Center, Detroit, MI, October 2016.
9. 2016 Michigan Engineering Deans Meeting, Detroit (Wayne State University), September 25, 2017.
10. 2017 Engineering Deans Council Public Policy Colloquium (PPC), The Fairmont Washington, D.C., 2401 Washington, DC 20037, February, 2016.
11. 2018 Michigan Engineering Dean's Meeting, Lansing (Michigan State University), MI, September 25, 2018.
12. Development for Deans and Academic Leaders: Fall Session, Chicago, Illinois, November 2018.
13. 2019 Engineering Deans Council Public Policy Colloquium (PPC), The Fairmont Washington, D.C., 2401 Washington, DC 20037, February, 2019.
14. 2019 Michigan Engineering Dean's Meeting, Engineering Society of Detroit, MI, September, 2019.
15. Hosting the 2021 Michigan Engineering Deans Conference (20 engineering and Technology Deans are invited, 16 attended).
16. 2022 Engineering Deans Council Public Policy Colloquium (PPC), Washington, D.C., February, 2022.
17. 2022 Engineering Deans Institute meeting, American Society of Engineering Education (ASEE), Las Vegas, NV, 2022.

In addition,

- **attended and actively participated tens of graduation ceremonies,**
- **participated in tens of community engagement events**
- **led several visits to high schools and community colleges**
- **led or participated in tens of visits of regional and international partners**
- **led many industrial outreach activities**