

PROF. NEDAL T. RATROUT, PH.D., CE SCE

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EXECUTIVE LEADER IN ACADEMIA

Driven, highly accomplished **Executive Leader in Academia** respected for +13 years of C-level and executive management achievements in academia, overseeing and inspiring educational institutions. Sought for success in guiding mega research and educational projects, as well as private-sector engineering projects. Proven track record of creating and sustaining a performance-driven culture and teams while managing strategic planning, visioning, programs, and systems. Exemplary educational qualifications include a Ph.D. degree in Civil Engineering (Transportation Option) from Michigan State University and the designation of Certified Consultant Engineer. Out-of-the-box, analytical thinker with the strategic, academic, business, and leadership acumen to continuously improve all university activities, programs, and operations. Trusted thought leader and Board vice chairperson in three companies.

CAREER HIGHLIGHTS

- Demonstrated expertise as a visionary educational leader and business executive, serving as Vice President of Administration & Finance, Dean of Academic Development, Chairman and Professor of the Civil & Environmental Engineering Department through forty years of continuous service at the King Fahd University of Petroleum & Minerals.
- Established and managed advising committees, boards and councils, leading initiatives and discussions on various industrial and academic matters.
- Led an extensive career as a veteran educator, teaching numerous graduate and undergraduate courses and driving student success through a high-impact curriculum and innovative programs.
- Regarded as a phenomenal teacher, researcher, and academic leader, serving as a Professor in Transportation Engineering and a lecturer for graduate and undergraduate courses in addition to multiple executive-level roles.
- Earned a distinctive designation as a Certified Consultant Engineer with a proven history of managing large industrial and academic research projects, leveraging technical knowledge, and business management skills to ensure optimal project planning and successful execution.

SKILLS & EXPERTISE

Traffic Safety & Operation
Traffic Optimization & Simulation
Autonomous Vehicles Research
AI applications in Transportation

Executive Leadership
Team Leadership
Project Management
Staff & Student Leadership

Academic Leadership
Junior Faculty mentoring
Program Management
Curriculum Development

PROFESSIONAL EXPERIENCE

Vice President of Administration & Finance

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

4/2021 – Present

Use best practices to oversee the university's operational, administrative and financial prosperity. Report to the university president and promote continuous improvement throughout human resource management, finance and asset oversight, and organizational development.

GENERAL SUPERVISOR FOR SERVICES (CHIEF OPERATING OFFICER & CHIEF FINANCIAL OFFICER)

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

10/2018 – 4/2021

Oversaw all university activities, programs, and operations, including construction projects, maintenance activities, medical services, community activities, security, safety, transportation, and financial matters. Reported to the University President.

DEAN OF ACADEMIC DEVELOPMENT

03/2015 – 10/2018

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

Led academic accreditation and development initiatives. Advising faculty across the University on teaching assessment and effectiveness.

DEPARTMENT CHAIR

01/2010 – 03/2015

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

Delivered academic leadership, direction, and faculty guidance for the Civil and Environmental Engineering Department.

ACTING CHAIRMAN OF CHEMICAL ENGINEERING & PETROLEUM ENGINEERING

Summers 2011 – 2014

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

Offered leadership and guidance to the Chemical Engineering and Petroleum Engineering Department in summer classes.

PROFESSOR OF CIVIL ENGINEERING

01/1990 – 01/2010

King Fahd University of Petroleum & Minerals: Dhahran, Saudi Arabia

Taught several undergraduate and graduate courses and supervised +35 students completing Ph.D. dissertations and master's theses as an Advisor and Committee Member. Advised numerous students on their senior projects and co-op reports and wrote several lab manuals for undergraduate courses.

EDUCATION

Doctor of Philosophy (Ph.D.) – Civil Engineering (Transportation Option)

Michigan State University, East Lansing, MI (GPA: 4.00 out of 4.00)

Master of Science – Civil Engineering (Transportation)

King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia (GPA: 4.00 out of 4.0)

Bachelor of Science – Civil Engineering

King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia

CERTIFICATIONS

Certified Consultant Engineer (CE SCE)

Saudi Council of Engineers

LANGUAGES

Arabic
English

RESEARCH PROJECTS

Managed 14 sponsored engineering and research projects and participated in 16 other funded projects.

CONSULTANCY

Worked as a part-time consultant for several consulting engineering firms in Saudi Arabia including; Beacon Development Company; MUSTANG-HDP; Zuhair Fayeze Partnership; Faisal Jameel Al-Hejailan & Partners; Radicon-Gulf Consult; Saudi Consultancy and Design Office (SCADO) ;R.G.P.K. Association.

PUBLICATIONS (REFEREED)

Published 49 papers in peer-reviewed journals and 30 peer-reviewed conference papers. The latest publication is:

- Mohammed Al-Turki, Nedal T. Ratrout, "Impact of Autonomous Vehicles on the Performance of a Signalized Intersection under Different Mixed Traffic Conditions: A Simulation-Based Investigation", Journal of Applied Engineering Science - JAES", Volume. 21, No. 1, Pages: 1-17, January 16, 2023.

PATENTS

- "Method for Traffic Flow Analysis and Timing based on Vehicular Volume Flow", Patent No.US11741832B2, Date of Patent: August 29, 2023.
- "Method for Signal Timing in A Four-Legged Isolated Signalized Intersection", Patent No. US11721211, Date of Patent: August 8, 2023.
- "Method and Space Allocation Determination based in Green Light Time in a Signalized Intersection", Patent No. US11710400, Date of Patent: July 25, 2023.
- "Method including Peak and Off-Peak Data for Traffic Signaling", Patent No. US11704999, Date of Patent: July 18, 2023.
- "Real-Time Traffic Crash Severity Prediction Tool," Patent No. US11443623B1, Date of Patent: September 13, 2022.
- "Quick Process for Optimizing Space and Signal Timing at Intersections," Patent No. US11120686, Date of Patent: September 14, 2021.

- Method for Allocating Traffic Flow in a Three- Legged Signalized Intersection, Docket #US2021/0383691, under process.

BOARD MEMBERSHIP AND NATIONAL COMMITTEES

- Board of Trustees of King Fahd University of Petroleum and Minerals, Member: 2021-Present
- Board of the Dhahran Techno Valley Company, KFUPM, Vice Chairman: 2021 – Present
- Board of the Business Park Complex Company, KFUPM, Vice Chairman: 2019 – Present
- Board of "Dhahran Valley Company for Business Services," KFUPM, Vice Chairman: 2019 – Present
- Council of King Fahd University of Petroleum & Minerals, Member: 2015 – 2018 & 2020-present
- Board of the Saudi Society for Traffic Safety (SALAMH), Member: 2012 – 2016
- National Committee for Traffic Safety, Member: 1992 – 2012
- Executive Committee of the National Strategy for Traffic Safety, Member, 2009-2011

PROFESSIONAL ORGANIZATIONS

- Dhahran Techno-Valley Holding Company Audit Committee, Vice Chairman: March 2022 - Present
- Audit, Risk and Governance Committee for the Business Park Complex Company, KFUPM, Vice-Chairman: 2019 – Present
- Saudi Council of Engineer (Certified Consultant Engineer), Member: 2016 – Present
- Saudi Society for Traffic Safety (SALAMH), Member: 2012 – Present
- International Advisory Council for the Deanship of Academic Development, KFUPM, Member: 2017 – 2018
- Scientific Committee of the 2nd National Traffic Safety Conference, Member, 2003-2004
- Scientific Committees of the First, Second, Third, and Fourth Forum on Traffic Safety formed by the Saudi Society for Traffic Safety (SALAMH), Member 2010-2017

STANDING COMMITTEES at KFUPM

Participated in several standing committees and chaired the following standing committees:

- Fund Support Program Committee, Member 2023
- Health, Safety, Security and Environment Committee, 2022-2023
- Crisis Management, Emergency, Security Operation Committee, Chairman: Jan. 2022
- Procurement Review Committee, Member: 2021-present
- Strategic Planning Committee, Member: 2021-present
- The Higher Promotions Committee, Member: 2019 – Present
- Vice-Presidents Committee, Member: 2019 – Present
- Planning Committee, Vice Chairman: 2019-2020
- The Leadership Panel, Member: 2018 – Present
- The Committee on Public Events, Chairman: 2018 – Present
- The E-Transaction & Transformation Committee, Member: 2018 – 2020
- Organization Excellence Committee, Member: 2018 – 2020
- Bids Examination Committee, Chairman: 2018 – 2021
- The Audit and Risk Management Committee, Member: 2016 – present
- Academic Assessment & Accreditation Committee, Member: 2015 – 2018
- Academic Committee, Member: 2015 – 2018
- Faculty Affairs Committee, Member: 2015 – 2018
- Academic Development Committee, Chairman: 2015 – 2018
- Traffic Safety Committee of KFUPM, Chairman: 1999 – 2009
- Campus Planning & Development Committee, Member: 2004 – 2008
- Health, Safety & Security Committee, Member: 1992 – 1996
- Housing Committee, Member: 1992 – 1993 and 2002-2004
- Library Committee, Member: 1990 – 1991
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HONORS & AWARDS

- Winner in the DTV Start-Up Challenge "Quick Optimization for Time and Space." Approved by the University President and funded under the Keys of Goodness Program, 2019.
- Appreciation Plaque (x4) from Saudi Society for Traffic Safety (SALAMH), Dammam University (2010, 2012, 2015, 2017).
- Distinction Award, Distinguished research team member of the Research Institute, Project Title: "National inventory of anthropogenic emissions by sources and removal by sinks of greenhouse gases not controlled by the Montreal Protocol," Project Number – CEW 2351. Client – Saudi Aramco, KFUPM, 2012-2013
- Appreciation plaque from the Chairman of the Board of Trustees of the "RIYADH ECONOMIC FORUM" for actively participating in the forum entitled "Towards Sustainable Economic Development," December 2011.
- Appreciation plaque from Abu Dhabi Police Academy (United Arab Emirates) for acting as a scientific supervisor in the short course "Role of Road Planning in Reducing Traffic Accidents," May 2011.

- Distinguished Teaching Award from the College of Applied Engineering (KFUPM: 2006-2007)
- Certificate of Appreciation from the Ministry of Interior/KACST for participating in the 2nd National Traffic Safety Conference's scientific committee, September 2004.
- Distinguished Teaching Award from the College of Engineering Sciences (KFUPM: 2004).
- Distinguished Service Award College from the Engineering Sciences (KFUPM: 2003).
- Distinguished performance as a faculty for twenty-four years from the KFUPM Deanship of Faculty and Personnel Affairs (1994-95, 1997-2001, 2003-2022).
- Distinguished Research Project Leadership Award (KFUPM Research Institute: 2000-01).
- Nominee (x3), Distinguished Teaching Award of KFUPM, (1997-98, 1999-2000, 2005-06).
- Recipient of His Royal Highness Prince Bander Bin Sultan Bin Abdulaziz Reward for Academic Excellence. The U.S.A, (1989).
- Graduated with a cumulative GPA of 4.0 in the Ph.D. program, Michigan State University, U.S.A., 1989.
- Graduated with a cumulative GPA of 4.0 in the M.Sc. program, King Fahd University of Petroleum & Minerals, Saudi Arabia, 1985.