

## Jamal Ismael Kakrasul

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Faculty of Engineering  
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### Executive Profile

Senior academic leader with over 20 years of experience in higher education, research, and engineering practice. Dean of the Faculty of Engineering and Director of the Engineering Consulting Bureau at Soran University, with a strong record in academic leadership, institutional effectiveness, accreditation, curriculum reform, and strategic planning. Recognized for driving innovation, research culture, sustainability, and university-industry partnerships.

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### Key Leadership Strength

- Academic leadership and university governance
  - Strategic and institutional planning
  - Accreditation and quality assurance (KAAE, Bologna)
  - Curriculum modernization and academic program development
  - Research capacity building and postgraduate supervision
  - Government, industry and community partnerships
  - Establishing centers, units and academic structures
  - Engineering consultancy leadership and revenue generation
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### Education

<b>Ph.D. Civil Engineering (Sustainable Civil Engineering infrastructures)</b> <i>University of Kansas, Lawrence, KS, USA</i>	May 2018
<b>M.Sc. Civil Engineering</b> <i>Salahaddin University–Erbil, Kurdistan Region–Iraq</i>	August 2008
<b>B.Sc. Civil Engineering</b> <i>Dohuk University, Dohuk, Kurdistan Region–Iraq,</i>	July 2003

## **Professional Experience**

### **Interim Dean**

August 2021 - Present

**Faculty of Engineering, Soran University**, Soran, Erbil/Kurdistan Region - Iraq

### **Director**

January 2021 - Present

*Engineering Consulting Bureau - Soran University*, Soran, Erbil/Kurdistan Region - Iraq

### **Director**

April 2010 – July 2013

*Projects and Engineering Directorate , Soran University*, Soran, Kurdistan Region –Iraq

- Managed all aspects of construction projects run by the department
- Approved and accepted planned, designed and completed projects
- Contributed in the structural and Geotechnical designs of most of the projects (e.g., the entire infrastructure of the a new university campus)
- Mentored staff of various skills and personalities, including both technical staff and other managers
- Offered training courses for the staff of the department

### **Project Manager**

April 2010 – December 2012

*This position was an additional duty I took when I was the director of Projects and Engineering Directorate*

*Delzyan Campus, Soran University*, Soran, Kurdistan Region –Iraq

- Managed construction a new Campus in Soran University
- Supervised six on site engineers
- Accepted contractor's daily plan, and prepared weekly reports for the projects
- Performed quality control review of proposals written by engineers of the projects.
- Evaluated complex laboratory and field data for inclusion in the weekly reports

### **Staff Civil Engineer**

October 2005– January 2010

*Planning and Technical Department*

**Erbil Municipalities**, Erbil, Kurdistan Region–Iraq

- Prepared annual construction and development plan for the rural areas in Erbil Governorate

- Supervised and managed several roadway construction projects of various complexity (e.g., paved and unpaved roads in mountainous area and in areas with swelling clay)
- Performed in-situ and laboratory testing of the roadway construction materials

**Designer & Quality Control Engineer, (part-time) July 2007- December 2009**

*Rawshan Company & USA Army Corps of Engineers, Erbil, Kurdistan Region-Iraq*

- Designed and managed two water supply projects (50 Km pipelines)
- Performed in-situ and laboratory testing for the construction materials used in the projects
- Controlled the quality of the construction materials and the performed work for the projects
- Prepared daily construction plans
- Prepared daily and weekly progress reports for the projects

**Designer & Construction Estimator**

July 2003- December 2009

Self-business, part-time and weekend hours

- Conducted structural and hydraulic design for several residential and commercial buildings
- Estimated cost of construction for a lot of residential units and rural roadways
- Performed site visiting and offered advice on construction aspects
- Designed complex water supply projects for rural and urban areas

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**Teaching Experience**

**Associate Professor**

Civil and Environmental engineering department,

Soran University, Soran, Erbil

Courses Taught :

**Sustainability in Civil Engineering, Foundation. Engineering,** (for undergraduate students)

**Advanced Geotechnical Engineeirng and Advanced Topics** (for PhD and Master students).

**Sustainability in Civil Engineering, Soil Mechanics, Foundation Engineering, Highway Engineeirng and Traffic Engineering** (for undergraduate students)

**Research Methodology, Advanced Geotechnical Engineeirng and Advanced Stress Analysis** (for PhD and Master students).

- Teaching Assistant**     *Soil Mechanics.*     August 2016 – May 2017  
Civil, environmental and architectural engineering department  
The University of Kansas, Lawrence, KS, 66045
- Prepared and instructed materials for the course
  - Assisted students during the course
- Assistant Lecturer**     *System Analysis, and*     September 2010 – May 2012  
*Computer Architecture*  
**Mathematics and Computer Science Department**  
Soran University, Soran, Kurdistan Region-Iraq
- Taught lectures to 22 junior students, was solely responsible for course content
  - Advised four undergraduate students
- Visiting Lecturer**     *Computer for everyday life*     December 2011 -May 2012  
**Faculty of Law**  
Soran University, Soran, Kurdistan Region-Iraq
- Developed and instructed basics of computer for fresh students
- Adjunct Lecturer**     *Statics, Applied Calculus*     August 2008 – December 2009  
*And Descriptive Geometry*  
**Civil engineering department**  
Shaqlawa Technical Institution, Shaqlawa, Kurdistan Region –Iraq
- Developed and designed lectures for three courses
  - Advised two undergraduate students

## Research Work Experience

- Research Supervision**     August 2021 - Present  
*Civil and Environmental Engineering Department*  
**Faculty of Engineering**

**Soran University**, Soran, Erbil/Kurdistan Region - Iraq

**Adjunct Researcher**

March 2017- August 2018.

*Civil, Environmental and Architectural Engineering Department*

**The University of Kansas**, Lawrence, KS

- Conducting research and monitoring graduate students

**Research Assistant**

September- December 2017

*Transportation Research Center*

**The University of Kansas**, Lawrence, KS

- Review local and national guidelines on Roadway Safety Hazardous
- Reviewed local and national guidelines on Superpave and Pavement Treatments.
- Communicated with Kansas county road officials, expert engineers, and contractors to collect data on Superpave and pavement treatments
- Prepared fact sheets on Superpave and pavement preservation for local road officials in Kansas

**Research Assistant**

May 2016- August 2017

*Civil, Environmental and Architectural Engineering Department*

**The University of Kansas**, Lawrence, KS

- Reviewed literature and state-of-arts on roadway stabilization in the USA
- Performed in-situ Geotechnical testing on three construction sites in Kansas
- Conducted Geotechnical lab tests on the lab prepared and in-situ soil samples
- Prepared and wrote a research report for the conducted work for the Kansas Department of Transportation (KDOT)

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**Honors, Awards & Scholarships**

2018 Outstanding Doctoral Research Award – **School of Engineering, University of Kansas**  
Practice-Ready Paper Award, Design and Construction Group, **Transportation Research Board (TRB)**, January 2017

2016 Presentation Appreciation, **Kansas City-ACSE/AEG/UMKC Geotechnical Group**

2016 Summer Research Fellowship, **Dean of Graduate School, University of Kansas**  
**Graduate Scholarly Presentation** Travel Award, 2015

Finalist team member, **Student Geowall Challenging**, IFCEE-2015, San Antonio, TX

Human Capacity Development (HCDP) Scholarship, Kurdistan Region-Iraq, 2011

Honor Student Award, **Vice-Prime Minister of Kurdistan Region-Iraq**, 2004

Honor Student Award, **Dohuk Public Work Department**, 2004

Honor Student Award, **Dohuk University**, 2004

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### **Courses & Training Certificates**

**Iraq-E- Learning Professional Training Program** April 30 - June 25 2020

IREX -US Embassy -Baghdad

**Highway Slope Maintenance and Slide Restoration** March 8– 10 2016

National Highway Institute course / Kansas Department of Transportation / Topeka

**English Language and Human Resources Management Training** November 2-30, 2012

University of St Mark & St John (Marjon), Plymouth, UK

**Safety Management and Quality Control and Assurance Plan** July 3-17, 2007

USACE-Erbil office, Erbil, Kurdistan Region –Iraq

**Capacity Building Program (GPS &GIS)** April 15-27, 2007

Ministry of Municipalities, Erbil, Kurdistan region –Iraq

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### **Short Courses Presented**

**Bologna Process and how it works** January 12-14, 2021

Shahid Foundation for Education

**General Contract for Civil Engineering Works** February 12-14, 2013

Soran University, Soran / Erbil -Kurdistan Region –Iraq

**Managing in-Situ Engineering Problems** April 4-5, 2011

Soran University, Soran / Erbil -Kurdistan Region –Iraq

**Safety Management** September 11-13, 2008

Erbil Municipalities, *Erbil* -Kurdistan Region –Iraq

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### **Professional Activities/Memberships**

American Society of Civil Engineers (ASCE) (2014-Present)

Engineers without Borders (EWB-USA) (2014-Present)

International Geosynthetic Society (IGS) (2014-Present)

Kansas University Geotechnical Society (2013-Present) – President for 2016-2017 term

Kurdistan Engineers Union (2004-Present).

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### **Webinar Workshop Presentation**

**Fundamental of Electronic and Online Learning** September 2020.

University, Soran, Erbil/Kurdistan Region - Iraq

**Traffic Safety Issues in Kurdistan Region** June 2020.

Faculty of Engineering, University, Soran, Erbil/Kurdistan Region - Iraq

**Roadway Side Slope Restoration and Maintenance.** April 2019.

Faculty of Engineering, University, Soran, Erbil/Kurdistan Region - Iraq

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### **Research Interest**

Sustainability in Civil Infrastructure

Earth Retaining Structures

Pavement Design and Management

Roadways and Road Safety

Geosynthetics and Ground Improvement

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### **Publications**

#### **Journal Papers:**

RA Blayi, JI Kakrasul, SM Hamad (2025) "Impact of rice husk ash on swelling and durability of expansive soils" Next Materials 10, 101444. <https://doi.org/10.1016/j.nxmte.2025.101444>

RA Blayi, JI Kakrasul, SM Hamad (2025) "An Overview of Rice Husk Ash as a Waste By-Product Material for Sustainable Soil Stabilization" Cleaner Waste Systems, 100446. <https://doi.org/10.1016/j.clwas.2025.100446>

YJ Bas, JI Kakrasul, KS Ismail, SM Hamad (2025) "Innovative approach for modeling the mechanical properties of the concrete modified with recycled aggregate for various curing times and mix proportions" Innovative Infrastructure Solutions 10 (11), 519. <https://doi.org/10.1007/s41062-025-02277-3>

RA Blayi, JI Kakrasul, SM Hamad (2025) "Optimization and Performance of Rice Husk Ash for Enhancing Unconfined Compressive Strength at Various Soil Liquid Limits Using Response

Surface Methodology”, Progress in Engineering Science, 100126. <https://doi.org/10.1016/j.pes.2025.100126>

RA Blayi, JI **Kakrasul**, SM Hamad (2025) “Predicting the Unconfined Compressive Strength of Rice Husk Ash–Treated Fine-grained Soils”, ARO-THE SCIENTIFIC JOURNAL OF KOYA UNIVERSITY 13 (1), 237-250.

RK Rahman, JI **Kakrasul** (2025) “Synergistic Effects of Nano-Additives and Aggregate Type on the Mechanical and Hydraulic Performance of Pervious Concrete Pavements”, Polytechnic Journal 15 (2), 7. <https://doi.org/10.59341/2707-7799.1866>

YJ Bas, JI **Kakrasul**, KS Ismail, SM Hamad (2025) “Advanced predictive techniques for estimating compressive strength in recycled aggregate concrete: exploring interaction, quadratic models, ANN, and M5P across strength classes” Multiscale and Multidisciplinary Modeling, Experiments and Design 8 (1), 122. <https://doi.org/10.1007/s41939-024-00705-y>

Tawrez, S. Sofi, **Kakrasul, J.I.**, Sherwan S. Qurtas (2023) “Assessment of The Geotechnical Properties of Municipal Solid Waste and Its Effect on The Surrounding Soil: A Review” Diyala Journal of Engineering Sciences. <https://doi.org/10.24237/djes.2023.16308>

Tawrez, S. Sofi, **Kakrasul, J.I.**, Sherwan S. Qurtas (2023) “Assessment of the some of the Geotechnical properties of municipal solid waste of Soran waste dumping sites, KURDISTAN REGION OF IRAQ” Journal of Duhok University. <https://doi.org/10.26682/csjuod.2023.26.2.23>

Jaylan H. Sharawani, **Kakrasul, J.I.**, Jie Han (2023) “Effect of Waste Glass on Properties of Treated Problematic Soils” ARO-THE SCIENTIFIC JOURNAL OF KOYA UNIVERSITY. <https://doi.org/10.14500/aro.11284>

Jaylan H. Sharawani, **Kakrasul, J.I.**, Jie Han (2023) “Use of Waste stone powder to improve performance of problematic soils - A Review.” Anbar Journal of Engineering Science. <http://doi.org/10.37649/aengs.2023.142979.1062>

**Kakrasul, J.I.**, “Vertical and Horizontal Stresses in Narrow Mechanically Stabilized Earth Retaining Walls” Polytech Journal. <https://doi.org/10.59341/2707-7799.1727>

**Kakrasul, J.I.**, Parsons, L. R., and Han, J, (2022) “Use of Lime Kiln Dust to Improve Properties of Pavement Subgrades ”International Journal of Geosynthetic and ground engineering, <https://doi.org/10.1007/s40891-022-00393-z>

Liu, H., Han, J., Al-Nadaf, M., Parsons, L. R., and Kakrasul, J.I. and Han, J. (2021) "field monitoring of wicking geotextile to reduce soil moisture under a concrete pavement subjected to precipitations and temperature variations." Geotextile and Geomembrance, <https://doi.org/10.1016/j.geotexmem.2022.07.001>

**Kakrasul, J.I., Han, J., and Rahmaninezhad, S.M.** (2020) "Load-Deformation Behavior of Reinforced Retaining Walls with Limited Fill Space Subjected to Footing Loading." *Transportation infrastructure Technology*, 7, pages 309–331 (2020).

Rahmaninezhad, S.M., Han, J., **Kakrasul, J.I.**, and Weldu, M. (2020) "Behavior of Geosynthetic-Reinforced Retaining Walls with Wrapped-Around and Modular Block Facing Subjected to Footing Loads." *Geotextile and Geomembrane*.

Rahmaninezhad, S.M., Han, J., **Kakrasul, J.I.**, and Weldu, M. (2019) "Stress Distribution and Pullout Responses of Extensile and Inextensible Reinforcement in Soil using Different Normal Loading Methods." *ASTM-Geotechnical Testing Journal*, Volume 42, Issue 6 (November 2019).

Mehari T. Weldu, Jie Han, Sayed Mustapha Rahmaninezhad, Robert L. Parsons, **Jamal I. Kakrasul**, Yan Jiang, (2016), "Effect of Aggregate Uniformity on Pullout Resistance of Steel Strip Reinforcement." In *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2579, 2016.

**Jamal I. Kakrasul**, Jie Han, Seyed Mustapha Rahmaninezhad, (2018), "Laboratory evaluation of deformations of geosynthetic-reinforced retaining walls subjected to footing loading" *Proceedings of the 11th international conference on geosynthetics*, 16-21.

**Kakrasul, J. I.**, Parsons, R.L., Han, J. (2018). Performance of limekiln dust-treated subgrade soil, the International Foundations Congress and Equipment Expo (IFCEE) 2018.

**J.I. Kakrasul**, J. Han, S.M. Rahmaninezhad, and M. Weldu, (2016), "Model Tests of Geosynthetic-Reinforced Earth Walls with Limited-Space Retained Fill." *GeoAmericas -2016, 3rd Pan-American Conference on Geosynthetics*, Miami Beach, USA, April 2106.

S.M. Rahmaninezhad, J. Han, M. Weldu, **J.I. Kakrasul**, and H.R. Razeghi (2016), "Effects of Methods of Applying Normal Stresses in Pullout Tests on Pressure Distributions and Pullout Resistance." *GeoAmericas -2016, 3rd Pan-American Conference on Geosynthetics*, Miami Beach, USA, April 2106.

Jie Han, Hao Liu, Mahdi Al-Naddaf, Robert L Parsons, **Jamal I. Kakrasul**, (2023), "Field Monitoring of Wicking Geotextile for Moisture Reduction in Pavements" Kansas. Dept. of Transportation. Bureau of Research, K-TRAN: KU-19-4.

**Kakrasul, J. I.**, Parsons, R.L., Han, J. (2017). Lime Kiln Dust for Treated Subgrade. Final Report. Report Number: K-TRAN: KU-17-1.

Weldu, M., Han, J., Rahmaninezhad, M., Parsons, R.L., and **Kakrasul, J.I.** (2015). Pullout Resistance of Mechanically Stabilized Earth Wall Steel Strip Reinforcement in Uniform Aggregate, Final Report, KDOT, K-TRAN: KU-14-7.

### **Conference Oral Presentations:**

**Kakrasul, J. I.**, Parsons, R.L., Han, J. (2018). Use of limekiln dust for stabilization of subgrade soils. Transportation Research Board (TRB) 2018 Annual Meeting, Washington, DC.

**Jamal Kakrasul**, Jie Han, and Mustapha Rahmaninezhad, (2017). "Performance of Geosynthetic Reinforced Retaining Walls with Limited Fill Space under Footing Loading", Transportation Research Board (TRB) 2017 Annual Meeting, Washington, DC.

Rahmaninezhad, M., Han, J. and **Kakrasul, J. I.** (2018). Effect of facing stiffness on performance of geosynthetic-reinforced retaining walls subjected to footing loading. Transportation Research Board Annual Meeting, Washington, DC.

**Kakrasul, J.I.**, Han, J., Rahmaninezhad, S.M., and Weldu, M. (2016). "Model tests of geosynthetic-reinforced earth walls with limited-space retained fill". 3rd Pan-American Conference on Geosynthetics (GeoAmericas), pp. 1279-1286.

**Jamal Kakrasul**, Jie Han, and Mustapha Rahmaninezhad, (2016). "Lateral Earth Pressure Distributions on Rigid and Flexible Walls with Limited Fill Space", Geotechnical and Structural Engineering Congress 2016, Phoenix, Arizona.

### **Conference Poster Presentations:**

**Kakrasul, J. I.**, Parsons, R.L., Han, J. (2017). Lime kiln dust for soil stabilization. Annual Kansas City Geotechnical Conference 2017, April 20, 2017.

**Kakrasul, J. I.** and Han, J. (2017). Laboratory Models of Geosynthetic Reinforced Earth walls with limited fill space. Annual Kansas City Geotechnical Conference 2016, April 21, 2016.

**Kakrasul, J. I.** and Han, J. (2016). Geosynthetic Reinforced Earth walls with limited fill space. The University of Kansas, Graduate Research Competition, April 21, 2016.

**Kakrasul, J. I.** and Han, J. (2016). Scale effect analysis in geosynthetic reinforced retaining structures. 47<sup>th</sup> Annual Geotechnical Conference, Kansas University, Lawrence, 2015.

**Fact Sheets:**

**Kakrasul, J.** (2018) "Superpave: How it Works and How it Can Work for Local Agencies." A quarterly newsletter the Kansas local technical assistance program (LTAP) at the Kansas University Transportation Center with funding from Kansas Department of Transportation and the Federal Highway Administration.

**Kakrasul, J.** (2018) "Pavement Preservation." A quarterly newsletter the Kansas local technical assistance program (LTAP) at the Kansas University Transportation Center with funding from Kansas Department of Transportation and the Federal Highway Administration.