Curriculum Vitae

Dr. Abdul-Sahib Taufeeq Al-Madhhachi

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PERSONAL SUMMARY:

- Professional in using Jet Erosion Tests and developing detachment rate model for cohesive and non-cohesive soils.

EDUCATION:

- Ph.D. #1:Civil and Environmental Engineering, Oklahoma State University, (2008-2012),
Dissertation topic: Predicting the erodibility of cohesive streambeds and streambanks due to fluvial and seepage forces.
GPA: 4.0 / 4.0 - Co-Advisors: Dr. A. K. Tyagi and Dr. Garey A. Fox

- M.Sc. #2:Water Resources Engineering, University of Baghdad, 1999.
Thiess topic: Calculating the Volumes of Earth Work from Land Grading Numerically.
GPA: 4.0 / 4.0 - Advisor: Dr. Safa N. Hamad.

- B.Sc. #3:Water Resources Engineering, University of Baghdad, 1996.
Ranking 2nd place - Advisor: Dr. Safa N. Hamad.

ACADEMIC HONORS AND AWARDS:

- #1:2016 Dean award (Iraq) for publishing the following papers:
Khanal, A., G. A. Fox, and **A.T. Al-Madhhachi**. (2016). "VARIABILITY OF ERODIBILITY PARAMETERS FROM LABORATORY MINI JET EROSION TESTS". *Journal of Hydrologic Engineering, ASCE*, ISSN 1084-0699/04016030-1.
Criswell, D. T., Fox, G. A, **Al-Madhhachi, A.T.**, and Miller, R. (2016). "Deriving Erodibility Parameters of a Mechanistic Detachment Model for Gravels." *T. ASABE*, Vol. 59(1): 145-151.

- #2:2014 Superior Paper Award (ASABE), USA, for the following papers:
Al-Madhhachi, A.T., Hanson, G. J., Fox, G.A., Tyagi, A.K., and Bulut, R. (2013a). "Measuring Erodibility of Cohesive Soils Using Laboratory "mini" JET." *T. ASABE* 56(3): 901-910.
Daly, E., G. A. Fox, **A.T. Al-Madhhachi,** and R. Miller. "A scour depth approach for deriving erodibility parameters from Jet Erosion Test". *Transactions of the ASABE*, Vol. 56(6): 1343-1351.

- #3: Won 2nd place in the 2013 Boyd-Scott Graduate Research Award Competition in 2013 ASABE Conference, Kansas City, Missouri, USA.

- #4: Won 1St place at the 2012 Oklahoma Governor's Water Conference and Water Resources Research Symposium, Tulsa, Oklahoma, USA.

- #5: Won 2nd place in the 2012 Boyd-Scott Graduate Research Award Competition in 2012 ASABE Conference, Dallas, Texas, USA.

- #6: Won 2nd place in the 2011, 22nd Annual OSU Research Symposium (Environmental Science), USA.

- #7: Won the Scientific Achievement Award in the 2011 First Iraqi Conference, Little Rock, AR, USA.

ACADEMIC /TEACHING EXPERIENCE:

- #1:2013 – Present: Lecturer, and Hydraulic Laboratory Supervisor at Environmental Engineering Department, Al-Mustansiriya University, Baghdad, Iraq
Teaching Hydraulic II course for undergraduate level, and Groundwater Pollution and Fluvial Hydraulics courses for graduate level

- #2:2015 – 2016: Post-Doc Research Scholarship, Biosystem Engineering Department, Oklahoma State University

- #3: 2008 – 2012: Graduate Research Assistant, Oklahoma State University

- #4: 2000 – 2007: Instructor (Faculty member), Environmental Engineering, Al-Mustansiriya University, Baghdad, Iraq (Teaching Hydraulic and Mathematics Courses)

- #5: 2003 – 2007: Engineer Consult and Designer
Design Four Small Dams - Upper Adhaim Valleys and Khassa Chai Dam, Northern Iraq

COURSES TAUGHT:

Undergraduate	Graduate
Hydraulic II, Mathematics	Groundwater Pollution

PROFESSIONAL AFFILIATIONS:

- American Society of Civil Engineers (ID # 968070)
- American Society of Agricultural and Biological Engineers (ID # 1041710)
- The Honor Society of Phi Kappa Phi member (ID # 12174401)
- Iraqi Union for Engineers (ID # 86182)
- Fundamentals of Engineering - The Oklahoma State Board of Licensure (NCEES ID: 13286-35185, Board ID: 23909)

PUPLICATIONS:

- Khanal, A., G. A. Fox, and **A.T. Al-Madhhachi**. (2016). "VARIABILITY OF ERODIBILITY PARAMETERS FROM LABORATORY MINI JET EROSION TESTS". Journal of Hydrologic Engineering, ASCE, ISSN 1084-0699/ 04016030-1.
- Salah, M., and **A. T. Al-Madhhachi**. (2016). "Influence of Lead Pollution on Cohesive Soil Erodibility using Jet Erosion Tests". Environment and Natural Resources Research; Vol. 6(1): 88-98.
- Criswell, D. T., Fox, G. A, **Al-Madhhachi, A.T.**, and Miller, R. (2016). "Deriving Erodibility Parameters of a Mechanistic Detachment Model for Gravels." T. ASABE, Vol. 59(1): 145-151.
- **Al-Madhhachi, A.T.**, (2016). "Analyzing the Stability of Washita Riverbanks near a Bridge" European Academic Research, Vol. 3 (10): 11073- 11087.

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ENVIRONMENTAL ENGINEERING

- Daly, E., G. A. Fox, **A.T. Al-Madhhachi**, and D. E. Storm. (2015). "Variability of Fluvial Erodibility Parameters for Streambanks on a Watershed Scale". Geomorphology 231, 281-291.
- **Al-Madhhachi, A.T.**, (2014). "Quantifying Erosion Risk for Little Washita River Watershed Using GIS Technique Integrated with USLE Model". International Journal of Engineering Sciences & Research Technology, Vol. 3 (11).
- Fox, G. A., R. Felice, L. Midgley, G. Wilson, and **A.T. Al-Madhhachi**. (2014). "Laboratory soil piping and internal erosion experiments: evaluation of a soil piping model for low-compacted soils". Earth Surface Processes and landforms, 39 (9), 1137-1145.
- **Al-Madhhachi, A.T**. (2014)." Predicting the Detachment Rate Model Parameters for Non-Cohesive Soils." International Conference for Engineering Sciences, Journal of Engineering and Development, Vol. 2: 312 – 333.
- **Al-Madhhachi, A.T.**, G. A. Fox, G. J. Hanson, G. A. Fox, A. K. Tyagi, and R. Bulut. (2014a). "Detachment rate model for the erodibility of cohesive soils due to fluvial and seepage forces". J. Hydraulic Eng., ASCE, Vol. 140 (5): 04014010(12).
- **Al-Madhhachi, A.T.**, G. A. Fox, and G. J. Hanson. (2014b). "QUANTIFYING THE ERODIBILITY OF STREAMBANKS AND HILLSLOPES DUE TO SURFACE AND SUBSURFACE FORCES." T. ASABE, Vol. 57(4): 1057-1069.
- **Al-Madhhachi, A.T.**, Hanson, G. J., Fox, G.A., Tyagi, A.K., and Bulut, R. (2013a). "Measuring Erodibility of Cohesive Soils Using Laboratory "mini" JET." T. ASABE 56(3): 901-910.
- **Al-Madhhachi, A.T.**, Hanson, G. J., Fox, G.A., Tyagi, A.K., and Bulut, R. (2013b). "Deriving Parameters of a Fundamental Detachment Model for Cohesive Soils from Flume and Jet Erosion Tests." T. ASABE 56(2): 489-504.
- Daly, E., G. A. Fox, **A.T. Al-Madhhachi**, and R. Miller. (2013). "A scour depth approach for deriving erodibility parameters from Jet Erosion Test". Transactions of the ASABE, Vol. 56(6): 1343-1351.
- Heeren, D.M., Mittelstet, A.R., Fox, G.A., Storm, D.E., **Al-Madhhachi, A. T.**, Midgley, T. L., Stringer, A.F., Stunkel, K.B., Tejral, R.B. (2012). "USING RAPID GEOMORPHIC ASSESSMENTS TO ASSESS STREAMBANK STABILITY IN OKLAHOMA OZARK STREAMS." T. ASABE, Vol. 55, No. 3: 1-12.
- **Al-Madhhachi, A. T.**, and Hamad, S. N. (2007). "Runoff Discharge from Border and Furrow Irrigation." Journal of Engineering and Development, Baghdad, Iraq, Vol. 11, No (2): 156-175.

PROFFESSIONALDEVELOPMENT

- *Daly, E. R.*, Fox, G. A, **Al-Madhhachi, A.T.**, and Miller, R. 2014. "An Automated Spreadsheet Tool for Deriving Erodibility Parameters from Jet Erosion Tests." American Society of Civil Engineers Environmental Water Resources Institute Annual Meeting, Portland, Oregon, June 1-5, 2014(Oral presentation).
- ***Al-Madhhachi, A.T.*** (2014). "Predicting the Detachment Rate Model Parameters for Non-Cohesive Soils." *International Conference for Engineering Sciences, Journal of Engineering and Development*, March 25-26, 2014, Baghdad, Iraq (Oral presentation).
- ***Al-Madhhachi, A.T.*** (2013). "A Mechanistic Detachment Rate Model to Predict Soil Erodibility due to Fluvial and Seepage Forces." Boyd-Scott Graduate Research Award Competition, ASABE Annual International Meeting, July 21 – 24, 2013, Kansas City, Missouri (Oral presentation, Won 2nd Place).
- ***Al-Madhhachi, A.T.*** and Fox, G. A. 2013. "Modified Excess Shear Stress Model Parameters based on Mechanistic Predictions from a Detachment Rate Model." ASABE Annual International Meeting, July 21 – 24, 2013, Kansas City, Missouri (Oral presentation).
- **Al-Madhhachi, A.T.**, *G. A. Fox*, G. J. Hanson, A.K. Tyagi, and R. Bulut. 2013. A Mechanistic Detachment Rate Model to Predict Soil Erodibility due to Fluvial and Seepage Forces. American Society of Civil Engineers Environmental Water Resources Institute Annual Meeting, Cincinnati, May 19-22, 2013, (Oral presentation).
- ***Al-Madhhachi, A.T.***, G. A. Fox, G. J. Hanson, A.K. Tyagi, and R. Bulut. 2012. A Mechanistic Detachment Rate Model to Predict Soil Erodibility due to Fluvial and Seepage Forces. 2012 Oklahoma Governor's Water Conference and Water Resources Research Symposium, Tulsa, Oklahoma (Poster, Won 1st place).

- ***Al-Madhhachi, A.T.,*** Fox, G. A., Tyagi, A. K., Hanson, G. J., and Bulut, R. (2012). "Development a Fluvial Detachment Rate Model to Predict the Erodibility of Cohesive Soils under the Influence of Seepage." ASABE Annual International Meeting, July 29-August 01, 2012, Dallas, Texas (Oral presentation).
- ***Al-Madhhachi, A.T.,*** Hanson, G. J., Fox, G. A., Tyagi, A. K., and Bulut, R. (2012). "Deriving Parameters of a Fundamental Detachment Model for Cohesive Soils from flume and Jet Erosion Tests." ASABE Annual International Meeting, July 29-August 01, 2012, Dallas, Texas (Oral presentation).
- ***Al-Madhhachi, A.T.*** (2012). "Deriving Parameters of a Fundamental Detachment Model for Cohesive Soils from flume and Jet Erosion Tests." Boyd-Scott Graduate Research Award Competition, July 29-August 01, 2012, Dallas, Texas (Oral presentation, Won 2nd Place).
- ***Al-Madhhachi, A.T.*** (2012). "Measuring the Erodibility of Cohesive Soils using Flume and Jet Erosion Tests." 2012 Student Water Research Conference (SWRC), April 4-5, 2012, 102 Advanced Technology Research Center, Oklahoma State University Campus, Stillwater, OK (Oral presentation).
- **Al-Madhhachi, A.T.,** *Fox, G. A.*, Tyagi, A. K., Hanson, G. J., and Bulut, R. (2011). "Measuring Erodibility in Cohesive Soil under Seepage Gradient Forces Using Laboratory Submerged Jet Test Device." ASABE Annual International Meeting, August 7-10, 2011, Louisville, Kentucky (Oral presentation).

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