

## Faculty of Engineering



### **Mohamed Ibrahim Zahran**

Professor and Vice Dean of Education  
and Student Affairs



<b>Nationality</b>	Egyptian
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<b>Qualifications</b>	<ul style="list-style-type: none"><li>▪ Ph.D. (Photogrammetry), Department of Civil and Environmental Engineering and Geodetic Science, The Ohio State University, 1997.</li><li>▪ M.Sc. (Surveying and Photogrammetry), Department of Civil Engineering, College of Engineering, Cairo University, 1989.</li><li>▪ B.Sc. (Surveying Engineering), College of Engineering at Shoubra, Benha University, with general grade of Very Good (82.4%) with Honor Degree, 1984.</li></ul>
<b>Positions</b>	<b>Positions at the College of Engineering at Shoubra, Benha University:</b> <ul style="list-style-type: none"><li>▪ Vice Dean of Education and Student Affairs, Sep. 2017 –</li><li>▪ Head of Surveying Engineering Dept., Aug. 2013 – Aug. 2017</li><li>▪ Professor, 2008 –</li><li>▪ Associate Professor, 2003 – 2007</li><li>▪ Assistant Professor, 1997 – 2002</li><li>▪ Lecturer, 1989 – 1992</li><li>▪ Teaching assistant, 1985 – 1988</li></ul>

**Positions at the Department of Civil Engineering, College of Engineering, Benghazi University:**

- Professor of Surveying and Photogrammetry, 2003 – July 2012.
- Academic Supervisor of M.Sc. Students.
- Coordinator of the B.Sc. graduation projects.

**Positions at the Department of Civil and Environmental Engineering and Geodetic Science, The Ohio State University:**

- Teaching associate, 1993 – 1997

**Consultations**

- Consultant (1987-1991) for Surveying projects at the Center of Engineering Studies and Consultations (CESC), College of Engineering at Shoubra, Benha University. The projects involved property and topographic surveys, establishment of horizontal and vertical alignment for transportation facilities, deformation studies, and designing horizontal and vertical control networks in many locations all over Egypt and Arab countries.
- Consultant (1997-2003) at CESC and Surveying Science Group for Surveying and Mapping Projects.
- Consultant (2003-2012) for Surveying projects at the Center of Engineering Studies and Consultations, Benghazi University.

**Quality Assurance Experience**

- Auditor at Quality Assurance and Accreditation Center, Benha University (2017- ).

**Teaching Career**

**Undergraduate courses** in Surveying, Photogrammetry, Remote Sensing and Adjustment Computations.

**Graduate courses in** Analytical Photogrammetry, Remote Sensing, Digital Photogrammetry, and Adjustment Computations.

**Training courses** in Advanced Surveying Technologies and Systems, Surveying Software and Fundamentals of Remote Sensing.

**Undergraduate Graduation Projects** in Topographic Surveying and Mapping, GPS Surveying, Generation of Digital Terrain Models, Aerial Photogrammetric Mapping, Close-Range Photogrammetric Mapping, Automatic Classification of Land Cover on Digital Imagery, and Map Revision Using High-Resolution Satellite Imagery.

**Research Interests**

- Digital Photogrammetry
- Digital Image Analysis
- Remote Sensing for Mapping
- Close-Range Photogrammetry

## Supervised Dissertations

- Amin, H. H. "Potential Positioning Accuracy of High-Resolution Satellite Imagery." Department of Surveying Engineering, Faculty of Engineering, Benha University, M.Sc. Dissertation, 2004.
- Housat, A. M. "Interactive versus Matching-based Procedures for Digital Aerial Triangulation Utilizing Natural Ground Control." Department of Civil Engineering, Faculty of Engineering, Benghazi University, M.Sc. Dissertation, 2007.
- Alshwehdi, O. R. "Accuracy Enhancement of Orthoimage Generation for Urban Areas." Department of Civil Engineering, Faculty of Engineering, Benghazi University, M.Sc. Dissertation, 2009.
- Hassan, H. M. " Assessment and Monitoring of Sediments Accumulation and Water Quality in Lakes: Case Study Lake Nasser." Department of Environmental Engineering, Egypt-Japan University of Science and Technology, Ph.D. Dissertation, 2017.
- Hagag, M. A. "Towards Automated Generation of True Orthoimages for Urban Areas." Department of Surveying Engineering, Faculty of Engineering, Benha University, M.Sc. Dissertation (In Progress).

## Selected Publications

- Saleh, T. M. "Potential of RPCs for Replacing Physical Sensor Models of High-Resolution Imaging Satellites." Department of Surveying Engineering, Faculty of Engineering, Benha University, M.Sc. Dissertation (In Progress).
- Hassan Mohamed, Abdelazim Negm, Mohamed Zahran, and Oliver Saavedra, "Assessment of Ensemble Classifiers Using Bagging Technique for Improved Land Cover Classification of Multispectral Satellite Images", The International Arab Journal of Information Technology IAJIT, Vol. 15, No. 2, 2018.
- Tamer Saleh, Mohamed I. Zahran, Ayman R. El-Shehaby, and Mahmoud S. Gomaa, "Performance enhancement of Rational Function Model (RFM) for improved geo-position accuracy of IKONOS stereo satellite imagery", Journal of Geomatics, Vol. 12, No. 1, 2018.
- Hassan Mohamed, Abdelazim Negm, Mahmoud Salah, Kazou Nadaoka and Mohamed Zahran, "Assessment of proposed approaches for Bathymetry Calculations Using Multispectral Satellite Images in Shallow Coastal/Lake Areas: A Comparison of Five Models", Arabian Journal of Geosciences AJGS, Vol. 10, No. 1, 2017.
- Hassan H. M., A. M. Negm, M. I. Zahran, and O. C. Saavedra "Bathymetry Determination from High Resolution Satellite Imagery Using Ensemble Learning Algorithms in shallow Lakes: Case study El Burullus lake." International Journal of Environmental Science and Development IJESD, Vol. 7, No.4, 2016.

- Zahran, M. I. "Comparative Analysis of Feature Point Matching Techniques for Stereo Image Orientation." Regional conference on Surveying and development, Sharm El-Sheikh, Egypt, 2015.
- Hassan H. M., A. M. Negm, M. I. Zahran, and O. C. Saavedra "Assessment of artificial neural network for bathymetry estimation using high resolution satellite imagery in shallow lakes: case study El-Burullus lake." International Water Technology Journal IWTJ, Vol. 5, No. 4, 2015.
- Zahran, M. I. "Towards Generating Accurate Orthoimages for Urban Areas." Journal of Engineering and Applied Sciences, Vol. 56, No.5, 2009.
- Zahran, M. I. "Mono-Image Intersection for Orthoimage Revision." Ain Shams Engineering Bulletin, Vol. 42, No.1, 2007.
- Zahran, M. I. "Automatic Extraction and Matching of Interest Points on Stereo Aerial Imagery." Alexandria Engineering Journal AEJ, Vol. 46, No.5, 2007.
- Zahran, M. I. "Least-Squares Versus Cross Correlation Techniques for Matching Aerial Imagery." Ain Shams Engineering Bulletin, Vol. 41, No.2, 2006.
- Zahran, M. I. "Automatic Recognition of Highway Lane Borders From Large Scale Digital Images." Ain Shams Engineering Bulletin, Vol. 41, No.2, 2006.
- Zahran, M. I. "A proposed Search Approach for Image Matching Using Epipolar Constraint." Alexandria Engineering Journal AEJ, Vol. 45, No.3, 2006.
- Zahran, M. I. "Automatic Registration of Digital Satellite Imagery by Matching Linear Features." Ain Shams Engineering Bulletin, Vol. 40, No.3, 2005.
- Zahran, M. I. "A Semi-Automatic Procedure for Digital Elevation Model Generation from Stereo Digital Imagery." Alexandria Engineering Journal AEJ, Vol. 44, No.5, 2005.
- Zahran, M. I. "Planimetric Positioning Accuracy of High Resolution Spot-5 Imagery." Civil Engineering Research Magazine CERM, Vol. 26, No. 3, 2004.
- Zahran, M. I. "Testing Procedures for Identification of Multiple Outliers." Civil Engineering Research Magazine CERM, Vol. 24, No. 1, 2002.
- Zahran, M. I. "On the Use of Generalized Hough Transform in Matching Digital Images." 3<sup>rd</sup> International Conference on Civil and Architecture Engineering, Military Technical College, Cairo, 1999.

## **Awards/scholarship**

- USAID Fellowship for training and research at The Ohio State University (Jan. 1992 - Aug. 1993).
- The Ohio State University Teaching Assistantship; covering tuition, fees and living expenses for PhD Students (Sept. 1993 – Aug. 1997).

## **Social Experience**

- Treasurer of the Egyptian student association of North America at Columbus, Ohio, USA (1994-1995).
- Chairperson of the Egyptian student association of North America at Columbus, Ohio, USA (1995-1996).
- Secretary of the graduate student club of Geodetic Science department at The Ohio State University (1995-1996).