



Curriculum Vitae

Name : Ahmed Mohamed Mohamed Farahat
Professor of Concrete Structures,
Faculty of Engineering, Structural Engrg. Dept.
Cairo University

Personal Data:

Address : Concrete Research laboratory,
Department of Structural Engineering,
Faculty of Engineering,
Cairo University,
Giza, Egypt

Education:

Ph.D. Civil Engineering Department, Nagoya University, Japan,
(March, 1993)

“ **Development of Concrete Models Based on the
Micromechanics of Granular Materials**”.

M.Sc. Structural Engineering Department, Cairo University,
(April, 1987)

“ **Behavior of Reinforced Concrete Deep Beams With
Web Openings**”.

B.Sc. Civil Engineering, Cairo University, Egypt. (1983).

Employment & Teaching Experience:

- 2015 - Now** Director of Civil Engineering Research Center, Faculty of Engineering, Cairo University, Egypt.
- 2014 - 2015** Chairman of Ministr's office Sector, and Chairman of Higher Education Sector, Ministry of Higher Education (Both Sectors)
- 2013 - 2014** Chairman of Higher Education Sector, Ministry of Higher Education.
- 2008 - 2013** Director of Civil Engineering Research Center, Faculty of Engineering, Cairo University, Egypt.
- 2004 - Now** Professor of Concrete Structures, Cairo University, Egypt.
(R.C. Design for undergraduate and graduate students / Graduation Project).
- 1999 - 2004** Associate Professor, Structural Engineering Department, Cairo University. Egypt. (R.C. Design for undergraduate and graduate students / Graduation Project).
- 1994 - 1999** Assistant Professor, Structural Engineering Department, Cairo University. Egypt. (R.C. Design for undergraduate and graduate students / Graduation Project).
- 1993 - 1994** Assistant Professor, Civil Engineering Department, Kumamoto University, Japan.
- 1990 - 1993** Ph.D students, Nagoya University, Japan
- 1987 - 1990** Teaching Assistant, Structural Engineering Department, Cairo University, Egypt.
(R.C. Design for undergraduate).
- 1987** Training Course in (EPFL) Lausanne, Switzerland
- 1983 - 1987** Teaching Assistant, Structural Engrg. Dept., Cairo University,

Egypt.
(R.C. Design for undergraduate).

Languages: Arabic and English

Professional Membership & Academic Rewards:

- Member, Egyptian Syndicate for Engineering Professions, Civil Engineering Division.
- Member, Saudi Syndicate for Engineering Professions, Civil Engineering Division
- Member, Egyptian Society for Engineers.
- Japan Concrete Institute, JCI' award for paper, "Modified Microplane Model for Concrete Stress–Strain Relationship," 1991.
- Japan Concrete Institute, JCI, award for paper, "Plastic–Fracture Stress Transfer Model for Concrete Discontinuities," 1992.

Publications:

Tens of papers in the field of Modeling of Concrete, Behavior of Reinforced Concrete, Fiber Reinforced Concrete, Repairs and Strengthening of Concrete Structures, High Strength Concrete, Shear Transfer, Tension lap Splices.

(Refer to list of publications)

Research Topics

(Refer to list of Research Topics)

Activities:

- Structural design and supervision of concrete structures such as residential, educational, and industrial buildings
- Structural evaluation of R.C. structures.
- Maintenance, repairs, and strengthening of R.C. structures
- Member, Concrete Research Laboratory, Faculty of University, Cairo University.

- Director of Civil Engineering Research Center, Faculty of Engineering, Cairo University.

References

- Prof. Dr. Wael Mohamed El-Degwy, Former minister of Higher Education, Professor of concrete structures, Faculty of Engineering, Cairo University.
Address : Concrete Research Laboratory, Faculty of Engineering, Cairo University, Giza, Egypt
Tel. 002-02-1227394962
- Prof. Dr. Hosam Essa, Former minister of Higher Education, Professor of Law, Faculty of Law, Ain Shams University.
Address : Faculty of Law, Ain Shams University, Cairo, Egypt
Tel. 002-02-1001300364

List of Publications

1- Journals

1-1. Published Papers:-

- 1) Farahat, A. M. Wu, Z, and Tanabe, T., "Development, of Microplane Model with Plural Types of Granular Material," Proceedings of the Japan Society of Civil Engineers, JSCE, No.433, Vol. 15, August, 1991, pp. 231–238.
- 2) Farahat, A. M., Wu, Z., and Tanabe, T., "Modified Microplane Model of Concrete," Transactions of the Japan Concrete Institute, JCI, Vol. 13, 1991, pp.109–116;

- 3) Farahat, A. M., Wu, Z., and Tanabe, T., "Modified Cyclic Micromechanical Model for Concrete," Proceedings of the Japan Society of Civil Engineers, JSCE, No.451, Vol 17, August, 1992, pp. 234–246 ..
- 4) Farahat, A., M., Wu, Z., and Tanabe, T., "Micromechanical Analysis of Concrete under Cyclic Loading," Transactions of the Japan Concrete Institute, JCI, Vol 14, 1992, pp. 171–178.
- 5) Niwa, J., Farahat, A. M., and Yamada, K., "Experimental Observation of the Microstructural Behavior of Concrete," Transactions of the Japan Concrete Institute, JCI, Vol. 14, 1992, pp. 163–170.
- 6) Wu, Z., Farahat, A. M., and Tanabe, T., "Plastic–Fracture Model for Stress Transfer at Concrete Discontinuities," Transactions of the Japan Concrete Institute, JCI, Vol. 14, 1992, pp.179–186.
- 7) Farahat A. M., Wu, Z., and Tanabe T., " Development of Microplane Model with Plural Taypes of Granular Material," Concrete Library International, Japan Society of Civil Engineers, JSCE, No. 19, June, 1992, pp. 265–277.
- 8) Wu, Z., Farahat, A. M., and Tanabe, T., "Modeling of Concrete Discontinuities with Dilatancy and Surface Degradation," Proceedings of the Japan Society of Civil Engineers, JSCE, No. 472, Vol. 20, August, 1993, pp.119–129.
- 9) Farahat, A. M., Kawakami, M., and Ohtsu, M. " Strain–Space Plasticity Model for Triaxial Behavior of Concrete," Memoirs of the Faculty of Engineering, Kumamoto University, Japan, Vol. 38, No. 3, December, 1993, pp. 185 –208.
- 10) Farahat, A. M., Kawakami, M., and Tanabe, T., "Micromechanical Model for Triaxial Behavior of Concrete," Transactions of the Japan Concrete Institute, JCI, Vol. 15, 1993, pp.177–184.
- 11) Yamada, K., Kawakami, M., Farahat, A. M., and Niwa, J., "An Experimental Study on Micromechanical Failure of Concrete," Transactions of the Japan Concrete Institute, JCI, Vol. 15, 1993, pp.139–146.

- 12) Farahat, A. M., and Ohtsu, M., "Assessment of Concrete Deterioration Using Plastic Analysis and Acoustic Emission Technique," Journal of Acoustic Emission, Vol. 11, No. 4, October – December, 1993.
- 13) Hidaka, E., Farahat, A. M., and Ohtsu, M., "Compressive Softening Behavior of Sound and Damaged Concrete Based on a New Strain–Space Plasticity Model," Transactions of Japan Concrete Institute, JCI, Vol. 16, 1994.
- 14) Fukuoka, T., Farahat, A. M., and Ohtsu, M., "Assessment of Concrete Deterioration Using a New combined Stress–Space Plasticity and Acoustic Emission," Transactions of Japan Concrete Institute, JCI, Vol 16, 1994,
- 15) Wu, Z., Farahat, A. M., and Tanabe, T., "Plastic–Fracture Model for Stress Transfer at Concrete Discontinuities," Journal of American Concrete Institute, ACI Material Journal, Vol. 91, No. 5, 1994, pp. 502–508.
- 16) Farahat, A. M., and Ohtsu M., "The Evaluation of the Plastic Damage in Concrete by Acoustic Emission," Journal of Materials in Civil Engineering, ASCE, Vol. 7, No. 3, 1995.
- 17) Farahat, A. M., Kawakami, M., and Tanabe, T., "Experimental Observation of the Micromechanical Behavior of Concrete," Journal of Materials in Civil Engineering, ASCE, Vol. 7, No. 2, 1995.
- 18) Farahat, A. M., Kawakami, M., and Ohtsu, M., "Strain–Space Plasticity Model for the Compressive Hardening–Softening Behavior of Concrete," Journal of Construction and Building Materials, UK, Vol. 9, No.1, 1995.
- 19) Farahat, A. M., "Shear Behavior of RC Beams Based on Nonlinear Elasticity", Journal of the Egyptian Society of Engineers, Vol 36, 1997,
- 20) Senousy, R., Farahat, A. M., and El-Zanaty, A H., "Nonlinear Finite Element Evaluation of Flexural Behavior of RC Beams Using Fracture Mechanics", Journal of Engineering and Applied Science, Vol. 44, No.3, 1997.
- 21) Zoheary, A. A., Farahat, A. M., and El-Degwy, W., "Behavior of Reinforced Concrete T Beams", Journal of Engineering and Applied Science, Vol. 45, 1998.

- 22) Senousy, R., Farahat, A. M., and El-Zanaty, A. H., "Application of Fictitious Crack Approach to Concrete Beams Subjected to Mode I Fracture", Journal of the Egyptian Society of Engineers, Vol. 37, No. 3, 1998. '
- 23) Hassan, A. A., Farahat, A. M., and El-Zanaty, A. H., "Effect of Steel Fibers on the Behavior of High – Strength RC Columns", Journal of the Egyptian Society of Engineers, Vol. 39, No. 1, March 2000.
- 24) El-Nady, A., and Farahat, A., "Nonlinear Seismic Analysis of Infilled Reinforced Concrete Frames", Journal of the Egyptian Society of Engineers, Vol. 39, No. 3, September 2000.
- 25) Hassan, A. A., Farahat, A. M., and El-Zanaty, A. H., "Confinement Effectiveness on the Behavior of the Axially Loaded Fiber High – Strength RC Columns", Journal of Engineering and Applied Science, Vol. 48, No. 6, December 2001.
- 26) El-Rakib, T. M., Farahat, A. M., and El-Degwy, W. M., and Shaheen, H. H., "Experimental Evaluation of shear Transfer Across New and Existing Concrete Interface", Journal of the Egyptian Society of Engineers, Vol. 41, No. 2, June 2002.
- 27) Abou El Seoud, U. M., El-Gammal, M. A., Farahat, A. M., and El-Zanaty, A. H., "Local Strengthening of Reinforced Concrete Columns in Areas Without Hoops", Journal of Engineering and Applied Science, Vol. 50, No.1, February 2003.
- 28) Farahat, A. M., "Behavior of Reinforced Concrete Circular Columns Confined by Steel Wire Mesh and Hoops", Engineering Research Journal, University of Helwan, Vol. 86, April 2003.
- 29) El-Zeiny, S. M., Farahat, A. M., Shaheen, H. H., and Mostafa, M. T., "Behavior of Reinforced Concrete Columns Strengthened by Using Steel Jacket Welded Under the Effect of Prestressing Forces (Part (I) Experimental Work)", Journal of the Egyptian Society of Engineers, Vol. 42, No. 2, June 2003.
- 30) El-Zeiny, S. M., Farahat, A. M., Shaheen, H. H., and Mostafa, M. T., "Behavior of Reinforced Concrete Columns Strengthened by Using Steel Jacket Welded Under the Effect of Prestressing Forces (Part (II) – Numerical Analysis)", Journal of the Egyptian Society of Engineers, Vol. 42, No. 3, September 2003.

- 31) Farahat, A. M., "Innovative System for the Enhancement of Tension Lap Splice in Reinforced Concrete Beams", Journal of the Egyptian Society of Engineers, Vol. 42, No. 4, December 2003.
- 32) Hassan, A. A., Farahat, A. M., and El-Zanaty, A. H., "Behavior of Fibrous High – Strength Reinforced Concrete Slab – Column Connections Subjected to Eccentric Punching Loads", Engineering Research Journal, University of Helwan, Vol. 90, December 2003.
- 33) Farahat, A. M., "Effectiveness of Steel Fibers on the Shear Resistance of High – Strength Reinforced Concrete Beams", Engineering Research Journal, University of Helwan, Vol. 91, February 2004.
- 34) Zohery, A., Salem , H., Farahat, A. M., El-Degwy ,W. M., and Shaheen , H., "Behavior of High–Strength Reinforced Concrete L–Beams Subjected to Pure Torsion", Engineering Research Journal, Helwan University, Vol. 104, pp. C61–C82, April 2006.
- 35) Zohery, A., Salem., H., Farahat, A., El-Degwy ,W. M., and Shaheen ,H. , "Behavior of High–Strength Reinforced Concrete L–Beams Subjected to Combined Shear and Torsion", The 10th Arab Structural Engineering Conference, Kuwait, Kuwait, November 13–15, pp. 457–466, 2006
- 36) Elnono, M., Salem, H., Farahat, A. M., and El-zanaty, A. H., "Use of Slurry Infiltrated Fiber Concrete in Reinforced Concrete Corner Connections Subjected to Opening Moments", Journal of Advanced Concrete Technology, Vol. 7, No. 1, pp. 51–59, February 2009.
- 37) Abdel-Hameed, G., Salem , H., Bahaa, T., and Farahat, A. M., "Shear Behavior of Slurry Infiltrated Fiber Concrete Beams" HBRC Journal Vol. 5, No. 2, pp. 45–61, August 2009.
- 38) Gouda, M., Abdel-Meged, Y., Salem, H., and Farahat, A. M., "Behavior of Reinforced Concrete Columns Strengthened with Prestressed Steel Jackets", Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University, Vol. 58, No. 4, pp. 307 – 326, August 2011.

- 39) Salem, H., Issa, M., Geith, H., and Farahat, A. M., “Punching Shear Strength of Reinforced Concrete Flat Slabs Subjected to Fire on their Tension Sides”, HBRC Journal, Vol. 8, No. 1, pp.67–80, April 2012.
- 40) Anber, M., Abdel–Hameed, G., Salem , H., and Farahat, A. M., “Shear Behaviour of RC Beams with Opening Strengthened Using NSM Technique”, Civil Engineering Research Magazine, Civil Engineering Department, Faculty of Engineering, Al–Azhar University, Vol. 35, No. 5, 2013.
- 41) Salem A., Elkady M.H., Hadhod H.M, Farahat A.M., “Effect of Nano Silica and Steel Fiber on Properties of Concrete”, International Journal of Modern Trends in Engineering and Research (IJMTER), Volume 02, Issue 07, [July– 2015] pp. 207–217.
- 42) Salem A., Elkady M.H., Hadhod H.M, Farahat A.M., “Coupled Effect of Nano Silica and Steel Fiber on Fresh and Hardened Concrete Properties”, International Journal of Modern Engineering Research (IJMER), Volume 05, Issue 07, [July– 2015] pp. 39–48.
- 43) Salem A., Elkady M.H., Hadhod H.M, Farahat A.M., “Combined Effect of Nano Silica and Steel Fiber on Compressive Strength and Water Permeability of Concrete”, International Journal of Modern Engineering Research (IJMER), Volume 05, Issue 07, [July– 2015] pp. 27–34.

1-2. Accepted Papers for Possible Publication:-

- 44) Ahmed, R. H., Abdel–Hameed, G., and Farahat, A. M., “Behavior of Hybrid High–Strength Fiber Reinforced Concrete Slab–Column Connections Under the Effect of High Temperature”, HBRC Journal, to be appear in 2016.
- 45) Ahmed, R. H., Abdel–Hameed, G., and Farahat, A. M., “Effect of Elevated Temperature on Punching Stress of Slab–Column Connections by Using Hybrid Mixture”, Civil Engineering Research Magazine, Civil Engineering Department, Faculty of Engineering, Al–Azhar University, to be appear in 2016.

1-3. In Progress Papes :-

- 46) Alsheikh, M. S., Abdel-Hameed, G., and Farahat, A. M., “Flexural Behavior of RC Beams Strengthened with FRP NSM Exposed to Elevated Temperature”, to submitted in 2016.
- 47) Ghith, A. H., Abdel-Hameed, G., and Farahat, A. M., “Rehabilitation of Beam-Column Connection Exposed to Fire Using Near Surface Mounted FRP Strips”, to submitted in 2016.

2- Conferences

- 1) Farahat, A. M., Wu, Z., and Tanabe, T., "Observation of the Microstructural Behavior of Concrete," International Symposium on Concrete Engineering, Nanjin, China, Vol. 1, 1991, pp. 289 – 294.
- 2) Farahat, A. M., Wu, Z., and Tanabe., T., "Modified Microplane Model for Concrete Stress – Strain Relationship," Proceedings of the Japan Concrete Institute, JCI, Vol. 13, No. 2, 1991, pp. 1003 –1008.
- 3) Farahat, A. M., Wu, Z., and Tanabe, T., "Cyclic Behavior of Concrete Based on Micromechanics, "Proceedings of the Japan Concrete Institute, JCI, Vol. 14, No. 2, 1992, pp. 1035–1040.
- 4) Niwa, J., Farahat, A. M., and Yamada, K., "Microscopic Experimental Observation of Concrete," Proceedings of the Japan Concrete Institute, JCI, Vol. 14, No. 2, 1992, pp. 1047–1052.
- 5) Wu, Z., Farahat, A. M., and Tanabe, T., "Plastic–Fracture Stress Transfer Model for Concrete Discontinuities," Proceedings Of the Japan Concrete Institute, JCI, Vol. 14, No. 2, 1992, pp.1047–1052.
- 6) Farahat, A. M., Kawakami, M., and Tanabe, T., "Micromechanical Model for Triaxial Behavior of Concrete," Proceedings of the Japan Concrete Institute, JCI, Vol. 15, No. 2, 1993, pp. 1231–1236.

- 7) Yamada, K., Kawakami, M., Farahat, A. M., and Niwa, J., "An Experimental Study on Micromechanical Failure of Concrete," Proceedings of the Japan Concrete Institute, JCI, Vol. 15, No. 1, 1993, pp. 489 – 494.
- 8) Oshita, H., Farahat, A. M., Ishikawa, Y., and Tanabe, T., "Analytical Study on the Deformational Behavior of Concrete as an Elasto-Plastic Porous Material with Discontinuities," Proceedings of the Japan Concrete Institute, JCI, Vol. 15, No. 1, 1993, pp. 573–578.
- 9) Fukuoka, T., Farahat, A. M., and Ohtsu, M., "Assessment of Concrete Deterioration Using A new Combined Stress – Space Plasticity and Acoustic Emission," Proceedings of the Japan Concrete Institute, JCI, Vol. 16, 1994.
- 10) Hidaka, E., Farahat, A. M., and Ohtsu, M., "Compressive Softening Behavior of Sound and Damaged Concrete Based on a New Strain-Space Plasticity Model," Proceedings of the Japan Concrete Institute, JCI, Vol. 16, 1994. (In Japanese)
- 11) Ohtsu, M. and Farahat, A. M., "Assessment of Concrete Damage by NDE Procedures on Concrete Property, Corrosion and Structural Integrity," Proceedings of Cairo First International on Concrete Structures, Cairo University, January 1996.
- 12) El-Rakib, T. M., Farahat, A. M., El-Degwy, W. M., and Shaheen, H. H., "Shear Transfer Parameters At the Interface Between Old and New Concrete", International Conference on Performance of Construction Materials, ICPCM 2003, Ain Shams University, February 18–20, 2003.
- 13) Salem A., Elkady M.H., Hadhod H.M, Farahat A.M., “Coupled Effect of Nano Silica and Steel Fiber on Compressive and Splitting Strength of Concrete”, 13th Arab Structural Engineering Conference–University of Blida–December 13–15, 2015 Algeria (ASCE 2015).
- 14) Salem A., Hadhod H.M, Farahat A.M., “Effect of Stirrups on Shear Capacity of Reinforced Concrete Hidden Beams”, 13th Arab Structural Engineering Conference–University of Blida–December 13–15, 2015 Algeria (ASCE 2015).

3-Awards

- 1) Japan Concrete Institute, JCI' award for paper, "Modified Microplane Model for Concrete Stress–Strain Relationship," 1991 .
- 2) Japan Concrete Institute, JCI, award for paper, "Plastic–Fracture Stress Transfer Model for Concrete," 1993 .

Research Topics

1- Finished Researches :

1) Seven Ph. D. Students finished their degrees under my supervision in 2003, 2004, 2005, 2006, 2008, 2009 and 2011. The following topics were investigated in their research work:–

- Behavior of Reinforced Concrete Columns Strengthened by Using Steel Jacket Welded Under the Effect of Prestressing Forces
- Behavior of Fibrous High – Strength Reinforced Concrete Slab – Column Connections Subjected to Eccentric Punching Loads
- Behavior of High–Strength Reinforced Concrete L–Beams Subjected to Combined Shear and Torsion
- Use of Slurry Infiltrated Fiber Concrete in Reinforced Concrete Corner Connections Subjected to Opening Moments
- Shear Behavior of Slurry Infiltrated Fiber Concrete Beams

2) Nine Master Students finished their degrees under my supervision in 1997, 1999, 2009, 2010, and 2011. The following topics were investigated in their research work :–

- Nonlinear Finite Element Evaluation of Flexural Behavior of RC Beams Using Fracture Mechanics
- Application of Fictitious Crack Approach to Concrete Beams Subjected to Mode I Fracture
- Local Strengthening of Reinforced Concrete Columns in Areas Without Hoops
- Behavior of Reinforced Concrete T Beams
- Confinement Effectiveness on the Behavior of the Axially Loaded Fiber High – Strength RC Columns
- Experimental Evaluation of shear Transfer Across New and Existing Concrete Interface

- Punching Shear Strength of Reinforced Concrete Flat Slabs Subjected to Fire on their Tension Sides

3) The following topics were investigated Individually:–

- Behavior of Reinforced Concrete Circular Columns Confined by Steel Wire Mesh and Hoops
- Innovative System for the Enhancement of Tension Lap Splice in Reinforced Concrete Beams
- Effectiveness of Steel Fibers on the Shear Resistance of High – Strength Reinforced Concrete Beams