

# CURRICULUM VITAE



## 1- Personal Details

**Name** : Shemy Mohamed Ahmed Gabr  
**Date of Birth** : 21 /11/1953  
**Nationality** : Egyptian  
**Telephone** : 0882053857  
**Mobile** : 01285434314  
**Email** : [shemygabr@aun.edu.eg](mailto:shemygabr@aun.edu.eg) & [Shemy2007@yahoo.com](mailto:Shemy2007@yahoo.com)

**Major Area of specialization:** mechanical engineering

## 2- Education & Qualifications

Date	Degree	University name	Country	Title of the Dissertation
1991	Ph.D	Tohoku Univ.	Japan	Experimental Studies on the Mechanism of Vibratory Cavitation Erosion
1983	M.Sc	Assiut Univ	Egypt	Dynamic Response of Fluid Lines with Viscoelastic Pipe-walls
1977	B.Sc	Assiut Univ	Egypt	Mechanical engineering

## 3- Professional Activities:

Date	Job Title	Place	Country
2016-till now	Emeritus Professor	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt
2010-2016	Professor	Mechanical & Industrial Engineering Department - college of engineering, Majmaah University	Saudi Arab
2006-2010	Professor	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt
2001-2006	Associate Professor	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt
1994-2000	Assistant Professor	Mechanical Engineering Department Fac. of Eng. Sana'a Univ.	Yemen
1991-1994	Assistant Professor	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt
1983-1986	Assistant Lecturer	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt
1977-1983	Demonstrator	Mechanical Engineering Department Fac. of Eng. Assiut Univ.	Egypt

## 4. Teaching Experiences:

### A. Undergraduate Courses Taught

1. Workshop technology
2. Stress Analysis
3. Tribology.
4. Machine Drawing and constructions
5. Metrology

6. Materials engineering
7. Fault Diagnosis and Failure Analysis
8. Material removal processes
9. System dynamics
10. Production Laboratories

## **B. Graduate Courses Taught**

1. Cavitation erosion
2. Slurry Erosion
3. Corrosion-erosion
4. Advances topics in tribology

## **5- Areas of Specialization**

- Tribology.
- Cavitation erosion
- Slurry erosion
- Corrosion-Erosion.

## **6- Languages**

- Arabic (mother tongue).
- English - Very Good written and spoken,

## **7- Publications**

### **A- International Journals**

1. Y. M. Abd-Elrhman, A. Abouel-Kasem, B, K.M. Emar, and **S.M. Ahmed**, *The effect of boronizing heat treatment on the slurry erosion of AISI 5117*, ***Industrial Lubrication and Tribology***, 2018, Vol.70(7),P 1176-1186
2. M.A. Al-Bukhaiti,A. Abouel-Kasem, B, K.M. Emar, and **S.M. Ahmed**, *Effect of slurry concentration on erosion wear behavior of AISI 5117 steel and high-chromium white cast iron*, ***Industrial Lubrication and Tribology***, 2018, Vol.70(4),P 628-638.
3. B. Saleh, A. Abouel-Kasem, **S.M. Ahmed**, *Quantitative analysis of wear particles generated by cavitation erosion in glycerol-water mixtures*, ***Industrial Lubrication and Tribology***, 2017, Vol.69(5).
4. M.A. Al-Bukhaiti,A. Abouel-Kasem, B, K.M. Emar, and **S.M. Ahmed**, *A Study on Slurry Erosion Behavior of High Chromium White Cast Iron*, ***ASME, J. Tribol.*** 2017, Vol. 139(4), 041102-1--041102-7
5. Abouel-Kasem, Saleh, B, K.M. Emar, and **S.M. Ahmed**, *Characterization of Cavitation Eroded Surfaces at Different Temperatures Using Wavelet Method*, ***ASME, J. Tribol. Jan.2016, Vol. 138/032301-1-032301-6***
6. M.A. Al-Bukhaiti,A. Abouel-Kasem, , K.M. Emar, and **S.M. Ahmed** " Particle shape and size effects on slurry erosion of AISI 5117 steels " ***ASME, J. Tribol. Jan.2016, Vol. 138/ 024503-1-024503-8***
7. Saleh, B, Abouel-Kasem, A., and **S.M. Ahmed**, *Effect of surface properties modification on slurry erosion-corrosion resistance of AISI 5117 steel*, ***ASME, J. Tribol***, Vol.137, ( 2015), 031105-1-8
8. Y. M. Abd-Elrhman, A. Abouel-Kasem, , **S. M. Ahmed** and K.M. Emar, *Stepwise erosion as a method for investigating the wear mechanisms at different impact angles in slurry erosion*, ***ASME, J. Tribol***, APRIL 2014, Vol. 136 / 021608-1-8

9. Y. M. Abd-Elrhman, A. Abouel-Kasem, , K.M. Emará and S. M. Ahmed, *Effect of Impact Angle on Slurry Erosion Behaviour and Mechanisms of Carburized AISI 5117 Steel*, **ASME, J. Tribol**, Vol. 136, (2014) p. 011106-1-9
10. B. Saleh, S. M. Ahmed, *Slurry Erosion–Corrosion of Carburized AISI 5117 Steel*, **Tribol Lett**, Vol. 51, (2013)
11. F. A. Alturki, A. Abouel-Kasem, , and S. M. Ahmed, *Characteristics of Cavitation Erosion Using Image Processing Techniques*, **ASME, J. Tribol**, Vol. 135, (2013) 014502-1-7
12. S. A. Karrab, M. A. Doheim, Mohamed S. Mohammed, S. M. Ahmed, *Study of Cavitation Erosion Pits on 1045 Carbon Steel Surface in Corrosive Waters*, **ASME, J. Tribol**, Vol. 134 (2012) 011602
13. S. A. Karrab, M. A. Doheim, Mohamed S. Mohammed, S. M. Ahmed, *Investigation of the Ring Area Formed Around Cavitation Erosion Pits on the Surface of Carbon Steel*, **Tribol Lett**, (2012) 45:437–44
14. A. Abouel-Kasem, S.M. Ahmed "Bubble Structures between Two Walls in Ultrasonic Cavitation Erosion", **ASME, J. Tribol**, Vol. 134 (2012) 02172
15. A. Abouel-Kasem, F. A. Alturki, and S. M. Ahmed, *Fractal Analysis of Cavitation Eroded Surface in Dilute Emulsions*, **ASME, J. Tribol**, Vol. 133, 041403 (2011)
16. Saleh, B, Abouel-Kasem, A., A. Ezz El-Deen, and Ahmed, S. M., *Investigation of the Temperature Effects on Cavitation erosion Behaviour Based on Analysis of Erosion Particles* **ASME, J. Tribol**, July 2010, Vol. 132 / 1-7
17. A. Abouel-Kasem, M. Abd-Elrahman, K.M. Emará, S.M. Ahmed "Design and performance of slurry erosion tester", **ASME, J. Tribol**, April 2010, Vol. 132 / 021601-1-021601-9
18. A. Abouel-Kasem, M.A. Al-Bukhaiti, K.M. Emará, S.M. Ahmed "Fractal Characterization of Slurry Eroded Surfaces at Different Impact Angles" **ASME, J. Tribol**. JULY 2009, Vol. 131 / 031601-1-031601-9
19. A. Abouel-Kasem, A. Ezz El-Deen, K.M. Emará, S.M. Ahmed "Investigation Into Cavitation Erosion Pits" **ASME, J. Tribol**. JULY 2009, Vol. 131 / 031605-1-031605-7
20. A. Abouel-Kasem, K.M. Emará, S.M. Ahmed "Characterizing cavitation erosion particles by analysis of SEM images" **J Tribology International**, Volume 42, Issue 1, January 2009, Pages 130-136
21. Abouel-Kasem, A., Saleh, B., and Ahmed, S. M., "Quantitative Analysis of Cavitation Erosion Particle Morphology in Dilute Emulsions", **ASME, J. Tribol**. 130, OCTOBER (2008), 041603-1-041603-6.
22. Abouel-Kasem, A., and Ahmed, S. M., "Cavitation Erosion Mechanism Based on Analysis of Erosion Particles" **ASME, J. Tribol**. 130, JULY (2008), 031601-1-031601-6
23. Al-Bukhaiti, M. A., Ahmed S. M., Badran, F. M. F and Emará, K.M., *Effect of Impingement Angle on Erosion Mechanisms of 1017 Steel and high-chromium white cast iron*, **Wear**, Vol.262 (2007),p.1187
24. Ahmed, S. M., *Investigation of the Temperature Effects on Induced Impact Pressure and Cavitation Erosion*, **Wear**, Vol. 218 (1998), p. 119.
25. Ahmed, S. M., Hokkirigawa, K. and Oba, R., *Fatigue Failure of SUS 304 Caused by Vibratory cavitation Erosion*, **Wear**, Vol. 177 (1994), p. 129.
26. Ahmed, S. M., Hokkirigawa, K., Higuchi, J. and Oba, R., *SEM Studies of Particles Produced by Cavitation Erosion*, **JSME Int. J. Ser. B.**, Vol. 36 (1993), p. 517.
27. Miyazaki, K., Ahmed S. M. and Oba, R., *High Speed Observations of the Vibratory Cavitation Accompanying with Hard Erosion*, **JSME Int. J. Ser. B.**, Vol. 36 (1993), p.

- 511.
28. **Ahmed S. M.**, Hokkirigawa, K., Ito, Y., Oba, R. and Matsudaira, Y., Scanning Electron Microscopy Observation on the Incubation Period of Vibratory Cavitation Erosion, *Wear*, Vol. 142 (1991), p. 303
  29. **Ahmed S. M.**, Hokkirigawa, K., Oba, R. and Kikuchi, K., SEM Observation of Vibratory Cavitation Fracture Mode during the Incubation Period and the Small Roughness Effect, *JSME Int. J., Ser. II*. Vol. 34, No. 3 (1991), p. 298
  30. Kikuchi, K., **Ahmed S. M.**, T. Hiraiwa, T., Ito, Y. and Oba, R. An indirect vibratory method capable of simulating several cavitation states,, *JSME Int. J., Ser. II*. Vol. 34, No. 1 (1991), p. 1
  31. **Ahmed, S. M.**, Ito, Y., Higuchi, J. and Oba, R., A peculiar behavior of cavitation-nuclei size distributions in sample water under vibratory erosion tests, *JSME Int. J., Ser. II*. Vol. 33, No. 4 (1990), p. 629
  32. **Ahmed S. M.**, Hokkirigawa, K., Oba, R. Developing stages of ultrasonically produced cavitation erosion and corresponding surface roughness. *JSME*, Vol. 33, No. 1 (1990), p.11

## **B. National Journals**

33. Mokhtar Mohammed Albukair, M-Emad S Soliman, S.M. Ahmed, DESIGN AND ASSESSMENT OF A SPEED-BASED INTEGRATED ACTIVE VEHICLE CONTROLLER FOR LATERAL STABILITY, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 48, No. 6, Nov., 2020, pp. 1072-1105.
34. S. A. Karrab, Mohamed S. Aboaraia M. A. Doheim, , **S. M. Ahmed**, Investigation into Morphology of Cavitation Erosion-Corrosion Pits on the Surface of Carbon Steel, *The Int. J. OF Eng. and Inf. Tech. (IJEIT)*, Vol. 1, No.1, 2014
35. Othman, M., **S.M. Ahmed**, Investigation of cavitation damage progress in the incubation period using stepwise erosion and image process techniques, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 42, No. 3, May, 2014, pp. 683-702
36. Karrab, M. A. Doheim, Mohamed S. Aboaraia, **S. M. Ahmed**; Effect of heat treatment and bath composition of electroless nickel-plating on cavitation erosion resistance, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 41, No. 2, March, 2013, pp. 1989-2011
37. Tawfeeq A. Alkanhal, M. Osman, and **S. M. Ahmed**, Investigation into tubular structure formed by pitting corrosion on the surface of carbon steel, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 41, No. 2, March, 2013, pp. 483 – 500
38. B. Saleh, Tawfeeq A. Alkanhal and **S. M. Ahmed**, Fractal characterization of cavitation damage of carburized aisi 5117 steel, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 41, No. 2, March, 2013, pp. 517 – 535
39. Y. M. Abd-Elrhman, A. Abouel-Kasem, , K.M. Emara and **S. M. Ahmed**, Effect of Impact Angle on Slurry Erosion Behaviour and Mechanisms of Carburized AISI 5117 Steel, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol. 41, No. 1, Jan., 2013, pp. 137-157
40. Y. M. Abd-Elrhman, A. Abouel-Kasem, **S. M. Ahmed**, and K.M. Emara, Stepwise erosion as a method for investigating the wear mechanisms at different impact angles in slurry erosion, *JES, Fac. of Eng., Assiut Univ*,

- Egypt*, Vol.40, No.4 (2012), p.1055
41. Karrab, M. A. Doheim, Mohamed S. Aboraia, *S. M. Ahmed*; Examination of cavitation erosion particles morphology in corrosive waters" S. A. " *JES, Assiut University*, vol. 40, No. 6, pp. 1793- 1814, 2012.
  42. B. Saleh, A.Ezz El-Deen and, *S.M. Ahmed*, Effect of liquid viscosity on cavitation damage based on analysis of erosion particles, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol.39, No.2 (2011), p.327
  43. Doheim, M.A., *Ahmed, S.M.*, Abdelrahman, Y.M ,Investigation of the Corrosion problem in the Pipeline of Enriched Alumina Recycle to Aluminium Cell,, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol.36, No.4 (2008), p.936
  44. Abouel-Kasem, A., Ezz El-Deen, A, *Ahmed, S. M.*, Abdellah,G.A.E., “Effect of horn-tip shape on cavitation erosion of stationary specimen in a vibratory facility” *Journal of Engineering Sciences, Assiut University*, Vol.33, No.1 (2005), p.185.
  45. Abouel-Kasem, A., Ezz El-Deen, A, *Ahmed, S. M.*, Wear Characteristics of Welding Materials in Slurry, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol.33, No.6 (2005), p.2165.
  46. Abouel-Kasem, A., *Ahmed, S.M.*, “Cavitation Erosion Mechanism Based on Analysis of Erosion Particles,” *EGTRIB J.*, Vol. 2, No. 3 (2004), p.1.
  47. Al-Bukhaiti , M. A., *Ahmed S. M.*, Badran, F. M. F and Emara, K. M., The Effect of Particle Characteristics on Slurry Erosion Mechanisms of High-Chromium White Cast Iron, *EGTRIB J.*, Vol. 2, No. 2 (2004), p. 1..
  48. Al-Bukhaiti , M. A., *Ahmed S. M.*, Badran, F. M. F and Emara, K. M. , Particle Characterization and the Effect of Particle Characteristics on Slurry Erosion Behavior of 1017 Steel, *EGTRIB J.*, Vol. 1, No. 4 (2004), p. 15.
  49. Al-Bukhaiti , M. A., *Ahmed S. M.*, Badran, F. M. F and Emara, K. M., The Influence of Impact Velocity and Particle Concentration on Slurry Erosion Behavior of 1017 Steel, *EGTRIB J.*, Vol.1 , No. 4 (2004), p.58.
  50. Al-Bukhaiti , M. A., *Ahmed S. M.*, Badran, F. M. F and Emara, K.M. , Effect of Impingement Angle on Erosion Mechanisms of 1017 Steel by Slurry Erosion, *EGTRIB J.*, Vol.1, No. 3 (2003), p. 71.
  51. Ezz El-Deen, A. and *Ahmed, S. M.*, Experimental Investigation of the Combined Effect of Abrasion and Vibratory Cavitation Erosion Mechanisms on  $\alpha + \beta$  Brass, *JES, Fac. of Eng., Assiut Univ, Egypt*, Vol.32, No.1 (2004), p.303.
  52. Al-Bukhaiti , M. A., *Ahmed S. M.*, Badran, F. M. F and Emara, K. M., Assessment of Slurry Erosion Characteristics Using a Paint Erosion Indication Technique, *JES, Fac. of Eng, Assiut Univ, Egypt*, Vol. 32, No. 1 (2004) p.275.
  53. *Ahmed, S. M.*, Cavitation Bubbles and Damage of an Indirect Vibratory Method, *EGTRIB J.*, Vol. 1, No. 3 (2003), p.51.
  54. Ezz El-Deen , A., *Ahmed, S. M.*, and Emara, K. M. Fatigue Failure of Various Materials by Vibratory Cavitation Erosion, *EGTRIB J.*, Vol. 1, No. 3 (2003), p. 24
  55. Ezz El-Deen, A. and Ahmed, S. M., Investigation of Erosion Mechanism of  $\alpha + \beta$  Brass, *EGTRIB J.*, Vol. 1, No. 2 (2003), p. 13.
  56. *Ahmed, S. M.*, and M. A. Alshagdari, Study of the Influence of Particle Size, Concentration and Degradation on the Slurry Erosion Behavior, *Bull. Faculty of Eng., Assiut Univ., Egypt*, Vol. 24-28, No. 1 (2000), p. 87.
  57. *Ahmed, S. M.*, and M. A. Alshagdari, Investigation into the Failure of

- Irrigation Pumps, *J. of Science & Technology, Univ. of Science & Technology, College of Science & Technology, Sana'a Yemen*, Vol. 5, No.1 (2000) p. 27.
58. Ahmed, S. M., and Rizk, A. M. I., Effect of Concentration of Multisided Solid Particles, *Bull. Faculty of Eng., Assiut Univ., Egypt*, Vol. 28, No. 1 (2000), p. 141.
59. Rizk, A. M. I., Mokbel, A. A., and Ahmed, S. M., Effect of Slurry Erosion on Some Particle/ Surface Engineering Properties, *Bull. Faculty of Eng., Assiut Univ.*, Vol. 27 No. 2 (1999), p. 135.
60. Ahmed, S. M., and Rizk, A. M. I., Effect of Particle Size on Dilute Slurry Erosion, *Bull. Fac. of Eng. Assiut Univ., Egypt*, Vol. 27 No. (1999), p. 231
61. Ahmed, S. M., Vibratory Cavitation Erosion Tests of Flat and Grooved Specimens of SUS 304 Stainless, *Bull. Faculty of Eng. Assiut Univ., Egypt*, Vol. 25 No. 1 (1997), p. 25.
62. Ahmed, S. M., Gas Content Effects upon Cavitation Erosion - A Review, *Bull. Faculty of Eng., Assiut University* Vol. 22. No. 2 (1994), p. 77.
63. Ahmed, S. M., Surface Roughness Measurements for Evaluating, cavitation Erosion Characteristics, *Bull. Faculty of Eng., Assiut Uni., Egypt*, Vol. 22, No. 2 (1994), p. 49.

#### **B- International Conferences**

64. S. A. Karrab, M. A. Doheim, Mohamed S. Mohammed, S. M. Ahmed, Effect of electroless Ni-Co-P and Co-P coatings on cavitation erosion resistance, *proceedings TMS Middle East - Mediterranean Materials Congress on Energy and Infrastructure Systems (MEMA 2015)*
65. Al-Bukhaiti , M. A., Ahmed S. M., Badran, F. M. F and Emara, K. M. H., Slurry Erosion Behavior of High-Chromium Cast Iron, *8th Int. Conf. Prod. Eng., Design and Control (PEDAC), Alexandria, Egypt (2004)*.
66. Al-Bukhaiti , M. A., Ahmed S. M., Badran, F. M. F and Emara, K. H., Design of Slurry Erosion Test Rig, *MDP-8, Cairo Univ. Conf. on Mechanical Design and Production, Cairo, Egypt, (2004)*.
67. Al-Bukhaiti M. A. and Badran F. M. F., Emara K. M. M. and Ahmed S. M. Slurry Erosion Parameters-A review, *MEATIP3 02, Assiut Egypt, Dec. 24-26, 2002*.
68. Miyazaki, K., Ahmed S. M. and Oba, R., High Speed Photographic Observations of the Vibratory Cavitation Accompanying with Hard Erosion, *Proc. Symp. on Shock Waves, Tokyo, Japan, 1990, p.456*.
69. Ahmed S. M., Hokkirigawa, K., Matsudaira, Y., Oshima, R and Oba, R., Marked Surface Roughness Effects on the Development of Micro fracture During the Incubation of Vibratory Cavitation Erosion, *3rd Japan – China Conf. On of Fluid Machinery, Osaka, 1990, p. 1- 331*.
70. Abo- Ismail, A., Wassef, F. M. and Ahmed, S. M., Fluid Transient in Pipes with Viscoelastic Walls. *ASME, 1983. Applied Mechanics, Bioengineering and Fluid Eng. Conf., Houston Texas, 83-FE-30*.
71. Ahmed, S. M., Abo Ismail, A. Wassef, F. M., and Saleh, F. E., Pressure Transient in Elastic Hydraulic Pipelines, *4th Int. Conf. Mech. Power Eng., Cairo Univ., Egypt, 1982*.

## **8. Supervising MA and Ph.D.**

**Title of Thesis :** [Cavitation Erosion Corrosion Behaviour Surface Engineered Materials](#)

**Engineer :** Salem Ali Sedik Karrab

**Degree :** PhD

**Year :** 2014

**Title of Thesis :** [Slurry Erosion of Carburized and Boronized Low Alloy Steel Aisi 5117](#)

**Engineer :** Yasser Mahmoud Abd-Elrhman

**Degree :** M Sc

**Year :** 2012

**Title of Thesis :** [Investigation, and study of the corrosion problem in steel pipeline of real alumina transprot](#)

**Engineer :** Yaser Mohammed Abd Elrahman

**Degree :** M Sc

**Year :** 2008

**Title of Thesis :** [Study of the Behaviour and Mechanism of Slurry Erosion](#)

**Engineer :** Mohamed Ahmed Hamoud Ali Bukhaiti

**Degree :** PhD

**Year :** 2005