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# KAMAL EL-SAYED MOSTAFA EL-NAHHAS

## CURRICULUM VITAE

### I. PERSONAL INFORMATION



**Name:** Kamal El-Sayed Mostafa El-Nahhas  
**Title:** Dr. Consultant Eng.  
**Date of Birth:** 7/5/1968  
**Place of Birth:** Dakahlia, Egypt  
**Religion:** Moslem  
**Marital Status:** Married  
**Home Tel.:** +2066 3251915  
**Mobile:** +20122 4005754  
**Work Tel.:** +2066 3386054  
**E-mail:** [kamal.elnahhas@suezcanal.gov.eg](mailto:kamal.elnahhas@suezcanal.gov.eg) k\_elnahhas@yahoo.com  
**Position:**

- The Head of Water Sector, Suez Canal Authority, Port Said
- Lecturer, Faculty of Engineering – Mansoura University (Part Time, since 9/2003)
- Consultant Engineer (Industrial Engineering Planning, Water Treatment and Purification Plants)

**Address:** 352 Mohamed Ali & Ahmed Maher St., 3<sup>rd</sup> floor, flat (2), Port Said, Egypt

### II. EDUCATIONAL BACKGROUND

Dates Attending	Degrees	Name & Address of Institution	
2002	Ph D. Mechanical Power Engineering	Faculty of Engineering, Suez Canal University, Egypt.	<b>Specific Specialization:</b> Fluid Mechanics
1995	M Sc. Mechanical Power Engineering	Faculty of Engineering, Mansoura University, Egypt.	<b>Specific Specialization:</b> Fluid Mechanics
1991	B Sc. Mechanical Engineering	Faculty of Engineering, Mansoura University, Egypt.	<b>Grade:</b> very good <b>Project:</b> Excellent

**III. EMPLOYMENT HISTORY****A- Professional**

<b>Dates (from/to)</b>	<b>Positions</b>	<b>Employer</b>
January, 2021 – Now	Head of Water Sector at Port Said	<b>Suez Canal Authority, Works Department,</b>
January, 2018 – December, 2020	Head of Water Treatment Plants Section at Port Said	
January, 2014 – December, 2017	Deputy Section Head	
January, 2010 – December, 2013	Manager of Mechanical Works	
January, 2005 – December, 2009	Ass. Manager of Mechanical Works	
January, 2000 – December, 2004	Senior Engineer	
August, 1994 – December, 1999	O&M Engineer	
November, 1993- August, 1994	Mechanical Engineer	<b>Gulf of Suez Petroleum Company (GUPCO)</b>

**B- CONSULTANCY AND ACADEMIC**

<b>Dates (from/to)</b>	<b>Positions</b>	<b>Employer</b>
September, 2003 – <b>Now</b>	Lecturer (Part Time)	Mechanical Engineering Department, Faculty of Engineering, Mansoura University.
July, 2008 – 2013	Proposal Eng. Trainer	Center of Water, Sanitary Drainage and Industrial Wastewater Projects, Mansoura University.
October, 1999 - 2011	Consultant	International Consultants, IC
January, 1993 - May, 1995	M.Sc. Scholarship Demonstrator	Mechanical Engineering Department, Faculty of Engineering, Mansoura University.

#### IV. **PROFESSIONAL SKILLS**

Ability to manage a team and to work within a team framework to perform the following different activities:

##### **A- Projects Management and Consultancy**

- Processes proposal for water purification, treatment and desalination plants.
- Mechanical and hydraulic design of water and wastewater treatment facilities.
- Mechanical and hydraulic design of water desalination intakes and plants.
- Preparing the tenders, evaluation reports and recommendation for final approval.
- Preparation, studying, reviewing and approving all mechanical technical submittals.
- Preparation, studying, reviewing and approving the design and calculation sheets according to the stated design criteria. Directing the feedback to the designer for response. Review the response for adequacy.
- Supervision the mechanical works for conformance with the provisions of the contract documents and the procedures manual.
- Assisting with the final inspection of the work. Review the adequacy and accuracy of punch lists. Monitor final completion of the work.

##### **B- Training Activities**

- Practical training and theoretical teaching at SCA vocational training center.
- Training development, training delivery and supervision at Port Said Water Sector Training Center.
- Participating specific and professional training programs with the following agencies:
  - Center of Water Sanitary Drainage and Industrial Projects, Mansoura University
  - International Water Technology Association
  - Arab Academy for science, Technology & Maritime transport
  - ORASCOM Training & Technology
  - Carl Bro Intelligent Solutions and Chemonics Egypt

##### **Major Fields:**

- Water Desalination Technologies (Basics & Overview)
- Water Desalination by RO Systems (Design, Selection, O&M, Optimization)
- Water Purification Technologies (Basics & Overview, Design, O&M, Optimization)
- Design of Water Treatment Plants & Processes
- Mechanical Maintenance
- Pumps (Theory, Selection, O&M)

##### **C- Maintenance Engineering**

- Direct all groups of mechanical maintenance for different facilities and equipment (pumps, compressors, pneumatic & hydraulic systems, air blowers, valves, water filters, water clarifiers, etc.).

- Organize overhaul and preventive maintenance schedules for all equipment coordinating the activities between different workshops.
- Implement safety in work and workshop.
- Design and implementation of the computer databases and applications required to maintain record of overhauls maintenance logs and manage the scheduled preventive maintenance. The equipment performance analyses and inventory control are also included.

## V. TEACHING AND ACADEMIC ACTIVITIES

### ➤ **Teaching** the following courses:

- "**Water Desalination**", 3<sup>rd</sup> year, mechanical power engineering department, Mansoura University, 2013-now.
  - "**Water Treatment Technology**", 3<sup>rd</sup> year, mechanical power engineering department, Mansoura University, 2013-now.
  - "**Water Desalination**", postgraduate (M.Sc.) qualification courses, mechanical power engineering department, Mansoura University, 2013-now.
  - "**Industrial Relation**" Mechatronics Engineering, Construction & Building Engineering, Arab Academy for Science, Technology & Maritime Transport – Port Said Branch - College of Engineering & Technology.
  - "**Manufacturing Technology**", Mechatronics Engineering, Construction & Building Engineering, Arab Academy for Science, Technology & Maritime Transport – Port Said Branch - College of Engineering & Technology.
  - "**Engineering Mechanics**", Mechatronics Engineering, Construction & Building Engineering, Arab Academy for Science, Technology & Maritime Transport – Port Said Branch - College of Engineering & Technology.
  - "**Fluid Machines**", 2<sup>nd</sup> year, Mechatronics Engineering & Biomedical Engineering Programs, Mansoura University, 2013-2014.
  - "**Multiphase Flow**", postgraduate (M.Sc. & Ph.D.) qualification courses, mechanical power engineering department, Faculty of Engineering, Port Said University, 2007-2015.
  - "**Multiphase Flow**", 3<sup>rd</sup> year, Natural Gas Engineering Program (NGEP), Faculty of Engineering, Port Said University, 2009-2010.
- ### ➤ **Supervising** a series of **graduation projects** in the field of design, automation, operation and maintenance of water desalination and treatment plants (annually since 2003 to now).
- ### ➤ **The M. SC. and Ph. D. Thesis supervised**
- "Investigation of the Flow Behaviour to Obtain Optimization for Solid-Liquid Hydraulic Transport Systems", **Ph.D.**, Faculty of Engineering, Port Said University. (Defended 2014).
  - "Development of Desalination system Using Reverse Osmosis", **M.Sc.**, Faculty of Engineering, Mansoura University. (Defended 2015).

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- "Fouling Control and Waste Management of Membrane Based Water Purification and Desalination", **M.Sc.**, Faculty of Engineering, Mansoura University. (Defended 2016).
  - "Evaluating Membrane Technology for Drinking Water Production in Comparison with Conventional Processes", **M.Sc.**, Faculty of Engineering, Mansoura University. (Def. 2016).
  - "Study of Hydraulic Characteristics of Continuous Flow Tanks Used in Water Treatment Plants", **M.Sc.**, Faculty of Engineering, Mansoura University. (Defended 2016).
  - "Theoretical and Experimental Study for Water Desalination by Low-Pressure Membranes", **M.Sc.**, Faculty of Engineering, Mansoura University. (Defended 2018).
  - "Using Ozone in Water Treatment Applications in A Comparison with Other Disinfection Methods", **M.Sc.**, Faculty of Engineering, Mansoura University. (inprog.).
  - "Theoretical and Experimental Study for Development of Membrane-Based Desalination Technologies", **M.Sc.**, Faculty of Engineering, Mansoura University. (inprog.).

## **VI. ORGANIZING CONFERENCES**

- Member of the organizing committee, 13<sup>th</sup> International Conference of Water Technology. Hurghada, Egypt, March, 2009.
- Member of the executive committee, 14<sup>th</sup> International Conference of Water Technology, Cairo, Egypt, March, 2010.
- General Secretary and member of the scientific committee, 15<sup>th</sup> International Conference of Water Technology, Alexandria, Egypt, May, 2011.
- Member of the international organizing committee, 16<sup>th</sup> International Conference of Water Technology. Istanbul, Turkey, May, 2012.
- Member of the international organizing committee and program committee, 17<sup>th</sup> International Conference of Water Technology. Istanbul, Turkey, May, 2013.
- Member of the international organizing committee and executive committee, 18<sup>th</sup> International Conference of Water Technology. Sharm El-Sheikh, Egypt, March, 2015.
- Member of the international organizing committee and executive committee, 19<sup>th</sup> International Conference of Water Technology. Sharm El-Sheikh, Egypt, April, 2016.
- General Secretary and chairman of executive committee, 20<sup>th</sup> International Conference of Water Technology. Hurghada, Egypt, May, 2017.
- Member of the scientific committee, 11<sup>th</sup> Conference of Water Desalination in the Arab Countries, Cairo, Egypt, April, 2017.
- General Secretary and chairman of executive committee, 21<sup>st</sup> International Conference of Water Technology. Ismailia, Egypt, June, 2018.
- General Secretary and chairman of executive committee, 22<sup>nd</sup> International Conference of Water Technology. Ismailia, Egypt, September, 2019.

## VII. HONORS AND AWARDS

International Prize for Water in the First Grade offered by His Royal Highness PRINCE SULTAN BIN ABDUALAZIZ, for the best paper in 13<sup>th</sup> International Water Technology Conference (Topic: Water Quality & Water and Health), 2009.

## VIII. MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Name of Organization	Dates	Posts or Offices Held
Syndicate of Engineering	1991 - now	Cairo & Port Said, Egypt
Water Technology Association	2005 - now	Alexandria, Egypt
Arab Environment Association	2010 – now	Alexandria, Egypt
International Water Technology Association (Board Member)	2011 - now	Alexandria, Egypt

## IX. RESEARCH AND PUBLICATIONS

The following research papers and presentations have been presented and/or published in local and international conferences and journals (in the fields: water treatment & desalination technology, multiphase flow, non-Newtonian fluids flow, suspensions hydrotransport and water & energy management):

1. N A S Elminshawy, MA Gadalla, M Bassyouni, K El-Nahas, A Elminshawy, (2020), "A novel concentrated photovoltaic-driven membrane distillation hybrid system for the simultaneous production of electricity and potable water", Renewable Energy 162, 802-817
2. Nabil A.S. Elminshawy, M. El Ghandour, H.M. Gad, D.G. El-Damhogi, Kamal El-Nahas, Mohammad F. Addas, (2019), "The performance of a buried heat exchanger system for PV panel cooling under elevated air temperatures", Geothermics 82, 7–15, [www.elsevier.com/locate/geothermics](http://www.elsevier.com/locate/geothermics)
3. Rashid Zoon, Gamal Sultan, Kamal El-Nahas, (2018), "Modeling and Experimental Study by Using Air Gap Membrane Distillation Process", Current Science International Journal, ISSN: 2077-4435, Volume 07, Issue : 01, Jan.- Mar. 2018, pp 91-100.

4. M.G.Mousa, Kamal El-Nahas and Layla K. Haythoor, (2016), " Development of Desalination system using Reverse Osmosis", International Journal of Advancements in Research & Technology, ISSN 2278-7763, Volume 5, Issue 8, August-2016, pp 9-31.
5. Mahmoud Lutfy, Kamal El-Nahas, and Mohamed Safwat, (2015), "Performance Optimization of Rectangular Settling Tanks in Small Water Treatment Plants by Numerical Approach", International Water Technology Journal, IWTJ - ISSN 2090-5440, ISPN 2090-5432, Vol. 5 –No.3, pp. 199-211, *September 2015*
6. Mahmoud Lutfy, Kamal El-Nahas, and Mohamed Safwat, (2015), "Investigation of Rectangular Settling Tanks Performance in Drinking Water Treatment Plants", Mansoura Engineering Journal, MEJ - p-ISSN 1110-0923, Vol. 40 –No.4, *December 2015*.
7. Tamer Nabil, Imam El-Sawaf, and Kamal El-Nahas, (2014), "Sand-Water Slurry Flow Modelling in A Horizontal Pipeline by Computational Fluid Dynamics Technique", International Water Technology Journal, IWTJ- ISSN 2090-5440, ISPN 2090-5432, Vol. 4- No.1, March 2014.
8. Tamer Nabil, Imam El-Sawaf, and Kamal El-Nahas, (2013), "Computational Fluid Dynamics Simulation of the Solid-Liquid Slurry Flow in A Pipeline", 17<sup>th</sup> International Water Technology Conference, IWTC17, Istanbul, Turkey.
9. El-Nahas, K., (2013), Optimizing the Performance of Filtration Process in the Conventional Drinking Water Purification Plants", solicited paper, 17<sup>th</sup> International Water Technology Conference, IWTC17, Istanbul, Turkey.
10. El-Nahas, K., (2012), "Influence of the Physical-Chemical Factors on The Residuals Management for Drinking Water Treatment Plants", 16<sup>th</sup> International Water Technology Conference, IWTC16, Istanbul, Turkey.
11. El-Nahas, K., (2011), "Assessment of The Drinking Water Clarification Under Condition of Sludge Return to Flocculator", International Water Technology Journal, IWTJ, vol. 1, Issue 2, ISSN: 2090/5432.
12. El-Nahas, K., (2010), "Suspended Solids Removal Enhancement in Drinking Water Treatment Processes by Tailoring Particle-Particle Interactions", 4<sup>th</sup> International Conference for Healthy Water, Cairo, Egypt.
13. El-Nahas, K., and Gad El-Hak, N., (2010), "New Trends in Surface Water Treatment for Drinking", 4<sup>th</sup> International Conference for Healthy Water, Cairo, Egypt.

14. El-Nahas, K., (2009), "Water Treatment Plant Optimization by Controlling the Suspended Solids Physicochemical Environment", 13<sup>th</sup> International Water Technology Conference, IWTC13, Hurghada, Egypt, pp. 1085–1096. **(1<sup>st</sup> Prize of Prince Sultan Bin Abdel Aziz)**
15. El-Nahas, K., Gad El-Hak, N., Rayan, M.A., and El-Sawaf, I.A., (2009), "Effect of Particle Size Distribution on the Hydraulic Transport of Settling Slurries", 13<sup>th</sup> International Water Technology Conference, IWTC13, Hurghada, Egypt, pp. 463-474.
16. El-Nahas, K., El-Sawaf, I.A., Rayan, M.A. and Gad El-Hak, N., (2008), "Flow Behaviour of Settling Slurries Containing Colloidal Particles", 9<sup>th</sup> International Congress of Fluid Dynamics and Propulsion Dec., 2008, Alexandria, Egypt.
17. El-Nahas, K., Rayan, M.A., El-Sawaf, I.A. and Gad El-Hak, N., (2008), "Flow Behaviour of Coarse-Grained Settling Slurries", 12<sup>th</sup> International Water Technology Conference, IWTC12, Alexandria, Egypt.
18. El-Nahas, K. and Mostafa, N.H., (2006), "Prediction of Non-Newtonian Turbulent Flow Behaviour by a Newtonian Approach", 10<sup>th</sup> International Water Technology Conference, IWTC10, Alexandria, Egypt, pp 479-490.
19. El-Nahas, K. and Mostafa, N.H., (2006), "Laminar and Turbulent Flow Characteristics of Non-Newtonian Homogeneous Slurries", 8<sup>th</sup> International Congress of Fluid Dynamics and Propulsion Dec. 14-17, 2006, Sharm El-Sheikh, Sinai, Egypt.
20. El-Nahas, K., Rayan, M.A. El-Sawaf, I.A. and Gad El-Hak, N., (2006), "Energy and Water Management for Non-Newtonian Suspensions Transport by Pipes", 10<sup>th</sup> Int. Water Technology Conference, IWTC10, Alexandria, Egypt, pp 419-429.
21. El-Nahas, K., Gad El-Hak, N., Rayan, M.A., and El-Sawaf, I.A. (2005), "Flow Behaviour of Non-Newtonian Clay Slurries", 9<sup>th</sup> International Water Technology Conference, IWTC9, Sharm El-Sheikh, Egypt, pp. 627-640.
22. El-Nahas, K., Gad El-Hak, N., Rayan, M.A., Vlasak, P., and El-Sawaf, I.A. (2004), "The Laminar Turbulent Transitional Condition of Non-Newtonian Slurries Flow in Pipes" 16<sup>th</sup> International Conf. on Slurry Handling and Pipeline Transport, Hydrotransport 16, BHRG Fluid Engineering, Cranfield, UK, pp. 47-59.
23. El-Nahas, K., and Vlasak, P. (2004), "Turbulent Flow Characteristics of Non-Newtonian Fine-Grained Suspensions Flowing in Pipes", 12<sup>th</sup> International Conf. on Transport and Sedimentation of Solid Particles, Prague, Czech Rep., pp. 267-275.



24. Rayan, M.A., Vlasak, P., El-Sawaf, I., Gad El-Hak, N., and El-Nahas, K. (2003), "Pressure Loss Reduction of Dense Kaolin Slurries Flowing in Pipes by Addition of Peptising Agent", Port-Said Engineering Research Journal, Vol. 7, No. (1).
25. El-Nahas, K., El-Sawaf, I., and Vlasak, P., (2002), "Dependence of Laminar and Turbulent Flow Predictions on Rheological Parameters of Homogeneous Slurries", Port-Said Engineering Research Journal, Vol. 6, No. (2).
26. Vlasak, P., Chara, Z., Stern, P., Konfrst, J. and El-Nahas, K., (2002), "Flow Behaviour and Drag Reduction of Kaolin Suspensions", 15<sup>th</sup> Int. Conf. on Slurry Handling and Pipeline Transport, Hydrotransport 15, BHRG Fluid Engineering, Cranfield, UK.
27. El-Emam, S.H., Desoky, A.A., Tolba, M.A. and El-Nahas, K., (1996), "Liquid Spray Characterization Using Phase/Doppler Technique", Mansoura Engineering Journal, Vol. 21.

**X. LANGUAGE:**

- Arabic: native tongue
- English: V. good, reading, writing, and speaking

**XI. COMPUTER:**

- Professional skills in Computer Applications.
- Good command for using and designing database systems and programming.

**Signature**

*Kamal El-Nahas*

Date: 25/09/2022