CURRICULUM VITAE

Chinese Estates Professor of Engineering Chair Professor, Department of Civil and Environmental Engineering Chair Professor, Institute for the Environment The Hong Kong University of Science and Technology, Hong Kong Phone: (+852) 2358 7174 Fax: (+852) 2358 1534 Email: ghidaoui@ust.hk



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香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY Mohamed Salah GHIDAOUI

Postgraduate Courses	
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Curriculum Development	
Students Supervised	
Research Awards of Students Supervised	
Research Associates (Assistants)/Post-doctoral Students	
Visiting Scholars Supervised	
Undergraduate Supervision	
PhD Dissertation and Examination Committees at Overseas Universities	
PhD Dissertation and Examination Committees at HKUST	
Chair of PhD Examination at HKUST	
MPhil Dissertation and Examination Committees	
University Administration	
University Level in HKUST	
School of Engineering in HKUST	
Department of Civil And Environmental Engineering in HKUST	
Other Tasks in HKUST	
Biographical Sketch	



PROFILE

EDUCATION	
1993	University of Toronto
	Ph. D., Civil Engineering
	Thesis Title: Analysis of Discretization Strategies in Fixed-Grid Method of Characteristics Solution in Closed Conduits
1990	University of Toronto
	M. A., Civil Engineering
	Thesis Title: Accuracy, Stability and Development of Water Hammer Equation
1989	University of Toronto
	B. S., Civil Engineering
	Thesis Title: Development and Error Analysis of Hyperbolic Partial Differential Equations

EMPLOYMENT

- 2017 Present Chinese Estates Professor of Engineering
- 2013 Present Chair Professor

Department of Civil and Environmental Engineering

The Hong Kong University of Science and Technology

2013 - Present Chair Professor

Institute for the Environment

The Hong Kong University of Science and Technology

2006 - 2013Professor

Department of Civil and Environmental Engineering

The Hong Kong University of Science and Technology

2002 - 2006Associate Professor



	Department of Civil and Environmental Engineering
	The Hong Kong University of Science and Technology
1994 – 2002	Assistant Professor
	Department of Civil and Environmental Engineering
	The Hong Kong University of Science and Technology
1993 – 1994	Lecturer
	Department of Civil and Environmental Engineering
	The Hong Kong University of Science and Technology
1991 – 1993	Teaching Assistant
	Department of Mechanical Engineering
	University of Toronto
1991 – 1992	Lecturer
	Department of Civil Engineering (Graduate Course)
	University of Toronto
1989 – 1993	Teaching Assistant
	Department of Civil Engineering
	University of Toronto
1988 – 1989	Summer Research Assistant
	Department of Civil Engineering
	University of Toronto

VISITING POSITIONS HELD

Sep 2006 – Oct 2006	Visiting Erskine Fellow	
	Department of Civil Engineering	
	University of Canterbury	
	New Zealand	
Jul 2004 – Jul 2004	Visiting Professor	



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	Department of Civil Engineering
	University of Canterbury
	New Zealand
May 2004 – Jun 2004	Visiting Professor
	Department of Civil & Environmental Engineering
	University of Illinois, Urbana-Champaign
	USA

RESEARCH INTERESTS

Hydraulics, water resources and environmental fluid mechanics. In particular, unsteady friction and turbulence in waterhammer; defect detection in pipes using waterhammer (transient) waves; numerical modelling of surface and closed conduit flows; and stability of shallow shear flows as well as waterhammer flows.

AWARDS - RESEARCH (INTERNATIONAL LEVEL)

2017	Named Professorship – Chinese Estates Professor of Engineering
	The Hong Kong University of Science and Technology
	Hong Kong
2015	Nominated
	The 2015 Kuwait Prize
	Applied Sciences
	Kuwait Foundation for the Advancement of Sciences (KFAS)
2015	Nominated
	2T5 Mid-career Achievement Award
	Engineering Alumni Association
	University of Toronto
	Canada
2013	Keynote Lecture Award
	12th International Conference on "Computer and Control for the Water Industry"



	CCWI 2013
	Under the distinguished patronage of the President of the Italian Republic, Perugia
	Italy
	Citation: "For his brilliant keynote lecture, with deep gratitude"
2007	Arthur Thomas Ippen Award
	International Association for Hydro-Environment Engineering & Research (IAHR)
	Citation: "In recognition of his outstanding contributions in the fields of hydraulics, water resources and environmental fluid mechanics, and in particular, the modeling of surface, subsurface and closed conduits" (See: http://www.iahr.org/site/cms/contentCategoryView.asp?category=94
2006	Erskine Fellow
	University of Canterbury
	New Zealand
2003 - 2004	Who's Who in Science and Engineering
1999 - 2000	Hilgard Award (Best paper, runner up)
1991	Albert Berry Memorial Award
	American Water Works Association
	USA
1990 - 1993	Open Doctoral Fellowship
	University of Toronto
	Canada
1984 – 1990	Scholarship
	Canadian International Development Agency (CIDA)
	Canada
1982	Olympian
	Mathematics Olympiad

AWARDS – RESEARCH (NATIONAL LEVEL)



Mohamed Salah GHIDAOUI

2007	Award of Recognition
	Ministry of Foreign Affairs
	Tunisia
2007	Award of Excellence
	Ministry of Higher Education
	Tunisia
2007	Award of Merit
	Tunisia
1984 – 1990	Tunisian Scientific Mission Scholarship for Excellence in International Baccalaureate
	Tunisia

AWARDS – TEACHING

2001	Teaching Excellence Appreciation
	School of Engineering
	The Hong Kong University of Science and Technology
1996	Teaching Excellence Appreciation
	School of Engineering
	The Hong Kong University of Science and Technology

PROFESSIONAL AND SCHOLARLY ACTIVITIES

JOURNAL EDITORSHIP

- 2016 Present Editor, Journal of Hydro-Environment Research, IAHR-APD Journal, Elsevier
- 2014 Present Associate Editor, Journal of Hydraulic Engineering, American Society of Civil Engineering (ASCE)
- 2007 Present Associate Editor, Journal of Hydro-Environment Research, IAHR-APD Journal, Elsevier
- 2008 Present Advisory Board Member, International Journal of Hydrology Science and Technology (IJHST), Inderscience Publishers
- 2003 2016 Associate Editor, Journal of Hydraulic Research, International Association for Hydro-Environment Engineering & Research (IAHR), Taylor and Francis
- 2000 2012 Editorial Board Member, Journal of Hydroinformatics, International Association for Hydro-Environment Engineering & Research (IAHR)
- 2015 Present Editorial Board Member, Theoretical & Applied Mechanics Letters (TAML), Chinese Academy of Sciences and The Chinese Academy of Theoretical and Applied Mechanics
- 2010 Guest Editor, Journal of Hydro-environment Research, special issue-I on Shallow Flows, Volume 4, Issue 1, Pages 1-60, Elsevier
- 2010 Special issue-II on Shallow Flows, Volume 4, Issue 2, Pages 61-180, Journal of Hydroenvironment Research, IAHR-APD Journal, Elsevier

OFFICES HELD AT PROFESSIONAL SOCIETIES (LEADERSHIP POSITIONS/ACTIVITIES)

2007 – Present	Member, International Standing Committee on Mesoscopic Methods in Engineering and Science
2007 – Present	Representative of section, Representative of Pressure Surges Researchers in the Fluid Mechanics Section, International Association of Hydraulic Engineering and Research
2006 – Present	Founding Chair, Fast Transients section, International Association for Hydro- Environment Engineering & Research,
2006 – Present	Member, IAHR Fluid Mechanics Section, International Association for Hydro- Environment Engineering & Research
2013 - 2017	Chair, Fluid Mechanics, IAHR
2001 - 2013	Vice Chair, Fluid Mechanics, IAHR



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2008 – 2009	Member of Council Nominating Committee, Elected by the IAHR Council to be 1 of 8 members from around the world
	Leader, IAHR team to reach and assist water professional in Africa to address the water challenges in the continent
2003 & 2006	Chairman, IAHR-Hong Kong Chapter
	Founding Member, IAHR-Hong Kong Chapter
2010	Judge, Best paper competition, The 17th Congress of the Asia and Pacific Division of the IAHR, Auckland, New Zealand
	Immediate past chairman, IAHR-Hong Kong Chapter
1998 - 2000	External Relations/Publicity Officer, IAHR-Hong Kong Chapter
2000 - 2003	Student Liaison Officer, IAHR-Hong Kong Chapter

OFFICES HELD AT PROFESSIONAL SOCIETIES (ADVISORY BOARDS / EXTERNAL EXAMINER)

- 2006 Present Member of the Advisory Group, Unsteady Friction, Funded by UK research council, Dundee, Scotland, UK.
- 1999 Present Member of the Advisory Group, Fluid-Structure Interaction, Dundee, UK

External Examiner & Adviser, Department of Civil Engineering, Chu Hai College, Hong Kong

2006 Erskine Fellowship Report, Assessment Report of the Civil Engineering Department one the request of the President and Council of University of Canterbury, New Zealand

KEYNOTE/INVITED TALKS AT INTERNATIONAL CONFERENCES & SYMPOSIUMS

- 14 keynote and plenary in international congresses, conferences and symposiums
- 18 invited lecture in international congresses, conferences and symposiums
- Oct 2018Keynote Lecture, The 13th Conference on Pressure Surges, Bordeaux, France
Topic: "Smart Urban Water Supply Systems"Aug 2017Keynote Lecture, The 37th IAHR World Congress, Kuala Lumpur, Malaysia

Topic: "How to Write a Journal Paper?"

Aug 2017 Keynote Lecture, The 37th IAHR World Congress, Kuala Lumpur, Malaysia

港 科 技 大 學

THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Topic: "Water Hammer: Why Has Its Existence Been Unrecognized by Most Fluid Books?"

Jun 2017 Keynote Lecture, The 4th International Symposium on Shallow Flows, Fluid Mechanics Committee of the International Association of Hydraulic Research, The Netherlands Topic: "Hydraulics of Shallow Shear Flows – Onset, development and practical relevance" Mar 2017 Invited Talk, Tunisian Physical Society Topics: "Smart UWSS & Modeling HFW with LBM" Oct 2016 Invited Talk, Hohai University & Wuhan University & Nanjing Institute of Hydraulics Topic: "How to Publish Journal Papers?" Oct 2016 Invited Talk, Hohai University & Wuhan University & Nanjing Institute of Hydraulics Topic: "TBRS Project on Smart Water Supply System" Sep 2016 Invited Lecture, Department of Physics and Applied Mathematics, University of Tunis, Tunisia Topic: "On Inverse Theory for Defect Detection" Aug 2016 Keynote Lecture, 20th Congress of the Asia Pacific Division of the International Association for Hydro Environment Engineering & Research, Colombo, Sri Lanka Topic: "High Frequency Waves for Condition Assessment of Conduits" Apr 2016 Invited Talk, Energy Forum - After COP21: Global Problems, Local Solutions, Hong Kong Topic: "Smart Water Supply Systems" Oct 2015 Invited Lecture, InnoCarnival 215: InnoTech - Key to a Boundless Future, Science Park, Speaker for Hong Kong Institute of Engineers, Hong Kong. Topic: "Smart Water Supply Systems" Jun 2015 Invited Lecture, TUM-HKUST Workshop on Blue Water Green Environment for Smart Cities, Hong Kong Topic: "Intelligent Water Grid" Feb 2015 Invited Talk, Symposium on Smart Urban Water Systems, Hong Kong Topic: "Smart Water Supply Systems" Dec 2014 Invited Lecture, IAHR Gerhard Jirka Summer School on Environmental Fluid Mechanics, Hong Kong.



	Topic: "3 hour lecture on Waves in pressurized hydro-systems"	
Nov 2014	Invited Lecture, International Workshop on Emerging Technologies towards Heterogeneous Wireless Networks and 5G Communications, Macau (jointly with R Murch of ECE)	
	Topic: "Investigating Wireless Acoustic Communication for IoT Applications at Water Utility Companies"	
Sep 2013	Keynote Lecture, The 12th International Conference, Computing and Control for the Water Industry (CCWI 2013) with a focus on Information for Water Systems and Smart Cities, Perugia, ITALY	
	Topic: "Turning water supply pipes into communication channels"	
Nov 2012	Invited Lecture, Advanced Workshop on Changing Hydrologic Cycle and Water Security, Tianjin, China.	
	Topic: "Smart Urban Water Systems: Why & How?"	
Jun 2011	Keynote Lecture, Gerhard H. Jirka Memorial Colloquium on Environmental Fluid Mechanics, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany	
	Topic: "Onset and Initial Development of Instabilities in Shallow Shear Flows"	
Feb 2010	Keynote Lecture, The 17th Congress of the Asia and Pacific Division of the IAHR, Auckland, New Zealand	
	Topic: Transient Growth and Langmuir Circulation"	
Apr 2009	Invited Lecture, Forum on Engineering and Environmental Applications of Hydraulics, Annual general Meeting of IAHR-HK, Hong Kong	
	Topic: "Wave Scattering & its Applications in Hydrosystems"	
Oct 2008	Plenary Lecture, The 16th Congress of the Asia and Pacific Division of the IAHR and 3rd IAHR-ISHS, Nanjing, China	
	Topic: Research & PublicationsJournal of Hydraulic Research, IAHR	
Mar 2008	Invited Lecture, The 10th Anniversary of IAHR-HK Chapter, Symposium on "Advances in Water Resources Management", Hong Kong	
	Topic: "Recent Development in Hydraulic ModelingBoltzmann kinetic theory"	
Jul 2007	Ippen Award Lecture International Association for Hydro-Environment Engineering & Research (IAHR), Venice, Italy	
	Topic: "Ippen's Analogy and the Development of Hydraulic Models using Boltzmann's Kinetic Theory of Gases"	



Jul 2007	Keynote Lecture, The 4th International Conference for Mesoscopic Methods in Engineering and Science, Munich, Germany
	Topic: "Stability Analysis of Shallow Shear Flows using the BGK Model"
Jan 2007	Invited Lecture Launching Symposium for Journal of Hydro-environment Research, IAHR, Hong Kong
	Topic: "Review of Flow Instabilities in Sewers: Application to the recent Geysering event in Hong Kong"
Jan 2006	Keynote Lecture, Water Resources Symposium, Peruvian Institute of Management and Construction, Lima, Peru
	Topic: "Large scale horizontal turbulent motion and its application in river and coastal hydraulics"
Jan 2006	Keynote Lecture, Water Resources Symposium, Peruvian Institute of Management and Construction, Lima, Peru
	Topic: "Traditional and emerging applications of transient flows in water supply and drainage systems"
Nov 2006	Invited Lecture, The 2nd International Conference on Estuaries & Coasts, Guangzhou, China
	Topic: "Analysis of island wakes in shallow water"
Jul 2005	Keynote Lecture, The 2nd International Conference for Mesoscopic Methods in Engineering and Science Conference, Hong Kong
	Topic: "BGK Models for hydraulic applications"
Sep 2002	Invited Lecture, The 2nd International Symposium on Flood Defense, Beijing, China
	Topic: "Roll waves and surges: Onset and Development"
Jul 2000	Invited Lecture The 8th International Symposium on Stochastic Hydraulics, Beijing, China
	Topic: "Modelling open channels using moments of Boltzmann equation"

INVITED LECTURES AT UNIVERSITIES AND RESEARCH INSTITUTES

- 30 invited lecture in universities and research institutes •
- Jul 2015 ASPIRE League (Asian Science and Technology Pioneering Institutes of Research and Education), Hong Kong



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- Jun 2015 Technical University of Munich-HKUST Institute of Advance Studies Workshop on Blue Water Green Environment for Smart Cities, Hong Kong
- Mar 2015 Water Supplies Department (DSD), Hong Kong
- Nov 2014 Peking University College of Engineering Dean, Beijing, China
- Oct 2014 China Institute of Water Resources and Hydropower Research (IWHR), Beijing, China
- Feb 2014 Water Supplies Department (DSD), Hong Kong
- Nov 2012 College of Environmental Science & Technology, Nankai University, China
- Nov 2009 The Institute for Water Resources (IWR), Ministry of Water Resources, Beijing, China
- Jul 2008 Electricite de France R&D National Hydraulics and EnvironmentLaboratory Chatou, Paris, France
- Dec 2007 Golder Associates Ltd, Calgary, Canada
- Nov 2007 Plenary Session, The University Council and Court, HKUST), Hong Kong
- Oct 2006 Erskine Fellow Lecture, Department of Civil Engineering, University of Canterbury, New Zealand
- Oct 2006 Erskine Fellow Lecture, Department of Civil Engineering, University of Canterbury, New Zealand
- Jun 2006 Department of Civil Engineering, University of Illinois, Urbana-Champain, USA
- Apr 2005 Department of Civil Engineering, The University of Hong Kong), Hong Kong
- Jul 2004 Department of Civil Engineering, University of Canterbury, New Zealand
- Jun 2004 Department of Civil Engineering, University of Illinois, Urbana-Champain, USA
- May 2004 Department of Civil Engineering, University of Illinois, Urbana-Champain, USA
- Nov 2003 Department of Civil Engineering, University of Karlsruhe, Germany
- Sep 2003 Department of Civil Engineering, National Giao Tong University, Taiwan
- Sep 2003 Department & Graduate School of Hydraulics and Ocean Engineering, National Cheng Kung University, Tainan, Taiwan
- Apr 2001 Department of Civil Engineering (Fluid-Structure Interaction Group), University of Dundee, Scotland, U.K.
- Oct 2001 Department of Civil Engineering, National Giao Tong University, Taiwan
- Nov 1999 Department of Civil Engineering, University of Illinois, Urbana-Champain, USA
- Oct 1999 Department of Civil Engineering, University of Perugia, Italy

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- Oct 1999 Department of Civil Engineering, University of Florence, Italy
- Oct 1999 Department of Civil Engineering, HKUST, Hong Kong
- Oct 1997 Department of Engineering Mechanics, Tsinghua University, Beijing
- May 1995 Institute for Environmental Studies, HKUST, Hong Kong
- Dec 1994 Department of Civil Engineering, University of Macau, Macau
- Nov 1993 Department of Mathematics, HKUST, Hong Kong

ORGANIZATION OF INTERNATIONAL CONFERENCES/ FORUMS/ TEACHING PROGRAMS

Dec 2017	Chairman, Symposium on Hydro-environment Research for Smart Cities			
Feb 2015	Chairman, Symposium on Smart Urban Water Systems, Hong Kong			
Dec 2014	Chairman, IAHR Gerhard Jirka Summer School on Environmental Fluid Mechanics, Hong Kong			
Sep 2013	Chairman, The 35th IAHR World Congress, Maritime Hydraulics and Coastal Engineering Theme, Chengdu, China			
Sep 2013	Chairman, The 35th IAHR World Congress, "Challenges and Issues in Water Resources Management in Africa", Chengdu, China.			
Oct 2012	Advisory Panel Member, The 11th International Conference on Pressure Surges, Lisbon, Portugal			
Aug 2009	Chairman, The 33rd International Association of Hydraulic Engineering & Research (IAHR) Congress, Fast Transients Theme, Vancouver, Canada			
Dec 2008	Chairman, International Conference on Shallow Flows, Local Organizing Committee, Hong Kong			
Dec 2007	Convener, The 5th International Symposium on Environmental Hydraulics, Urban Hydrosystems sessions, Tempe, Arizona, USA			
Jun 2006	Organizer and Chair, The 16th International Conference on Computational Methods in Water Resources, Special Session on Boltzmann Methods in Water Resources, Copenhagen, Denmark			

MEMBER OF INTERNATIONAL SCIENTIFIC & ADVISORY COMMITTEE



2018	The 8th International Symposium on Environmental Hydraulics, Indiana, USA			
2017	The 37th IAHR World Congress, Kuala Lumpur, Malaysia			
2016	IAHR APD, Colombo, Sri Lanka			
Jul 2017	The 14th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2013), Nantes, France			
Jul 2016	The 13th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2013), Hamburg, Germany			
Oct 2015	Member, Technical Advisory Committee, The 12th International Conference on Pressure Surges, Dublin, UK			
2015	The 36th IAHR World Congress, Hague, Netherlands, 2015.			
Jul 2015	The 12th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2013), Beijing, China			
2013	35th IAHR World Congress, Chengdu, China			
Jul 2014	The 11th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2013), New York, USA			
Jan 2014	The 7th International Symposium on Environmental Hydraulics, Singapore			
Jul 2013	The 10th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2013), St Anne's College, Oxford, UK,			
Jul 2012	The 9th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2012), Taipei, Taiwan			
Jun 2012	Third International Symposium on Shallow Flows, The University of Iowa, Iowa USA			
Jul 2011	The 8th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2011), Lyon, France			
2011	The 7th IAHR Symposium on River, Coastal and Estuarine Morphodynamics, Beijing, China			
Jan 2011	The 4th International Perspectives on Water Resources and the Environment (IPWE) 2011 conference themed "Sustainable Environmental and Water Resources Management Singapore http://www.ipwe2011.org/.			
Oct 2010	The 9th International Conference on Hydrodynamics, Shanghai China			
Jul 2010	The 7th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2010), Edmonton, Alberta, Canada			
Jun 2010	The 6th International Symposium on Environmental Hydraulics, Athens, Greece			



Sep 2009	The 5th Asian and Pacific Coastal Engineering Conference (APAC 2009), Nanyang Technological University (NTU), Singapore	
Jul 2009	The 6th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2009), Guangzhou, China	
Jun 2008	The 5th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2008), Amsterdam, Netherlands	
Jul 2007	The 4th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES-2007), Munich, Germany	
2006	The 2nd International Conference on Estuaries & Coasts, Guangzhou, China	
Jun 2003	International Symposium Shallow Flows, Germany	

MEMBER OF THE LOCAL ORGANIZING COMMITTEE

Dec 2011	The 6th International Conference on Asian and Pacific Coasts (APAC), Hong Kong		
Jun 2008	Croucher Advanced Study Institute, Hong Kong.		
Apr 2005	Forum on Water Environment in Deep Bay, Hong Kong, International Association for Hydro-Environment Engineering & Research (IAHR)-Hong Kong Chapter		
Jun 2005	Workshop on Ocean Circulation and Modeling, Hong Kong, International Association fo Hydro-Environment Engineering & Research (IAHR)-Hong Kong Chapter		
Dec 2004	The 4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division, International Association of Hydraulic Engineering and Research", Hong Kong		
Sep 2002	The 2nd International Symposium on Flood Defence," Beijing		
1998	The 7th International Symposium On River Sedimentation and The 2nd International Symposium on Environmental Hydraulics, Hong Kong,		
1996	The 2nd International Conference in Hydrodynamics, Hong Kong		

SESSION CHAIR AT INTERNATIONAL CONFERENCES

Jun 2015	TUM-HKUST Workshop on Blue Water Green Environment for Smart Cities, Hong Kong
Feb 2015	Symposium on Smart Urban Water Systems, Hong Kong
Dec 2014	IAHR Gerhard Jirka Summer School on Environmental Fluid Mechanics, Hong Kong



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Jun 2010	The 6th International Symposium on Environmental Hydraulics, International Scientific & Advisory Committee of Athens, Greece		
Dec 2008	International Conference on Shallow Flows 2008, Hong Kong		
Nov 2006	The 2nd International Conference on Estuaries & Coasts, Guangzhou, China		
Sep 2005	International Association for Hydro-Environment Engineering & Research (IAHR) Congress, Seoul, Korea.		
Dec 2004	The 4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division, International Association of Hydraulic Engineering and Research, Hong Kong		
Sep 2002	International Conference on Flood Defence, Beijing, China		
Sep 2001	International Association for Hydro-Environment Engineering & Research (IAHR) Congress, Beijing, China		
Jul 2000	IAHR Eighth International Symposium on Stochastic Hydraulics, Beijing, China		
Jun 2000	The 13th International Conference on Computational Methods in Water Resources, Calgary, Canada		
Dec 1998	The 7th International Symposium on River Sedimentation and Second International Symposium on Environmental Hydraulics, Hong Kong.		
Dec 1996	The 2nd International Conference in Hydrodynamics, Hong Kong		

PROFESSIONAL MEMBERSHIPS

Member, American Society of Civil Engineers

Member, International Association for Hydro-Environment Engineering & Research

Member, International Association for Hydro-Environment Engineering & Research, IAHR-Hong Kong Chapter

Member, American Association for the Advancement of Science

MEDIA NEWS COVERAGE

Featured in HydroLink as past Ippen Awardee, The International Association for Hydro-٠ Environment Engineering & Research (IAHR), HydroLink, Vol 6, 2010, IAHR Publications

- The National newspaper, UAE, quoted in article "Flood of refugees from water project", http://www.thenational.ae/news/worldwide/asia-pacific/flood-of-refugees-from-water-project
- Ippen Award was reported in IAHR Newsletter, Madrid, Spain October 2007; Mingpao Newspaper, Singtao Newspaper and TaikKungPo Newspaper (Hong Kong June 2007); La Presse Newspaper, Realites Newspaper, Essabeh Newspaper, Elhouria Newspaper (Tunisia August 2007).
- Radio interviews: 2 hour live interview in Tunisia National Radio, French News, English News, Jawhara FM, Mosaique FM (Tunisia August 2007).



RESEARCH

CONSULTING

2017	Consultant, "Review of Water mains Condition Survey Technologies and Methods", Water Supplies Department, HKSAR
2005	Arbitrator, Between the Drainage Services Department of Hong Kong and the Food and Environmental Hygiene Committee of the Sai Kung District Council
2005	Consultant, Project "Uplifting of Manhole Covers of Box Culverts during Typhoons"
2005	Commenter and advisor, "CFD Modelling of Clarifiers in Hong Kong", Metcalf & Eddy
1997	Consultant, Project "Surge Analysis", Mott Connell Co.
1996	Sub-consultant, Study of "Inner Harbour Waves and Their Reduction"

PROFESSIONAL DEVELOPMENT COURSES

nt		
Course on "Surge Analysis" to 30 engineers from the Drainage Services Department		
Course on "Coastal Engineering" to 25 engineers from the Civil Engineering and Development Department (CEDD), Hong Kong		
Wan,		
Course on "Pumping Systems and Transient flows in pipes" to 30 engineers from Drainage Services Department, Hong Kong		
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1995

A Short course on "Surge Analysis" to 27 engineers from Water Supply Department, Hong Kong

FUNDING/GRANTS – PRINCIPAL INVESTIGATOR/PROJECT MANAGER/COORDINATOR

Abbreviation applicable to this section:

- RGC: The Hong Kong Research Grant Council
- TBRS: Theme-based Research Scheme
- GRF: General Research Fund
- **RIG: Research Infrastructure Grant**
- RSF: Recurrent Specific Fund
- PDF: Post-Doctoral Fellowship Matching Fund
- DAG: Direct Allocation Grant
- SRFI: Special Research Fund
- **REC:** Research Equipment Competition
- PGS: Postgraduate Studentships
- VPRGO: Vice President Research and Graduate Studies Office

CRF: Collaborative Research Fund

- Blockages in water pipes: theoretical and experimental study of wave-blockage interaction and detection HK\$ 875,000 RGC-CERG 01/01/2018 to 31/12/2020
- Smart Urban Water Supply Systems HK\$ 33,225,000 RGC–TBRS 01/09/2015 to 31/12/2020
- Smart Urban Water Supply Systems HK\$ 1,680,000 SENG 01/09/2015 to 31/08/2020
- 4. Smart Urban Water Supply Systems HK\$ 1,500,000 CIVIL 01/09/2015 to 31/12/2020

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5. 30 high-speed pressure transducers for high frequency wave (HFW) tests HK\$ 615,910 REC 14/12/2015 to 10/06/2016 6. 30 high-speed pressure transducers for high frequency wave (HFW) tests HK\$ 120,000 SENG 14/12/2015 to 27/05/2016 7. Smart Urban Water Supply Systems HK\$ 344,400 VPRGO-PGS 05/09/2015 to 31/12/2016 8. Smart Urban Water Systems-Defect Localization and Acoustic Communication in Water HK\$ 128,498 Conference 12/02/2015 to 31/08/2015 9. 2014 Gerhard Jirka Summer School on Environmental Fluid Mechanics: Modelling and its role in Sustainable Development HK\$ 427,411 IAS-CIVIL-SENG 13/12/14 to 20/12/2014 10. Investigation of leaks in water supply systems under rapid transients HK\$ 645,500 RGC - GRF 01/01/2014 to 31/12/2017 11. Smart Urban Water Systems HK\$ 500,000 UGC - RIG - HKUST 02/07/2013 to 01/7/2014 12. Smart Urban Water Systems HK\$ 336,000 UGC -RSF - HKUST 02/07/2013 to 01/7/2014 13. Smart Urban Water Systems HK\$ 240,000 Civil, HKUST 05/07/2013 to 04/7/2014 14. 2014 Gerhard Jirka Summer School on Fluid Mechanics (IAHR) HK\$ 420,000 IAS - Civil - SENG - VPRG - HKUST 30/11/2013 to 31/12/2014 15. On blockage detection in pressurized pipelines HK\$ 905,425 RGC-GRF 01/01/2012 to 31/12/2014 16. On wave-defect interaction in pressurized conduit flows HK\$ 793,486 RGC-GRF



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01/01/2012 to 31/12/2014

- 17. A Model for Rapid Transient in Poorly Ventilated Drainage Systems HK\$ 1,249,631 RGC – GRF 01/07/2010 to 30/06/2013
- High Speed P.I.V system, Research Equipment HK\$ 2,303,646 RGC – GRF 01/07/2009 to 30/06/2010
- 19. 2008 International Symposium on Shallow Water Flow HK\$ 436,523 Conference 01/12/2008 to 01/02/2015
- 20. Investigation of Kelvin-Helmholtz Instability in Sewers & Tunnels HK\$ 491,906
 RGC – GRF 01/07/2008 to 30/06/2010
- 21. Transient growth analysis of free shear instabilities in surface water HK\$ 357,000 RGC – GRF 01/07/2007 to 30/06/2009
- 22. Investigation of wind-driven Langmuir circulations in coastal water HK\$ 867,105 RGC – GRF 01/07/2006 to 30/06/2009
- 23. 2008 International Symposium on Shallow Water Flow HK\$ 30,000 UGC - RGC HKUST 01/12/2008 to 01/02/2015
 24. Investigation of Island Wakes Hydraulics
- HK\$ 686,715 RGC – GRF 01/08/2004 to 31/07/2007
- 25. Pipe Flow Hydraulics: Flow Structure and Behavior under Transient Conditions HK\$ 377,149
 RGC – GRF 01/08/2003 to 31/07/2006
- 26. Investigation of Energy Dissipation and Turbulent Behavior in Hydraulic Transients HK\$ 448,404 RGC – GRF 01/08/2002 to 31/07/2005
 27. So for White Machine La Chine
- 27. Surface Water Modeling: Applications In China HK\$ 180,000
 PDF –RGC 1/6/2002 to 31/5/2003
- Investigation of Shallow Shear Flows in Surface Water. HK\$ 90,000 DAG – RGC



15/2/ 2002 to 14/2/ 2003.

- 29. Theoretical and Experimental Studies of Flow in the Leeward of Islands and Its Impact on Environmental Hydraulics HK\$ 490,000 RGC – GRF 01/09/1999 to 31/8/2001
- 30. The Hydraulics of a Non-Buoyant Co-flowing Discharge in a Moving Environment HK\$ 415,000 RGC – GRF 01/09/1998 to 31/8/2000
- Theoretical & Experimental Investigation of Unsteady Friction in Pipe Flow HK\$ 870,100 RGC – GRF
 - 01/09/1997 to 31/08/1999
- 32. Inverse Modelling in Surface Water Quality Transport: Contaminant Source Identification. HK\$ 428,000 RGC – GRF 01/09/1996 to 31/08/1998
- 33. Inverse Problems in Coupled Surface and Subsurface Transport Processes HK\$ 880,500
 RGC –RIG – GRF 01/01/1996 to 31/12/1998
- 34. Analysis and Formulation of Finite Difference and Characteristic Schemes for Contaminant Transport HK\$ 62,730

RGC – DAG 01/05/ 1995 to 31/12/ 1995

- 35. Energy Equation for Unsteady Channel Flow in The Presence of Discontinuities HK\$ 50,000
 RGC – DAG
 01/04/ 1995 to 30/09/ 1995
- 36. Research Travel Grant HK\$ 9,758 DAG HKUST 1994
- 37. Research Travel Grant HK\$ 6,747 DAG HKUST 1993

FUNDING/GRANTS - CO-INVESTIGATOR

38. Subsonic Modern Anechoic Research Tunnel (SMART). Shortlisted HK\$ 10,000,000 CRF – RGC 01/09/2016 to 31/08/2020

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39. Utilizing Wireless Acoustic Communication in Water Pipelines to support Novel Internet-of-Things Applications HK\$ 1,040,000 RGC-GRF 3/01/2016 to 2/01/2019 40. Air-water interaction in vortex intakes and drainage tunnels HK\$ 500,000 RGC-GRF 01/01/2015 to 31/12/2016 41. Air-water interaction in vortex intakes and drainage tunnels HK\$ 25,000 UGC - RIG 03/07/2014 to 02/07/2016 42. Center of Aquatic Science and Engineering for Coastal Metropolis (CASECM) HK\$ 1,500,000 SRFI 30/06/2011 to 31/05/2014 43. Void Measurement System: A2 Photonic Sensors B-POP (incl: Mono-optical probe, optical fiber link, Optoelectronic Module & A2 Photonic Sensor's Data analysis software) HK\$ 191,250 REC 01/01/2012to 15/06/2012 44. Water Resources and Water Related Hazards under Climate Change HK\$ 480.000 RPC - RGC 30/06/2010 to 28/02/2013 45. Probabilistic analysis of water hammer modelling and applications HK\$ 551,399 RGC-GRF 31/12/2006 to 30/12/2009 46. Marine Biofouling Community and its Control in Continuous Flow Seawater Pipe System HK\$ 700,000 RIG-RGC 01/01/1997 to 31/12/1999 47. Self-Motivated Learning Systems in Engineering Education. Action Learning Project HK\$ 420,000 RGC - GRF 01/06/ 1995 to 31/08/ 1997

FUNDING/GRANTS – PARTNER / PARTICIPANT IN INTERNATIONAL PROJECTS

48. Can fluid pipeline systems be used for communication? Fundamental investigation into the distortion and attenuation of fluid transient signals in pressurized liquid conduits NZ\$ 345,000

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The Royal Society of New Zealand 01/03/2012 to 28/02/2015

- 49. Micro reflections for pipe condition assessment in water networks Australian Dollars 380,000
 Australian Research Council Discovery projects 1/1/2007 to 31/12/2009
- 50. Transient flows in Sewers US\$ 7,300,000 Metropolitan Water District of Greater Chicago, Chicago, USA 2003 to 2010

PUBLICATIONS – BOOKS

- 1. Ghidaoui, M.S. and Kolyshkin, A.A. (2014). "*Stability theory with applications in hydraulics and environmental fluid mechanics*", in preparation (a first draft is complete, 228 pages).
- 2. Ghidaoui, M.S. (2014). "Waves in pressurized hydro-systems" for the IAHR Gerhard Jirka Summer School on Environmental Fluid Mechanics, IAHR, December 13-20th 2014, Hong Kong.
- Ghidaoui, M.S., Lam, M. Y. and Liang, J. H. (2012). "Onset and initial development of instabilities in shallow shear flows" in Environmental Fluid Mechanics: Memorial Volume in honor of Prof. Gerhard H. Jirka, Editor: W. Rodi, Karlsruhe Institute of Technology, Germany, IAHR Monograph series, Taylor & Francis, May 28, 2012 by CRC Press - 456 Pages.
- 4. Ghidaoui, M.S. and Lam, M. Y. (2012). "*Turbulent Shallow Shear Flows*" in *Handbook of Environmental Fluid Dynamics, Volume One: Overview and Fundamentals*; Taylor & Francis. Edited by J. Fernando, December 11, 2012.
- 5. Ghidaoui, M.S. and Tung, Y.K. *Editors, Shallow Flows-I*, JHER, Volume 4, Issue 1, Pages 1-60, 2010, IAHR-AD, Elsevier.
- 6. Ghidaoui, M.S. and Tung, Y.K. *Editors, Shallow Flows-II*, JHER, Volume 4, Issue 2, Pages 61-180, 2010, Special Issue II on Shallow Flows - Dedicated to Prof. Gerhard H. Jirka" IAHR-APD.
- 7. Ghidaoui, M.S. and Kolyshkin, A.A. (2009). "Mathematical models of leakage and blockage detection in pipelines", in International series of Scientific Monographs and Text Books entitled Mathematical Problems in Engineering, Aerospace and Sciences, Cambridge Scientific Publishers.
- 8. León, A.S., Ghidaoui, M.S. Schmidt A. R. García, M.H. (2007). "An efficient finite-volume scheme for modeling water hammer flows" in CHI Monograph 14 "Contemporary modeling of Urban Water Systems"; W. James (Editor in Chief).
- Ghidaoui, M.S. and Kolyshkin, A. A. (2004). "On Coherent Structures on Shallow Flows" Pg. 39-46, Shallow Flows, Edited by G.H. Jirka and W.S.J Uijttewaal, A.A. Balkema Publishers, London, UK.

PUBLICATIONS – JOURNALS

1. Che T.C., Duan H.F., Lee P.J., and Ghidaoui M.S. (2017). Transient frequency response for pressurized water pipelines with linear non-uniform blockage. *Journal of Hydraulic Engineering – ASCE*. Under review

- 2. Duan, H.F., Che, T.C., Lee, P.J., & Ghidaoui, M.S. (2016c). Influence of nonlinear turbulent friction on the system frequency response in transient pipe flow modelling and analysis. *Journal of Hydraulic Research, IAHR*. Accepted
- Duan, H.F., Lee, P.J., Che, T.C., Ghidaoui, M.S., Karney, B.W., & Kolyshkin, A.A. (2017). The influence of non-uniform blockages on transient wave behavior and blockage detection in pressurized water pipelines. *Journal of Hydro-Environmental Research*, 17, 1-7. 10.1016/j.jher.2017.08.002
- 4. Lin, J.R., Wang, X., & Ghidaoui, M.S. (2017). Leakage detection in water-filled pipeline using arrival time image method. In preparation
- 5. Lin, J.R., Wang, X., & Ghidaoui, M.S. (2017). Leak-induced resonance frequency shift in a water-filled pipe: for a small to an extreme leak size. In preparation
- 6. Louati, M., & Ghidaoui, M.S. (2017). The need of high order numerical scheme for modeling dispersive high frequency acoustic waves in water-filled pipe. *Journal of Hydraulic Research*. Under review
- Louati, M., Ahadpour, A.A., Lam, M.Y., McInnis, D.A., Lee, J.H.W., & Ghidaoui, M.S. (2018). Transient test analysis in water supply systems: preliminary field test in Hong Kong. *Journal of Hydraulic Engineering*. In preparation
- 8. Louati, M., Tekitek, M.M., & Ghidaoui M.S. (2018). Analysis of Cramer-Rao lower band to study the parameters and mechanisms affecting the accuracy of transient-based defect detection methods in pipes. *Journal of hydraulic Engineering*. In preparation
- 9. Louati, M., Tekitek, M.M., & Ghidaoui, M. S. (2017). On the dissipation mechanism of Lattice Boltzmann Method when modeling 1D and 2D water hammer flows. *Computers & Fluids*. Under review
- 10. Louati, M., Tekitek, M.M., & Ghidaoui, M.S. (2017). Leak-wave interaction in pipe system. *Journal of Hydraulic Research*. Under review
- 11. Louati, M., Tekitek, M.M., & Ghidaoui, M.S. (2018). Study of features affecting the dissipation of Lattice Boltzmann method when modeling high frequency acoustic waves. *Computers & Fluids*. In preparation
- 12. Wang, X., & Ghidaoui, M.S. (2017a). Pipeline leakage detection using the matched-field processing method. *Journal of Hydraulic Engineering*. Under review
- 13. Wang, X., & Ghidaoui, M.S. (2017b). Identification of multiple leaks in pipeline: linearized model, maximum likelihood, and super-resolution localization. *Mechanical Systems and Signal Processing*. Under review
- 14. Wang, X., & Ghidaoui, M.S. (2017c). Iterative beamforming and model selection for detecting multiple leaks in pipeline. In preparation
- 15. Wang, X., Palomar, D.P., Zhao, L., Ghidaoui, M.S., & Murch, R.D. (2017). Spectral-based method for pipeline leak detection. In preparation
- 16. Louati, M. and Ghidaoui M.S. "On the scattering behavior of high frequency acoustic waves due to blockages in pipes", *Journal of Hydraulic Research*. Under review.
- Louati, M., & Ghidaoui, M.S. (2017). High frequency acoustic wave properties in a waterfilled pipe. Part 1: Dispersion and multi-path behavior. *Journal of Hydraulic Research*, 55(5), 613-631. doi: 10.1080/00221686.2017.1354931
- Louati, M., & Ghidaoui, M.S. (2017). High frequency acoustic wave properties in a waterfilled pipe. Part 2: Range of propagation. *Journal of Hydraulic Research*, 55(5), 632-646. doi: 10.1080/00221686.2017.1354934
- 19. Louati, M. Ghidaoui M.S., Meniconi M. and Brunone B. "Bragg-type resonance in blocked pipe system and its effect on the eigenfrequency shift", *Journal of Hydraulic Engineering*. Accepted.

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- 20. Louati, M. and Ghidaoui M.S. "Eigenfrequency shift mechanism due to an interior blockage in a pipe", *Journal of Hydraulic Engineering*. Accepted.
- Louati, M, Meniconi M, Ghidaoui M.S. and Brunone B. "Experimental study of the eigenfrequency shift mechanism in blocked pipe system", *Journal of Hydraulic Engineering*, 143(10). doi: 10.1061/(ASCE)HY.1943-7900.0001347.
- 22. Louati, M. Meniconi M, Ghidaoui M.S. and Brunone B. "The use of Bragg resonance and eigenfrequency shift information for blockage detection in pipes", *Journal of Hydraulic Engineering*. In preparation.
- 23. Louati, M. Tekitek M. and Ghidaoui M. S. "On the dissipation mechanism of LBM when modeling 1D and 2D water hammer <u>flows</u>". *Journal of computer & Fluids*. Under review.
- 24. Louati, M. and Ghidaoui M.S. "In-depth study of the eigenfrequency shift mechanism due to variation in the cross sectional area of a conduit", *Journal of Hydraulic Research*. Accepted. Louati, M. and Ghidaoui M.S. "The need of high order numerical scheme for modeling dispersive high frequency acoustic waves in water-filled pipe". *Journal of Hydraulic Research*. Under review.
- 25. Louati, M. and Ghidaoui, M.S. "Fundamental mechanism of wave-blockage interaction in pipes," *Journal of Fluid Mechanics*. In preparation.
- Duan, H.F., Meniconi S., Lee P.J., Brunone B., and Ghidaoui M.S. (2017). "Local and Integral Energy-Based Evaluation for the Unsteady Friction Relevance in Transient Pipe Flows." *Journal of Hydraulic Engineering*, ASCE, 04017015. DOI: 10.1061/(ASCE) HY.1943-7900.0001304.
- 27. Duan H.F., Che T.C., Lee P.J., and Ghidaoui M.S. "Influence of nonlinear turbulent friction to the system frequency response based transient pipe flow modelling and analysis." *Journal of Hydraulic Research*, IAHR. In preparation.
- 28. Wang, X. and Ghidaoui, M. S. "Pipeline leak detection using the matched-field processing method," *Journal of Hydraulic Engineering*. Under review.
- 29. Wang, X. and Ghidaoui, M. S. "Maximum likelihood for detecting multiple leaks in pipeline. Part 1: linearized model and super-resolution localization,". In preparation.
- 30. Zouari, F., Wang, X., Louati, M. and Ghidaoui, M. S. "Blockage Identification Using A Model-Based Matched-Field Processing Approach,". In preparation.
- 31. Zouari, F., Blasten, E., Louati, M. and Ghidaoui, M. S. "Internal pipe area reconstruction from the impulse response function,". In preparation.
- 32. Gray, W., Ghidaoui, M. S. and Karney, B. (2016) "Does the Stream Power Theory Have a Physical Foundation?" Journal of Hydraulic Research. Under review.
- 33. Mesgari, S. and Ghidaoui, M.S. (2016). "Mesoscopic-based finite volume solutions for waterhammer flows," *Journal of Hydraulic Research*. Accepted.
- 34. Tekitek M, Louati M, Ghidaoui M (2016). "LB for rapid transients" *Journal of Hydraulic Engineering, ASCE*. To be submitted.
- 35. Gray WG and Ghidaoui M S (2016). "The flawed theory of entropy extremum in open channel flow" *Journal of Hydraulic Engineering, ASCE*. To be submitted.
- 36. Louati M, and Ghidaoui M.S. (2016). "Experimental validation of the effect of Bragg-type resonance and eigenfrequency shift mechanism in blocked pipe system", *Journal of Hydraulic Engineering, ASCE*. To be submitted.
- 37. Duan H F, Lee P J, Ghidaoui M S, Karney B W and Kolyshkin A A. "The Influence of Nonuniform Blockages on Transient Wave Behavior and Blockage Detection in Pressurized Water Pipelines" *Journal of Hydro-Environmental Research, IAHR*, submitted.
- 38. Duan H F, Che T C, Lee P J, and Ghidaoui M S "Extended system frequency response for the modelling and analysis of transient pipe flows", *Journal of Hydraulic Engineering ASCE*,

under preparation.

- 39. Duan H F, Meniconi S, Lee P J, Brunone B and Ghidaoui M S. "Local and Integral Energy Based Evaluation for the Unsteady Friction Relevance in Transient Pipe Flows: WFB and IAB Models" *Journal of Hydraulic Engineering, ASCE,* submitted.
- 40. Duan H.F., Lu J.L., Kolyshkin A.A., and Ghidaoui M.S. "Analytical solution of wave interaction with blockages in pipes", under review, *Journal of Engineering Mechanics*.
- 41. Louati M, and Ghidaoui M.S. (2016). "On the behavior of high frequency acoustic waves in pressurized fluid in a conduit", Journal of Hydraulic Research. Submitted.
- 42. Lam M Y, Ghidaoui M S and Kolyshkin A A (2016). "The roll-up and merging of coherent structures in shallow mixing layers." *Physics of Fluids*, Tentatively accepted.
- 43. Mesgari S. and Ghidaoui M.S. "Formulation of a BGK scheme for hydraulic transients" *Journal of Hydraulic Research, IAHR*, accepted.
- 44. Mesgari S. and Ghidaoui M.S. "Formulation of consistent finite volume schemes for hydraulic transients" *Journal of Hydraulic Research, IAHR*, accepted.
- 45. Ghidaoui MS (2015). "State of the art of defect detection methods in water supply systems." *Engineering & Computational Mechanics, Proceedings of the Institution of Civil Engineers,* accepted. This in invited paper.
- 46. Lee PJ, Duan HF, Tuck J, and Ghidaoui MS (2015). "Numerical and experimental study on the effect of signal bandwidth on pipe assessment using fluid transients", *Journal of Hydraulic Engineering, ASCE*, 141(2), 04014074(10).
- 47. Zhao, M, Louati, M., Ghidaoui M.S. and Duan, H.F (2016). "The interaction of multidimensional transient wave and a partial blockage in a closed conduits", *Journal of Hydraulic Research, IAHR*, Accepted.
- 48. Duan HF, Lee PJ, and Ghidaoui MS (2014). "Transient wave-blockage Interaction in pressurized water pipelines", *Procedia Engineering*, 70(2014), 573-582. 23 April 2014
- 49. Duan HF, Lee PJ, Ghidaoui MS, and Tuck J (2014). "Transient wave-blockage Interaction and extended blockage detection in pressurized pipes", *Journal of Fluids and Structure*, 46, 2-16. April 2014
- 50. Lam, M. Y. and Ghidaoui, M. S. (2014). "Fourier analysis of the roll-up and merging of coherent structures in shallow mixing layers" *Environmental Fluid Mechanics*, 14(5), 997-1026.
- 51. Meniconi S., Duan, H.F., Brunone B., Lee P.J., Ghidaoui M.S., and Ferrante M. (2014). "Further developments in rapidly decelerating turbulent pipe flow modeling." *Journal of Hydraulic Engineering*, *ASCE*, 140(7), 04014028:1 – 04014028:9.
- 52. Duan H.F, Lee P.J., Kashima A., Lu J.L., Ghidaoui M.S., and Tung Y.K. (2013). "Extended blockage detection in pipes using the system frequency response: analytical analysis and experimental verification", *Journal of Hydraulic Engineering, ASCE*, 139(7), 763-771.
- 53. Meniconi S., Duan H.F., Lee P.J., Brunone B., Ghidaoui M.S and Ferrante M. (2013). "Experimental investigation of coupled frequency and time-domain transient test-based techniques for partial blockage detection in pipelines", *Journal of Hydraulic Engineering*, *ASCE*, 139(10), 1033-1044
- 54. Lee P.J., Duan H.F., Ghidaoui M.S. and Karney, B.W. (2013). "Frequency Domain Analysis of Fluid Transient Behavior" *Journal of Hydraulic Research*, *IAHR*, 51(6), 609-622.
- 55. Kashima, A, Lee P.J., Ghidaoui M.S and Davidson M. (2013). "Experimental verification of the kinetic differential pressure method for flow measurements" *Journal of Hydraulic Research*, IAHR. 51(6), 634-644
- 56. Tuck J., Lee P.J., Davidson M. and Ghidaoui M.S. (2013). "Transient analysis of extended blockages in pipeline systems" *Journal of Hydraulic Research, IAHR*, 51(6), 623-633.

- 57. Lee P.J., Duan H.F., Vítkovský J.P., Zecchin, A. and Ghidaoui M.S. (2013). "The effect of time-frequency discretization on the accuracy of the transmission line modeling of fluid transients" *Journal of Hydraulic Research, IAHR*, 51(3), 273-283.
- 58. Duan H.F., Ghidaoui M.S., Lee P.J., and Tung Y.K. (2012). "Relevance of unsteady friction with to pipe size and length in pipe fluid transients," *Journal of Hydraulic Engineering*, *ASCE*, 138(2), 154-166.
- 59. Duan H.F., Lee P.J., Ghidaoui M.S., and Tung Y.K. (2012). "System response function based leak detection in viscoelastic pipelines" *Journal of Hydraulic Engineering*, ASCE, 138(2), 143-153.
- 60. Duan H.F., Lee P.J., Ghidaoui M.S., and Tung Y.K. (2012). "Extended blockage detection in pipelines by using the system frequency response analysis" *Journal of Water Resources Planning and Management, ASCE*, 138(1), 55-63.
- 61. Duan H.F., Lee P.J., Ghidaoui M.S., and Tung Y.K. (2011). "Leak detection in complex series pipelines by using system frequency response method," *Journal of Hydraulic Research*, *IAHR*, 49(2), 213-221.
- 62. Duan H.F, Ghidaoui M.S., Lee P.J. and Tung Y.K (2011). "Closure to the discussion on unsteady friction and viscoelasticity in pipe fluid transients" by Nucci et al., *Journal of Hydraulic Research, IAHR*, 49(3), 398-400.
- 63. Duan H.F, Ghidaoui M.S., Lee P.J. and Tung Y.K (2011). "Closure to the discussion on unsteady friction and viscoelasticity in pipe fluid transients" by Brunone et al., *Journal of Hydraulic Research IAHR*, 49(3), 401-403.
- 64. Duan, H.F, Ghidaoui, M.S., Lee, P. and Tung, Y.K. (2010). "Essential system response information for transient-based leak detection methods" *Journal of Hydraulic Research, IAHR*, 48(5), 650-657.
- 65. Duan H.F., Tung Y.K., and Ghidaoui M.S. (2010). "Probabilistic analysis of transient design for water supply systems," *Journal of Water Resources Planning and Management, ASCE*, 136(6), pp. 678-687.
- 66. Duan, H.F, Ghidaoui, M.S., Lee, P. and Tung, Y.K. (2010). "Unsteady friction and viscoelasticity in pipe fluid transients" *Journal of Hydraulic Research, IAHR*, 48(3), 354–362.
- 67. Leon, A.S., Liu, X., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2010). "A Junction and Drop-Shaft Boundary Conditions for Modeling Free Surface, Pressurized, and Mixed Free Surface-Pressurized Transient Flows", *Journal of Hydraulic Engineering, ASCE*, 136(10), 705-715.
- 68. Leon, A.S., Liu, X., Ghidaoui M.S (2010). "Discussion of Numerical oscillations in Pipefilling bore predictions by shock-capturing models" by Jose G. Vasconcelos, Steven J. Wright and Philip L. Roe, *Journal of Hydraulic Engineering, ASCE*, 136(6), 392-394.
- 69. Duan, H.F, Ghidaoui, M.S. and Tung, Y.K. (2010). "Energy Analysis of Viscoelasticity Effect in Pipe Fluid Transients" *Journal of Applied Mechanics, ASME*, 77(4), 044503-1 044503-5.
- 70. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2010). "A robust two equation model for transient-mixed flows" *Journal of Hydraulic Research, IAHR*, 48(1), 44-56.
- 71. Lam, M.Y., Liu, H, and Ghidaoui, M.S. (2010). "Investigation of temporal mixing layer in shallow water with BGK algorithm", *Journal of Hydro-environment Research, IAHR-APD*, 2(4), 123-129.
- 72. Liu, H, Lam, M.Y. and Ghidaoui, M.S. (2010). "Numerical study of temporal shallow mixing layers using BGK-based schemes", *Computers and Mathematics with Applications*, 59, 2393-2402.
- 73. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2010). "Reply to the discussion of Application of Godunov-type schemes to transient mixed flows" *Journal of Hydraulic*



Research, IAHR, 48(5), 686–689.

- 74. Ghidaoui, M.S. (2009). "Ippen's Analogy and the Development of Hydraulic Models using Boltzmann's Kinetic Theory of Gases" *Journal of Hydraulic Research, IAHR*, Invited, Ippen Award Paper.
- 75. Duan H.F., Ghidaoui M.S., and Tung Y.K. (2009). "An efficient quasi-2D simulation of waterhammer in complex pipe systems," *Journal of Fluids Engineering*, ASME, 131(8), pp. 081105(11).
- 76. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2009). "Application of Godunovtype schemes to transient mixed flows" *Journal of Hydraulic Research, IAHR*, 47(2), 147– 156.
- 77. Gray, W.G. and Ghidaoui, M.S (2009). "Thermodynamic analysis of stream flow hydrodynamics", *Journal of Hydraulic Research, IAHR*, Vol. 47 (4), 403–417.
- 78. Ghidaoui, M.S. (2008). Forum article entitled "What's Kinetic Theory got to do with Hydraulics?" *Journal of Hydraulic Engineering, ASCE,* 134(7), 879-884.
- 79. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2008). "An Efficient Second-Order Accurate Shock-Capturing Scheme for Modeling One and Two-Phase Water Hammer Flows" *Journal of Hydraulic Engineering*, *ASCE*, 134(7), 984-992.
- Liang, J.H., and Ghidaoui, M.S., (2008). "Investigation of Shallow Mixing Layers by BGK Finite Volume Model." *International Journal of Computational Fluid Dynamics*, 22(7), 523 -537.
- 81. Zhao, M., Ghidaoui, M.S. and *Kolyshkin, A.A.* (2007). ``Perturbations Dynamics in Unsteady Pipe Flows'' *Journal of Fluid Mechanics*, 570, 129-154.
- 82. Nixon, W., and Ghidaoui M.S. (2007). "A Numerical Sensitivity Study of Unsteady Friction in Simple Systems with External Flows." *Journal of Hydraulic Engineering*, ASCE, 133(7), 736-749.
- 83. Huang, Z. and Ghidaoui, M.S. (2007). "A model for the scattering of long waves by slotted breakwaters in the presence of a current." *Acta Mechanica Sinica*, 27, 1-9.
- 84. Ghidaoui, M.S., *Kolyshkin, A.A, Chan, F.C., Liang, J.H.,* and Xu, K. (2006) "Linear and Nonlinear Analysis of Shallow Wakes" *Journal of Fluid Mechanics*, 548, 309-340.
- 85. Liang, J.H., Ghidaoui MS, *Deng JQ*, Gray WG (2006). "A Boltzmann-based Finite Volume Algorithm for Surface Water Flows on cells of Arbitrary Shapes." *Journal of Hydraulic Research, IAHR*, 45(2), 147-164.
- 86. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2006). "Godunov-Type Solutions for Transient Flows in Sewers", *Journal of Hydraulic Engineering, ASCE*, 132(8), 800-813.
- 87. Chan F.C., Ghidaoui, M.S., and *Kolyshkin, A.A.* (2006). "Can the dynamics of shallow wakes be reproduced from a single time-averaged profile?" *Physics of Fluids, American Institute of Physics*, Vol. 18, pg. 048105-1 to 048105-4.
- Nixon, W., Ghidaoui M.S. and Kolyshkin, A.A. (2006). "Range of Validity of the Transient Damping Leakage Detection Method." *Journal of Hydraulic Engineering, ASCE*, 132(9), 944-957.
- 89. Ghidaoui, M.S., *Liang, J.H., Chan, F.C.*, and *Zhang S.Q.* (2006). "BGK based finite volume scheme for hydraulic applications." *International Journal of Computational Fluid Dynamics*, Vol. 20, 6, 439-451.
- 90. Zhao, M and Ghidaoui M.S. (2006). "Investigation of turbulence behavior in pipe transients using a k-epsilon model." *Journal of Hydraulic Research, IAHR*, Vol. 44, 5, 682-692.
- 91. Ghidaoui, M.S., *Zhao Ming*, McInnis, D.A, and *Axworthy*, *H.H.* (2005). "A Review of Waterhammer Theory and Practice" *Applied Mechanics Review*, Transactions of the American Society of Mechanical Engineers (ASME), 58, 49-76.

- 92. Zhao, M., Ghidaoui, M.S. and *Kolyshkin, A.A.* (2004). "Investigation of the Mechanisms Responsible for the Breakdown of Axisymmetry in Pipe Transient" *Journal of Hydraulic Research, IAHR*, 42(6), 645-656.
- 93. Zhao, M. and Ghidaoui, M.S. (2004). "Godunov-Type Solutions for Water Hammer Flows" *Journal of Hydraulic Engineering, ASCE*. 130(4), 341-348.
- 94. Zhao, M., Ghidaoui, M.S., *Kolyshkin, A.A*, and Vaillancourt, R. (2004). "On the stability of oscillatory pipe flows." *Technische Mechanik*, 24, Issue 3-4, 289-296.
- 95. Ghidaoui, M.S. (2004). "On the Fundamental Equations of Waterhammer," *Urban Water Journal* (Special Issue on Transients); 1 (2), 71-83, UK.
- 96. Kolyshkin, A.A and Ghidaoui, M.S. (2003). "Stability Analysis of Shallow Wake Flows" *Journal of Fluid Mechanics*, 494, 355-377.
- 97. Zhao, M. and Ghidaoui, M.S. (2003). "An Efficient Quasi-Two-Dimensional Model for Water Hammer Problems" *Journal of Hydraulic Engineering*, ASCE. 129(12), 1007-1013.
- 98. Ghidaoui, M.S and Li Nanzhou (2003). "Generalized Boltzmann Equation for Shallow Water Flows," *Journal of Hydroinformatics, IAHR & IWA*; 5(1), 1-10.
- 99. Zhang, S.Q.; Ghidaoui, M.S.; Gray, W.G. and *Li*, *N*. (2003) "A Kinetic Flux Vector Splitting Scheme for Shallow Water Flows" *Advances In Water Resources*, 26(6), 635-647.
- 100. Ghidaoui, M.S. and Kolyshkin, A.A. (2002). "A Quasi-steady Approach to the Instability of Time Dependent Flows in Pipes" *Journal of Fluid Mechanics*, 465, 301-330.
- Kolyshkin, A.A. and Ghidaoui, M.S. (2002). "Gravitational and Shear Instabilities in Compound and Composite Channels" *Journal of Hydraulic Engineering, ASCE.*, 128(12), 1076-1086.
- 102. Ghidaoui, M.S., Mansour, G.S. and Zhao, M. (2002). "Applicability of Quasisteady and Axisymmetric Turbulence Models in Water hammer Models" *Journal of Hydraulic Engineering*, ASCE. 128(10), 917-924.
- 103. Ghidaoui, M.S. and Mansour, S. (2002). "Efficient Treatment of the Vardy-Brown Unsteady Shear in Pipe Transients" *Journal of Hydraulic Engineering, ASCE*. 128(1), 102-112.
- 104. Ghidaoui, M.S. and *Kolyshkin, A.A.* (2001). "Stability Analysis of Velocity Profiles in Waterhammer" *Journal of Hydraulic Engineering, ASCE,* 127(6), 499-512.
- 105. Ghidaoui, M.S.; *Deng, J.Q.*, Xu, K and Gray, W.G. (2001). "A Boltzmann Based Model for Open Channel Flows" *International Journal for Numerical Methods in Fluids*, 35, 449-494.
- 106. Deng, J.Q.; Ghidaoui, M.S.; Gray, W.G. and Xu, K. (2001). "A Boltzmann-Based Mesoscopic Model for Contaminant Transport in Flow Systems." *Advances in Water Resources*, 24, 531-550.
- 107. Ghidaoui, M.S., Axworthy, D.H, Zhao, M. and McInnis, D.A. (2001). "An Extended Thermodynamics Derivation of Energy Dissipation in Unsteady Pipe Flow", *Journal of Hydraulic Engineering, ASCE;* closure, 127(10), 888-890.
- 108. Ghidaoui, M.S. and Hari, K.S. (2000). "A Priori Identifiability of Unsaturated Soil Parameters," *Journal of Irrigation Engineering, ASCE*, 126(3), 163-171.
- Axworthy, D.H, Ghidaoui, M.S., and McInnis, D.A. (2000). "An Extended Thermodynamics Derivation of Energy Dissipation in Unsteady Pipe Flow", *Journal of Hydraulic Engineering*, *ASCE*, 126(4), 276-287.
- Deng, J.Q and Ghidaoui, M.S. (2000). "Modeling Open-Channel Flow and Contaminant Transport Based on Kinetic Theory," *Progress of Theoretical Physics Supplement*, 138, 710-712.
- Ghidaoui, M.S. and Kolyshkin, A.A. (1999). "Linear Stability Analysis of Lateral Motions in Compound Channels With Free Surface," *Journal of Hydraulic Engineering, ASCE*, 125(8), 871-880.

- 112. Su, M., Xu, K. and Ghidaoui, M.S. (1999). "Low Speed Flow Simulation by the Gas-Kinetic Scheme," *Journal of Computational Physics*, 150, 17-39.
- 113. Ghidaoui, M.S. and Kolyshkin, A.A. (1998). "Some Global Properties of Flow in a Heterogeneous Isotropic Porous Medium," *Mechanics Research Communications*, 26(2), 161-166.
- 114. Ghidaoui, M.S., Karney, B.W. and McInnis, D.A. (1998). "Energy Estimates for Discretization Errors in Waterhammer Problems," *Journal of Hydraulic Engineering, ASCE*, 123(4), 384-393.
- 115. Karney, B.W. and Ghidaoui, M.S. (1997). "Flexible Discretization Algorithm for Fixed Grid MOC in Pipeline Systems," *Journal of Hydraulic Engineering*, ASCE, 123(11), 1004-1011.
- 116. Ghidaoui M.S. and Karney B.W. (1995). "A Modified Transformation and Integration of 1-D Wave Equations," *Journal of Hydraulic Engineering, ASCE*, 121(10), 758-760.
- 117. Ghidaoui M.S. and Karney B.W. (1994). "Equivalent Differential Equations in Fixed-Grid Characteristics Method" *Journal of Hydraulic Engineering*, ASCE, 120(10), 1159-1175.
- 118. Ghidaoui, M.S. and Karney, B.W. (1994). Discussion on "Influence of Liquid Length Variation in Hydraulic Transients," *Journal of Hydraulic Engineering, ASCE*, 118(12), 661-666.
- 119. Karney, B.W. and Ghidaoui, M.S. (1992). Discussion on "Spline Interpolations for Water Hammer Analysis," *Journal of Hydraulic Engineering, ASCE*, 118(11), 1597-1600.

PUBLICATIONS – CONFERENCES

- 1. Lin, J.R., & Ghidaoui M.S. (2017, August). Leak-induced frequency shifts in transient-based frequency domain method for leakage detection. Paper presented at the *37th IAHR World Congress*, Kuala Lumpur, Malaysia.
- Louati, M., & Ghidaoui, M.S. (2017). On the scattering behavior of high frequency acoustic waves due to blockage in pressurized water-filled pipe. Paper presented at the *37th IAHR World Congress*, Kuala Lumpur, Malaysia.
- 3. Louati, M., Luo, J., Ghidaoui, M. S., & Xu, K. (2016, July). Numerical study of high frequency acoustic waves in water-filled conduits. Paper presented at the *13th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES 2016)*, Hamburg, Germany.
- 4. Louati, M., Tekitek, M. M., & Ghidaoui, M. S. (2017, July). Study of features affecting the dissipation of Lattice Boltzmann method when modeling high frequency acoustic waves. Paper presented at the *14th International Conference for Mesoscopic Methods in Engineering and Science (ICMMES 2017)*, Nantes, France.
- 5. Wang, X., & Ghidaoui, M. S. (2017, August). Matched-field processing method for leak detection in a pipe. Paper presented at the *37th IAHR World Congress*, Kuala Lumpur, Malaysia.
- 6. Zouari, F. & Ghidaoui, M.S. (2017, August). Mutual dependence of the resonant frequencies of water supply lines containing blockages. Paper presented at the *37th IAHR World Congress*, Kuala Lumpur, Malaysia.
- Che T.C., Duan H.F., Lee P.J. and Ghidaoui M.S. (2017). "Theoretical Analysis of the Influence of Blockage Irregularities on Transient Waves in Water Supply Pipelines," 37th IAHR World Congress 2017, August 13- 18, Kuala Lumpur, Malaysia.
- Louati M. and Ghidaoui M.S. (2016). "Study of the Eigenfrequency Shift Mechanism Due to an Interior Blockage in a Pipe with Small Radial Protrusion", 20th Congress of the IAHR APD 2016, August 29- 31, Colombo, Sri Lanka.

- 9. Louati M. and Ghidaoui M.S. (2016). "Numerical study of high frequency acoustic waves in water-filled conduits", *13th ICMMES* 2016, July 18- 22, Hamburg, Germany. Submitted
- Louati M. and Ghidaoui M.S. (2015). "On the behavior of high frequency waves in pressurized conduits", *12th International Conference* Pressure Surges 2015, Nov 18-20, Dublin, Ireland.
- 11. Louati M. and Ghidaoui M.S. (2015). "Wave-blockage interaction in pipes", *36th IAHR congress*, June 28 to July 3rd, Hague, Netherlands.
- 12. Lam M.Y. and Ghidaoui M.S. (2015). "Secondary instability of two-dimensional coherent structures in shallow mixing layers", *36th IAHR congress*, June 28 to July 3rd, Hague, Netherlands.
- Duan H.F. and M.S. Ghidaoui, (2013). "Transient wave-blockage interaction in pressurized water pipelines", *12th international conference of Computing and Control for the Water Industry* (CCWI2013), 2-4 September 2013, the university of Perugia, Italy.
- 14. Lu J.L., Duan H.F. Ghidaoui M.S. (2013). "An efficient and physically-based unsteady friction model for water hammer flows", *35th IAHR Congress*, 8-13 September 2013, Chengdu China.
- 15. Lam, M. Y., Liu, H., and Ghidaoui, M. S. (2012). "The sensitivity of vortex merging to phase angle difference in shallow mixing layers", Proceedings of the *3rd International Shallow Flows Symposium* (CD-ROM), Third International Symposium on Shallow Flows, Iowa City, Iowa USA, June 4-6.
- Zhao, M and Ghidaoui, M.S. (2011). "Transient dynamics of streaks and longitudinal vortices in shear flow with wave", 6th International Conference on Asian and Pacific Coasts (APAC), Hong Kong, December 2011.
- 17. Duan H.F., Lu J.L., Kolyshkin A.A., and Ghidaoui M.S., "The effect of random inhomogeneities on wave propagation in pipes," *the 34th IAHR Congress*, Brisbane, Australia, July 2011.
- 18. Lam, M. Y., Liu, H., and Ghidaoui, M. S. "A study of the mechanism of vortex merging in shallow mixing layers" *the* 34th IAHR Congress, Brisbane, Australia, July 2011.
- Ghidaoui, M.S. and Kolyshkin, A.A. (2010). "Numerical Methods for Weakly Nonlinear Stability Analysis of Shallow Water Flows." 18th International Conference on Water Resources (CMWR 2010), Barcelona, Spain, June, 2010.
- 20. Zhao, M., Ghidaoui, M. S. and Huang, Z. (2010). "Keynote paper: On Langmuir Circulations in Unsteady Free Surface Flows." 17th Congress of the Asia and Pacific Division of the International Association of Hydro-Environment Engineering and Research, February. 21-24, 2010, Auckland, New Zealand.
- Lam, M. Y., Ghidaoui, M. S. and Kolyshkin, A. A.(2010). "Energy-based stability criteria for shallow flows." 17th Congress of the Asia and Pacific Division of the International Association for Hydro-Environment Engineering & Research, February 21-24, 2010, Auckland, New Zealand.
- 22. Liu, H., Ghidaoui, M. S. (2010), "Numerical investigation of the effects of coral reef and mangrove on coastal wave propagation", The 17th Congress of the Asia and Pacific Division of the IAHR, Auckland, New Zealand, Feb. 21-24, 2010.
- 23. Duan, H.F., Tung, Y.K. and Ghidaoui, M.S. (2010). "Uncertainty propagation in pipe fluid transients." 17th Congress of the Asia and Pacific Division of the International Association of Hydro-Environment Engineering and Research (IAHR), February 21-24, 2010, Auckland, New Zealand.
- Lam, M. Y., Ghidaoui, M. S. and Kolyshkin, A. A.(2009). Stability analysis of shallow mixing layers with the linearized energy equation. 5th International Conference on Asian and Pacific Coasts (APAC2009), October 13-16, 2009, Singapore.
- 25. Liu, H., Ghidaoui, M. S., Huang, Z.H., Yuan, Z.D., Wang, J. (2009), "Numerical investigation of the interactions between solitary waves and pile breakwaters", 5th International Conference on



Asian and Pacific Coasts (APAC2009), Singapore, October 13-16, 2009.

- Kolyshkin, A. A., Lam, M. Y. & Ghidaoui, M. S. (2009). Energy Method for the Analysis of Stability of Shallow Water Flows. 33rd IAHR Congress, August. 9-14, 2009, Vancouver, British Columbia.
- 27. Liu, H., Ghidaoui, M. S. (2009). "Investigation of the effects of coral reefs on coastal wave propagation by model simulations", The 33rd IAHR Congress-Water Engineering for a Sustainable Environment, Vancouver, Canada, Aug. 9-14, 2009.
- Duan, H.F., Tung, Y.K. and Ghidaoui, M.S. (2009) "Probabilistic Analysis of Transients in Water Supply System Design" The 33rd IAHR Congress-Water Engineering for a Sustainable Environment, Vancouver, Canada, Aug. 9-14, 2009.
- 29. Duan, H.F. (2009). "Relative importance of unsteady friction and viscoelasticity in pipe fluid transients", Proceedings of the 33rd IAHR Congress, Vancouver, BC, Canada, August 9-14, 2009.
- 30. Liu, H., Lam, M. Y. and Ghidaoui, M. S. (2008). "Mixing layers in compressible gas flows versus mixing layers in incompressible free surface flows: Similarities & Differences" The 2nd International Symposium on Shallow Flows, Hong Kong, Dec. 10-12, 2008.
- 31. Lam M. Y., Liu, H. & Ghidaoui, M. S. (2008). "Investigation of temporal mixing layer in shallow water with BGK algorithm. 2nd International Symposium on Shallow Flows, Dec. 10-12, 2008, Hong Kong, China."
- Duan, H.F, Ghidaoui, M.S. and Tung Y.K. (2008). "Extension of the Efficient Quasi-2D Waterhammer Model to Complex Pipe Systems" *16th IAHR-APD* and 3rd *IAHR-ISHS*, Nanjing, China, October 20-23, 2008.
- 33. Huang, Z and Ghidaoui, M.S. (2008). "Experiments on nonlinear wave scattering by a submerged rectangular step in the presence of a current", *ISOPE*, Vancouver, Canada.
- 34. León, A. S., Ghidaoui, M. S., Schmidt, A. R., and García, M. H. (2008). "A Shock-capturing Approach for Simulating Gravity Flows, Pressurized Flows and the Simultaneous Occurrence of Gravity and Pressurized Flows", 10th International Conference on Pressure Surges, BHR, May 2008, Edinburgh, Scotland, UK.
- 35. Leon, A.S., Ghidaoui, M.S., Schmidt, A.R. and Garcia, M.H. (2008). "A Finite Volume Model for Mixed Surface-Pressurized Flows in Drainage Systems", *Hawaii Conference*.
- 36. Lam M. Y., Liu, H. & Ghidaoui, M. S. (2008). A study of vortices in shallow water with BGK algorithm, Poster. Computational Methods in Water Resources 17th international conference, July. 6-10, 2008, San Francisco, USA.
- León, A. S., Ghidaoui, M. S., Schmidt, A. R., and García, M. H. (2007). "Godunov-type solutions for two-phase water hammer flows." 5th International Symposium on Environmental Hydraulics in Tempe, Arizona, USA. 4th to 7th December 2007.
- 38. Ding, L, Huang, Z. and Ghidaoui, M.S. (2007). "Scattering of regular waves by irregular porous seabed in the presence of a reflective beach" *Asian and Pacific Coasts 2007*, September 21-24, Nanjing, China.
- 39. Ghidaoui, M.S. and Kolyshkin, A.A. (2007). "Linearized transient model for detection of partial blockages in a pipe", Proceedings of the 16th IASTED International Conference on Applied Simulation and Modeling, pp. 419 423, August 29 –31, Palma de Mallorca, Spain (published by ACTA Press, Anaheim).
- 40. Huang, Z., Ding, L and Ghidaoui, M.S. (2007). "Scattering of regular waves by irregular porous seabed in the presence of a reflective beach", Proceedings of the 4th International Conference on Asian Pacific Coasts 2007, September 21-24, Nanjing, China. Edited by Q. Zhou, X. Dou and J. Ge, China Ocean Press.
- 41. Chan, C.F. and Ghidaoui, M.S. (2006). "Analysis of island wakes in shallow water." 2nd *International Conference on Estuaries & Coasts*, Guangzhou, China, 27-30 November 2006.

(Invited paper).

- Liang, J.H., and Ghidaoui MS (2006). "A BGK model for three-dimensional shallow water problems." 16TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL METHODS IN WATER RESOURCES, COPENHAGEN, DENMARK, 19-22 JUNE 2006.
- Ghidaoui, M.S. and Kolyshkin, A.A. (2006). "A mathematical model for detection of a partial blockage in pipelines using fluid transients", Vienna International Conference on Mathematical Modeling MATHMOD 2006, February 8–10, Vienna Institute of Technology, Vienna, Austria.
- 44. Chan, C.F. and Ghidaoui, M.S. (2005). "Nonlinear analysis of shallow wake flows." 31st International Association for Hydro-Environment Engineering & Research Congress, IAHR, Seoul, Korea, September.
- 45. Leon, A.S., Ghidaoui, M.S., Schmidt, A.R. and Garcia, M.H. (2005). "Importance of numerical efficiency for real time control of transient gravity flows in sewers." 31st International Association for Hydro-Environment Engineering & Research Congress, IAHR, Seoul, Korea, September.
- 46. Schmidt, A.R., Ghidaoui, M.S, Leon, A.S. and Garcia, M.H. (2005). "Review of sewer surcharging phenomena and models." 31st International Association for Hydro-Environment Engineering & Research Congress, IAHR, Seoul, Korea, September.
- 47. Nixon, W. and Ghidaoui, M.S. (2004). "Investigation of Transient Leak Detection using a 2D Transient Flow Model." 4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division, IAHR, Vol. 2, 1365-1371, Dec. 15-18, Hong Kong.
- Chan, C.F. and Ghidaoui, M.S. (2004). "Numerical Study of Island Wakes in Shallow Waters." *4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division*, IAHR, Vol. 1, 511-516, Dec. 15-18, Hong Kong.
- Ghidaoui, M.S. and Kolyshkin, A.A. (2004). "Weakly nonlinear spatial stability analysis of shallow water flows." 4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division, IAHR, Vol. 1, 989-994, Dec. 15-18, Hong Kong.
- 50. Naser, Gh, Karney, B.W. and Ghidaoui, M.S. (2004). "A Two-Dimensional Water Quality Approach in Transient Flow Modeling." 4th International Symposium on Environmental Hydraulics and 14th Congress of Asia and Pacific Division, IAHR, Vol. 1, 613-619, Dec. 15-18, Hong Kong.
- 51. Chan, F.C., Ghidaoui, M.S. and *Li*, *Q*. (2004). "Numerical modeling of island wakes in shallow waters" *International Conference on Computational Methods in Water Resources*; pg. 1731-1742; June13-17, Chapel Hill, North Carolina, USA.
- 52. Ghidaoui, M.S. and Gray, W.G. (2004). "A Boltzmann Approach to Shallow Water Flows." *International Conference on Computational Methods in Water Resources*; pg. 1715-1730; June13-17, Chapel Hill, North Carolina, USA.
- 53. Ghidaoui, M.S. and Kolyshkin, A. A. (2004). "On the spatial stability of shallow mixing layers." 10th Asian Congress in Fluid Mechanics, May 17-21, Predinya, Sri Lanka.
- 54. Zhao, M. and Ghidaoui, M.S. (2004). "Review and Analysis of Energy Dissipation Models for 1-D and 2-D Transient Flows." 9th International Conference on Pressure Surges, IAHR, March 24-26, Chester, UK.
- 55. Nixon, W., Zhao, M., Karney, B.W., Ghidaoui, M.S., and Nasar B. (2004). "Boundary conditions representation and behavior in transient 2-D models." 9th International Conference on Pressure Surges, IAHR, March 24-26, Chester, UK.
- 56. Naser Gh., Karney B. W., Nixon W., Ghidaoui M. S., and Brunone B., 2004, "A Quasi Two-Dimensional Approach in Transient Flow Modeling", 12th Annual Conf. of Computational Fluid Dynamics, Ottawa, Canada..

- 57. Ghidaoui, M.S. and Kolyshkin, A. A. (2003). ``On Coherent Structures on Shallow Flows." Proceedings of the *International Symposium on Shallow Flows*, Volume I, 197-203, June 16-18, Delft, the Netherlands.
- 58. Li Nanzhou and Ghidaoui, M.S. (2002). "A Kinetic Flux Vector Splitting Model for Shallow Waters." 14th International Conference on Computational Methods in Water Resource, June 23-28, Delft, the Netherlands.
- M.S. Ghidaoui and A.A. Kolyshkin (2002). Roll waves and surges in channels: Onset and initial development. The *2nd International Symposium on Flood Defense*, 10-13 Sep. 2002, Beijing, China. (*Invited paper*).
- Zhao, M. and Ghidaoui, M.S. (2001). "Analysis of Turbulence Models for Transient Flows." 2nd International Symposium on Environmental Hydraulics 2002 (ISEH2001), December, Arizona, USA.
- 61. Ghidaoui, M.S. and Kolyshkin A.A. (2001). "Analysis of Turbulent Wakes in Shallow Water Using Stability Theory." *ISEH2001*, December, Arizona, USA.
- 62. Ghidaoui, M.S. and Mansour, S. (2001). "Analysis of 1-D Unsteady Shear Stress Models in Water Hammer." 29th IAHR Congress, 493-498, September, Beijing, China.
- 63. Deng, J.Q., and Ghidaoui, M.S. (2000). Modeling Open Channels Using Moments of Boltzmann Equation. *IAHR 18th International Symposium on Stochastic Hydraulics*; Beijing, China; 97-108; July. (*Invited paper*).
- 64. Deng, J.Q., Su, M.D., Ghidaoui, M.S. and Gray, W.G. (2000). "Large Eddy Simulation of Compound Channel Flows with a Boltzmann Scheme." 13th International Conference on Computational Methods in Water Resources; 443-450, June, Calgary, Canada.
- 65. Deng, J.Q and Ghidaoui, M.S. (1999). "Boltzmann-Based Model for Advection Transport." 4th Asia-Pacific Conference on Computational Mechanics; 613-618, December, Singapore.
- 66. Deng, J.Q., Ghidaoui, M.S. and Xu, K. (1999). "Modeling Advection-Dominated Transport Based on the Boltzmann Theory." 28th IAHR Congress, Theme E1, CD-ROM, August, Graz, Austria.
- Kolyshkin, A.A., Ghidaoui, M.S. and Yen, B (1999). "Influence of Momentum Correction Coefficients on Linear Stability of Open Channels." 28th IAHR Congress, Theme E5, CD-ROM, August, Graz, Austria.
- 68. Deng J. Q., Ghidaoui M.S. and McInnis D. A. (1998). "An Application of the Adjoint Technique to Locating Wastewater Discharges into a Surface Water System." Proceedings of the 2nd International Symposium on Environmental Hydraulics, 693-698, December, Hong Kong.
- Hari P. K. S., Deng J. Q. and Ghidaoui M. S. (1998). "Stochastic Analysis of Richards equation under uncertainty in unsaturated soil parameters," Proceedings of the 2nd International Symposium On Environmental Hydraulics; December, Hong Kong.
- 70. Ghidaoui M. S., Deng J. Q. and Kolyshkin A. A. (1998). "Shear Flows in Shallow Water: Foundation and Accuracy of the Rigid-Lid Assumption," Proceedings of the 2nd International Symposium on Environmental Hydraulics, 525-530, Hong Kong.
- Ghidaoui M.S. and Deng, J.Q. (1998). "Computation of Open Channel Flow Using a Gas Kinetic-Based Scheme," *International Water Resources Engineering Conference*, ASCE, 1864-1869, August, Memphis, Tennessee, USA.
- 72. Deng J.Q. and Ghidaoui M.S. (1998). "A numerical scheme for Free-surface Flow Modelling Based on Kinetic Theory," 12th International Conference on Computational Methods in Water Resources, 411-418, Vol. 2, June, Crete, Greece.
- 73. Hari, K.S. and Ghidaoui M.S. (1998) "Inverse Problems for Transient Unsaturated flow:



Identifiability and Non Uniqueness," 12th International Conference on Computational Methods in Water Resources, 313-320, Vol. 1, June, Crete, Greece.

- Kolyshkin, A.A., Ghidaoui M.S. and Vaillancourt, R. (1998) "Convective Stability of Mixed Flow Between Permeable Cylinders," *11th International Heat Transfer Conference*, 23-28 August, Kyongju, Korea.
- Ghidaoui, M.S. and Cheng, Y.P.H. (1997) "Energy Equation in Unsteady Open Channel Flows: Formulation and Application," Advances In Computational Engineering Science, 582-587, May, Costa Rica.
- Ghidaoui, M.S. and Deng J.Q. (1997) "Failure Of Hermite-Based Schemes In Transport Problems In Non-Uniform Flow Fields," 7th Annual Symposium in CFD, 198-203, Beijing, China.
- McInnis, D.A. and Ghidaoui, M.S. (1996) "Applying Extended Thermodynamics to Unsteady Friction in Pipe Flow." 2nd International Conference on Hydrodynamics, 1199-1204, December, Hong Kong.
- Ghidaoui, M.S. (1996) "Turbulent Flow In Porous Media: Does The Nonlinear Velocity/Flow Potential Equation Produce Chaos?" 2nd International Conference on Hydrodynamics, 1335-1339, December, Hong Kong.
- Deng, J.Q. and Ghidaoui M.S. (1996) "Application Of A Hermite-Based Interpolation Scheme To Contaminant Transport in Kinematic And Diffusion Open Channel Flow Field." *CFD* 96, 543-548, Ottawa.
- Ghidaoui, M.S. and Deng, J.Q. (1996) "Environmental Protection and Modelling: Optimal Control of Surface Water Quality Via Inverse Analysis." 1st TSS International Conference on Technology Park and Transfer of Knowledge, 40-42, July, Tunisia.
- Shidaoui, M.S. and Karney, B.W. (1995) "A New Solution Procedure Of The Fluid Transients Equations Using Picard's Method." *Ist Asian Computational Fluid Dynamics Conference*, 773-778, Vol. 2, January, Hong Kong.
- Ghidaoui, M.S., Karney, B.W. and McInnis, D.A. (1995). "Analytical Analysis Of Linear Discretization Strategies In Unsteady Open Channel Flows." *International Conference On Computational Engineering Science*, 888-893, Vol. 1, August, Mauna Lani, Big Island of Hawaii, USA.
- 83. Ghidaoui, M.S. and Deng, J.Q. (1995) "An Approach For Solving The Advective And Diffusive Partial Differential Equation Based On Characteristics Method." *International Conference In Computational Engineering Science*, 882-887, Vol.1., August, Mauna Lani, Big Island of Hawaii, USA.
- Ghidaoui, M.S. (1995) "A New Approach For Deriving Sufficient Stability Conditions In Pipe Transients With Large Friction." *International Conference In Computational Engineering Science*, 959-964, Vol.1., August, Mauna Lani, Big Island of Hawaii, USA, August 1995, Vol 1, 959-964.
- 85. Ghidaoui, M.S. and Deng, J.Q. (1995) "A New Three Point Sixth Order Scheme For Contaminant Transport In Unsteady Open Channel Flow." 6th International Symposium on Computational Fluid Dynamics, 366-371, Vol. 1, September, Lake Tahoe, Nevada, USA.
- 86. Ghidaoui, M.S. and Karney, B.W. (1994). "Equivalent Hyperbolic Differential Equations In Advective Problems With Discontinuous Conditions." Proceedings of the 2nd Annual Conference of the Computational Fluid Dynamics Society of Canada, 465-471, June, Toronto, Canada.
- Karney, B.W. and Ghidaoui, M.S. (1994). "Flexible Discretization Algorithm for Fixed Grid MOC in Pipeline Systems." Proceedings of the 2nd Annual Conference of the Computational Fluid Dynamics Society of Canada, Toronto, 457-464, June, Toronto, Canada.
- Ghidaoui, M.S. and Karney, B.W. (1992). "Time Discretization in Fixed Grid Method of Characteristics." Proceedings of the *Annual Conference of the Canadian Society of Civil Engineering*, 367-376, Quebec, Canada.



Publications – Reports

- 1. Leon, A.S., Ghidaoui M.S., Schmidt A.R. and Garcia M.H. (2006). "Review of sewer surcharging phenomena and models." Civil Engineering Studies, Hydraulic Engineering Series No. 78, Univ. of Illinois, Urbana, IL, USA.
- 2. Ghidaoui, M.S., Kolyshkin, A.A. and Vaillancourt R. (2005). "Transient turbulent flow in a pipe." Center of Mathematical Research, Montreal, Canada. January, CRM-3176:
- Zhao, M, Ghidaoui, M.S., Kolyshkin, A.A. and Vaillancourt, R. (2004) "On the stability of oscillatory pipe flows" Center of Mathematical Research, Montreal, Canada. October, CRM-3168.
- 4. Ghidaoui, M.S. (2004). "Review of Sewer Surcharging Phenomena and Models." Part of the Tunnel Reservoir (TARP) Project, City of Chicago, USA.

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TEACHING

UNDERGRADUATE COURSES

- CIVL 2550 Fluid Mechanics (Spring 2016 & 2017)
- CIVL 354 Waves in Hydrosystems (Spring 2008-present)
- CIVL 300P Waves in Hydrosystems (Spring 2005, 2006 & 2007)
- ENCI 444 Unsteady Flows, University of Canterbury, New Zealand, (Fall 2006)
- CIVL 252 Hydraulics (Fall 1997 and 1998, Spring 2000-2003; 2005-present)
- CIVL 253 Hydraulics and Hydrology (Spring of 1995 & 1996)
- CIVL 252 Fluid Mechanics II (Spring of 1994)
- CIVL 105, 205 and 305: Professional Development I, II and III (Spring 1997 & 1998)

POSTGRADUATE COURSES

- CIEM 5390 Coastal Structures Design (Fall 2017)
- JEVE 5510 Municipal Hydraulic System Design and Management (Spring 2017)
- CIVL 605B Waterhammer Analysis (Spring 2000)
- CIVL 513 Numerical Methods For Civil Engineer s (Fall 1995, Spring 1998)
- CIVL 555/5550 Modelling Fluid Systems (Spring 1997, 1999, 2001, 2005, 2013, 2015, 2016)
- CIVL 555 Water Resources Systems Modelling (Fall of 1993, 1994)
- CIVL 605C Open Channel Flow (Spring 2002).
- CIEM 600d Coastal Engineering and Management: A Practical Approach
- CIEM 600M Hydraulics of Urban Systems: Pipes and Channels
- CIEM 6000A Hydraulics of Urban Systems

PROFESSIONAL DEVELOPMENT COURSES

- Pumping Systems and Transient Flows in Pipes
- Applied Hydraulics
- Modeling of Surface Water Quantity and Quality
- Flows in Open and Closed Conduits
- Waterhammer and Sewer Surcharge
- Surge Analysis

CURRICULUM DEVELOPMENT

• Chairman of the Departmental committee on curriculum development and quality of teaching and learning (2001-2006)

The committee is in charge of all issues related to the curriculum including design and implementation. The committee ensures that the curriculum is of high quality and meets

educational and accreditation requirements and incorporates inputs from various bodies including advisory boards and past students. In addition, the committee advises and makes recommendations to the department on teaching methods and on issues relating to quality assurance of teaching and learning; promotes the quality of teaching and learning; and monitors the operation of related quality assurance processes.

- Chairman of Senate Committee on Undergraduate Studies (2005-2013)
 - The committee advises and makes recommendations to the Senate on policies and regulations, and to monitor and review procedures, quality and performance relating to undergraduate studies, including, but not limited to:(a) general program requirements; (b) program development including new programs recommended by School Boards; (c) program quality control, including examinations and award of degrees; (d) matters from the School Boards relating to undergraduate studies and student appeals; (e) selection and admission of undergraduate students; (f) collection and maintenance of student records; (g) student fees and financial assistance; and (h) other matters as may be required by the Senate.
- Member of HKUST JSSD Joint School Academic Planning Committee
 - To leading all facets of the development of the undergraduate program on Sustainable Energy. Task ranges from leading the development of the overall philosophy and structure of the program to the detailed curriculum structure, courses and course description.
- Member of UG Committee (1993-2000)
- Member of the Teaching and Learning Quality (1997-2001)
- Co-ordinator of the Final Year Project Committee (1998-2001)
- Member of the School of Eng. Teaching and Learning Quality (1997-1998)
- Member of the Final Year Project Committee (1997-1998)

STUDENTS SUPERVISED

1. A. Haq

Degree: PhD Graduation: February 2017 – present Current affiliation: HKUST Current position: PhD Student

2. K.N. Keya

Degree: MPhil Graduation: February 2017 – present Current affiliation: HKUST Current position: PhD Student

3. M. Waqar

Degree: PhD Graduation: February 2017 – present Current affiliation: HKUST Current position: PhD Student



4. J. Lin

Degree: MPhil Graduation: September 2015-present Current affiliation: HKUST Current position: MPhil Student

5. F. Zouari

Degree: PhD Graduation: September 2015-present Current affiliation: HKUST Current position: PhD Student

6. M. Louati

Degree: PhD Graduation: September 2012-present Current affiliation: HKUST Current position: PhD Student

7. A. Mesgari

Degree: MPhil Graduation: August 2015 Current affiliation: HKUST Current position: MPhil Student

8. M.Y. Lam

Degree: PhD Graduation: November 2015 Current affiliation: HKUST Current position: Postdoctoral

9. J. Lu

Degree: MPhil Graduation: December 2013 Current affiliation: Atkins China Ltd, Hong Kong Current position: Graduate Engineer

10. H.F. Duan

Degree: PhD Graduation: January 2012 Current affiliation: Department of Civil and Structural Engineering, The Hong Kong Polytechnic University, Hong Kong Current position: Assistant Professor

11. Arturo Leon

Degree: PhD Graduation: November 2006 Current affiliation: Water Resources Engineering School, Civil and Construction Engineering, Oregon State University, USA Current position: Assistant Professor

12. J. H. Liang

Degree: MPhil Graduation: September 2006 Current affiliation: Department of Oceanography and Coastal Sciences, Louisiana State University, USA



Current position: Assistant Professor

13. L. Ding

Degree: MPhil Graduation: September 2006 Current affiliation: Belgium Information Technology and Services, Brussels, Belgium Current position: Data Analyst

14. C.F. Chan

Degree: MPhil Graduation: July 2005 Current affiliation: Drainage Services department (DSD), Hong Kong Current position: Engineer Research & Development

15. W. Nixon

Degree: MPhil Graduation: January 2005 Current affiliation: EFFICIO, London, United Kingdom Current position: Management Consultant

16. M. Zhao

Degree: PhD Graduation: January 2004 Current affiliation: Dalian University of Technology, China (Engineering Mechanics) Current position: Associate Professor

17. S. Zhang

Degree: MPhil Graduation: January 2003 Current affiliation: Dalian, China Current position: Engineer

18. J. Huang

Degree: MPhil Graduation: July 2002 Current affiliation: Center for Satellite Applications and Research, STAR, (NOAA / NESDIS), University of Maryland College Park, USA Current position: Assistant Research Scientist

19. N. Li

Degree: MPhil Graduation: January 2002 Current affiliation: Minsheng Royal Fund Management Co., Ltd , Beijing, China Current position: Senior Sales Manager – Engineer

20. J.Q. Deng

Degree: MPhil & PhD Graduation: January 2000 Current affiliation: Scientific Research Institute of the Pearl River Water Resources Commission, China Current position: Professor Chief & Engineer

RESEARCH AWARDS OF STUDENTS SUPERVISED

Mohamed Salah GHIDAOUI

1.	2013, 2009, 2003	John F. Kennedy Student Paper Competition Award 3 Finalists
		Student: J Zhang at 30th IAHR Congress, Greece
		Student: H.F. Duan at 33rd IAHR Congress, Canada
		Student: M Louati at 35th IAHR congress, China
2.	2011	PhD Research Excellence Award, HKUST
		Student: H.F. Duan
3.	2001	John F. Kennedy Student Paper Competition Award 3rd place
		Student: Zhao Ming at 29th IAHR Congress, Beijing, China

RESEARCH ASSOCIATES (ASSISTANTS)/POST-DOCTORAL STUDENTS

- 4. A H Dodoran. "Smart Urban Water Supply Systems" March 2016-March 2017
- 5. E Blasten. "Smart Urban Water Supply Systems" May 2016-August 2017
- 6. S. Mansour. "Theoretical Investigation of Unsteady Friction in Pipe Flow." February 2000-November 2000
- 7. D.H. Axworthy. "An Extended Thermodynamics Derivation of Energy Dissipation in Unsteady Pipe Flow." Summer 1988
- H. Prasad. "Inverse Modeling and Parameter Estimation in Porous Media Flows." April 1997-September 1998
- 9. Hongwei Lui. "Boltzmann theory in hydraulics." 2008-2010

VISITING SCHOLARS SUPERVISED

- 1. F. Zouari, "Condition assessment of pipes". April to September 2014 & March-present 2015
- 2. M. Louati. "Waterhammer." October 2011 to September 2012
- 3. M.D. Su. "Large eddy simulations." Summer 1998 and 1999.
- 4. A.A. Kolyshkin. "Flow stability." Visited 6 times for a period of 6 months each time

UNDERGRADUATE SUPERVISION

1. Final Year Project supervision 1994 – present: supervised over 80 students and have been the second reader for over 200 projects

PHD DISSERTATION AND EXAMINATION COMMITTEES AT OVERSEAS UNIVERSITIES

- 1. External PhD examiner (2015), Department of Civil & Environmental Engineering, National University of Singapore, Singapore. (Student: Ms Tay Hui Xin).
- External PhD examiner (2004), Centre for Applied Modelling in Water Engineering (CAMWE) School of Civil and Environmental Engineering, The University of Adelaide, Australia. (Student: Mr Pedro Lee).
- 3. Qualifying PhD examiner (2004), Department of Civil Engineering, University of Illinois, Urbana Champaign, USA. (Student: Mr Arturo Leon).

PHD DISSERTATION AND EXAMINATION COMMITTEES AT HKUST

- 1. Hong Zhu, (PhD. Department of Electronic and Computer Engineering), Defended in Feb. 2014. Sensors & Circuits
- 2. Hsin-Ting Su, (PhD. Civil Engineering), Defended in Feb. 2013. Water Resources
- 3. Mianrun Chen (PhD. Division of Life Science), Defended in April 2012. Marine Ecology
- 4. Hsinting Su (*PhD. Civil Engineering*), 2008-2009. Water Resources
- 5. Hongwei Liu (*PhD. Mathematics*), Defended in 2007. Computational Physics
- 6. Xiaohong Zhu (PhD. Mathematics), Defended in 2007. Numerical Fluid Dynamics
- 7. Man Kim Kwan (PhD. Mechanical Engineering), Defended in 2003.CFD.
- 8. Chen Xingyuan (PhD. Civil Engineering), Defended 2005. Water Resources
- 9. Huili Fu (PhD. Mechanical Engineering), Defended in 1998. Fluid Mechanics
- 10. Wang Haijing (PhD. Civil Engineering) 1996-2000. Water Resources
- 11. Ning Feng (PhD. Civil Engineering) 1996-1999. Structures
- 12. Shaoling Hu (*PhD. Mechanical Engineering*), Defended in 1996.Area: **Computational Hydraulics**
- 13. Kumar Anil (PhD. Civil Engineering) 1996-1997. Water Resources.
- 14. Pun Kwok Leung (PhD. Civil Engineering) 1993-1998. Water Resources

CHAIR OF PHD EXAMINATION AT HKUST

1. 8 PhD theses in different schools.

MPHIL DISSERTATION AND EXAMINATION COMMITTEES

- 1. Hoi Lai Tseung (M.Phil Civil Engineering) 2011-2014. Water Resources
- 2. Jia Li (M.Phil Civil Engineering) 2005-2007. Water Resources
- 3. Shawn Campbell (M.Phil Civil Engineering) October 2002-2003. Wind Engineering
- 4. Fok Chin Hong Alvin (Civil Engineering) October 2002-present. Wind Engineering
- 5. Lau Yau Fu Eddy (M.Phil Civil Engineering) October 2002-present. Water Resources
- 6. Lui Zhihua (M.Phil Civil Engineering) October 2002-present. Water Resources
- 7. Kwok Yih Feng Sabastian (M.Phil Civil Engineering) 2000-present. Water Resources
- 8. Lu Baohong (M.Phil Civil Engineering) 1998-2000. Water Resources
- 9. A-Wang Haijing (M.Phil Civil Engineering) 1995-1996. Water Resources
- 10. Rob Delcore (M.Phil Civil Engineering) 1994-1996. Water Resources
- 11. Wang Ying (M.Phil Civil Engineering) 1994-1996. Water Resources
- 12. Chen Ying (M.Phil Civil Engineering) 1998-present. Water Resources
- 13. Chan Chi Chung (M.Phil Civil Engineering) 1998-present. Geotechnical / Water resources

5. McInnis, D.A. and Ghidaoui, M.S. (1997) "Surge Analysis to Mott Connell Co," Volume I.



Mohamed Salah GHIDAOUI

6. McInnis, D.A. and Ghidaoui, M.S. (1997) "Surge Analysis to Mott Connell Co," Volume II.



UNIVERSITY ADMINISTRATION

UNIVERSITY LEVEL IN HKUST

- 2016 Member, Provost's Task on How to Move the University Forward
- 2015 Member, Search Committee for the Dean of Engineering
- 2015 Member, Research Directions for incorporation into HKUST's Strategic Plan for 2016 to 2020
- 2012 2015 Member, HKUST-JSSD Joint school Academic Planning Committee
- 2014 2015 Member, University Research Integrity Task Force
- 2014 2014 Member, Ad-hoc Committee on Assessment of a Complaint by an RPG Student against a Faculty Member
- 2006 2013 Chairman, University Research Committee
- 2005 2013 Chairman, University Undergraduate Studies Committee
- 2011 Member, Review Task Force on Institute for the Environment Terms of Reference.
- 2009 2011 Chairman, University Sub-Group on Degree Requirements and Regulations
- 2009 2010 Member, Steering Committee, Division of Environment, HKUST.
- 2010 2010 Panelist, Michael Gale Medal
- 2010 2010 Member, Dean Search Committee for HKUST Fok Ying Tung Graduate School in Nansha
- 2009 2010 Member, University working group for the 4-year curriculum development
- 2006 2010 Member, 3-3-4 ad-hoc committee
- 2007 2009 Member, University 3-3-4 Steering Group
- 2006 2009 Member, University Court
- 2008 2009 Member, University Administrative Committee (UAC)
- 2008 2009 Member, Search Committee for University President
- 2000 2009 Elected Member, University Senate (Served 4 terms)
- 2007 2007 Member, The review committee for the Associate Vice-President for Academic Affairs (Undergraduate Studies & Academic Planning)
- 2004 2005 Member, Senate Task Force on Implementation Quality of Teaching and Learning for TLPQR



- 2001 2005 Member, Senate Research Committee
- 1998 1999 Member, Senate Library Committee

SCHOOL OF ENGINEERING IN HKUST

- 2013 2015 Member, Chair Professor Nomination Committee
- 2009 2009 Member, Task Force on Research
- 2009 2009 Member, Retreat
- 2009 Member, User/management Committee, Wind/wave Tunnel Facility
- 2005 Panelist, Interview for language tutors
- 2003 2004 Member, Summer Camp Committee
- 2002 2003 Member, Search Committee for Department Head of Civil Engineering
- 2001 Representative, Selection Committee for the Teaching Innovation Award
- 1997 1998 Member, Teaching and Learning Quality Committee

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING IN HKUST

- 2015-present Chair, Substantiation and Promotion Committee
- 2015-present Member, Search & Appointment Committee
- 2015-present Member, Search & Appointment Committee for University Cluster Hiring
- 2014 2015 Chair, Search & Appointment Committee
- 2014 Present Member, Executive Committee
- 2011 2013 Member, Merit Salary Review Committee
- 2009 2011 Chairman, Merit Salary Review Committee
- 2009 2011 Member, Search & Appointment Committee
- 2009 2011 Member, Executive Committee
- 2004 2010 Member, Departmental Planning Committee
- 2008 2009 Member, Search Committee for Professor of Wind Engineering and Director Wind Tunnel



Mohamed Salah GHIDAOUI

- 2008 2009 Member, Search Committee for Assistant Professor in Experimental Fluid Mechanics
- 2007 2009 Member, Substantiation & Promotion Committee
- 1993 2008 Member, Undergraduate Studies Committee
- 2001 2006 Chair, Curriculum Committee
- 1998 2004 Co-ordinator, Library Committee
- 1997 2004 Member, Teaching and Learning Quality Committee
- 1998 2003 Co-ordinator, Final Year Project
- 2002 2003 Chair, Team that prepares for the TLQPR visit
- 2002 2003 Member, Search Committee for Head of Department
- 1999 2000 Member, Postgraduate Committee
- 1997 1998 Member, Third Year Project Committee
- 1993 1995 Member, Accreditation Committee
- 1993 1995 Member, Student Affairs Committee
- 1993 1994 Co-ordinator, Undergraduate Studies Committee

OTHER TASKS IN HKUST

- 2016 Jury Member, Falling Walls Lab HK 2016, Office of the Vice-President for Research & Graduate Studies
- 2004 Member, Academic Review Committee, Center for Coastal and Atmospheric Research, School of Science
- 2001 Panelist, Interview Panel for Potential English Instructors, Language Center
- 2001 Member, Executive Committee, Centre for Scientific Computation
- 1998 1999 Founding Member, Centre for Scientific Computation



BIOGRAPHICAL SKETCH

Mohamed Ghidaoui, born in 24th of August 1964 in Tunisia, received the BASc, MASc and Ph.D. all in Civil Engineering from University of Toronto, Canada, in 1989, 1991 and 1993, respectively. Since July 1993, he has been with the Department of Civil Engineering at the Hong Kong University of Science & Technology (HKUST), where he is now a Chair Professor. He has spent his sabbatical leave at the Department of Civil Engineering, University of Illinois, Urbana Champaign, USA and the Department of Civil Engineering, University of Canterbury, NZ. In 2006 he was a *Visiting Erskine Fellow* at University of Canterbury, NZ.

Awards: Ghidaoui has an outstanding research, teaching and administrative record. He is the recipient of the Arthur Ippen Thomas Award, which is the most prestigious prize which IAHR can bestow on a member of water engineering and science community. The stipulated criteria is (see IAHR website): "The Award is made biennially by IAHR to one of its members who has demonstrated conspicuously outstanding ability, originality, and accomplishment in basic hydraulic research and/or applied hydraulic engineering..." His other research awards include Albert Berry Memorial Award, American Water Works Association; runner-up for the Hilgard Award for best paper, Journal of Hydraulic Engineering, American Society of Civil Engineers (ASCE); and Erskine Fellow; University of Canterbury, New Zealand. His publishes in leading international journals such as Journal of Hydraulic Engineering, ASCE; Journal of Hydraulic Research, IAHR; Journal of Fluid Mechanics; Physics of Fluids; and Computational Physics. His PhD students won top awards and secured jobs and or further studies in top universities, institutes and companies. His research on waterhammer with his former PhD student, Zhao Ming, resulted in the John F. Kennedy student paper competition award (third place) at the 29th International Association for Hydro-Environment Engineering & Research Congress, September 2001. His research on defect detection in conduits with his PhD student, Huanfeng Duan, resulted in PhD Research Excellence Award, HKUST, 2011 and an article at the final of the John F. Kennedy student paper competition award, 33rd IAHR Congress, Canada. Three of his other students were also finalist in John F. Kennedy student paper competition award at the 30th International Association for Hydro-Environment Engineering & Research Congress, August 2003.

<u>Editorship</u>: Ghidaoui has been selected to serve as the editor of the Journal of Hydraulic Research, IAHR, from September 2016 to August 2021. He is the Associate Editor of the Journal of Hydraulic Engineering, ASCE; Journal of Hydraulic Research, IAHR; Journal of Hydro-environment Research, IAHR-APD. , He is also an editorial board member of the Theoretical & Applied Mechanics Letters (TAML), Chinese Academy of Sciences and The Chinese Academy of Theoretical and Applied Mechanics, and Advisory Board Member, INTERNATIONAL JOURNAL OF HYDROLOGY SCIENCE AND TECHNOLOGY (IJHST). He served in the advisory board of the Journal of Hydroinformatics (2000-2012).

<u>Major Offices Held:</u> Ghidaoui held major offices and positions in learned societies. He served two terms as the chairperson of the *International Association for Hydro-Environment Engineering & Research (IAHR)-Hong Kong Chapter* and was one of its founders. He is a member of IAHR and ASCE. Internationally, he is the *Chair of Fluid Mechanics*, which is International Association for Hydro-Environment Engineering & Research (July 2011-present). He served as a member of Council Nominating Committee, Elected by the IAHR Council to be 1 of 8 members from around the world (2008-2009). He is the ffounding Chair of the Fast Transients section, International Association for Hydro-Environment Engineering & Research (2006-present). He delivered keynote and invites talks at leading conferences and



institutes including *the Arthur Thomas Ippen Lecture* at the IAHR world congress in Venice, Italy, 2007. He served as member of the fluid mechanics section IAHR, a member of the advisory group on unsteady friction and fluid-structure interaction, Dundee, UK. He served in the office of external relations/publicity, as well as the office of Student Liaison, IAHR-HK. He is an elected executive committee member of Centre of Scientific Computation, HKUST. He chaired the shallow flows symposium, IAHR, which was held at HKUST in 2008. He is currently chairing two major tracks at IAHR 2013 congress, which is the largest and most prestigious congress in hydraulics. He has been invited by IAHR to organize the *Gerhard Jirka Summer School for Fluid Mechanics* in 2014. He served as a member of the organization committee and as an advisory board member in a number of international conferences both. He has chaired a number of sessions and been an invited speaker at universities, organizations and international conferences. He is a full member of IAHR and a full member of ASCE.

<u>Grants:</u> Ghidaoui has been awarded **43 grants** worth over **HK\$ 100 million**: 32 as PI (HK\$ 50 Million), 8 as Co-I from local sources (HK\$ 4 Million) and 3 from international sources (HK\$ 56 Million). He leads the theme-based project **Smart UWSS** worth 33.225 million HK\$ for the period 2015-2020 (see <u>http://smartuws.ust.hk/</u>).

Administration: Ghidaoui led a number of key administrative offices and tasks at the departmental, school and university levels. He is the chairman of the Senate Undergraduate Studies Committee since 2005. He is also the Chairman of the Senate Research Committee since 2006. He served as member of the university court. He chaired the university Sub-Group on 334 Degree Requirements and Regulations, and ad-hoc committees for the adjudication of Research Project Competition (annual budget of 15 million HK\$) and Research Equipment Fund Competition (annual budget of 15million HK\$). He serves/served in numerous other key university committees such as 334 university task force, HKUST-JSSD Joint school Academic Planning Committee, Member of Steering Committee of Division of Environment, Michael Gale Medal panelist, search committees for president, deans and heads, Member of Review Task Force on Institute for the Environment Terms of Reference. He was elected senate member 3 times and served for 9 years, he served/serving as member of 13 university committees, served as member of 7 task forces and committees for the school of engineering, chaired 3 departmental committees and coordinated 2 and serving/served in 15 departmental committees and coordinated.

<u>Teaching:</u> He received the *Teaching Excellence Appreciation* award from the School of Engineering, HKUST, in 1996 and 2001. He maintains high teaching rating in all his courses. He played a leading role in the development of 334 vision and curriculum. He served in the 334 task force and chaired the task force on degree requirement and regulations. As a chair of CUS, he plays a key role in all facets of undergraduate education: courses, curriculum, degree requirement and regulations, student regulations, etc. The CUS which he chairs is in charge of all developments related to 334 including new curricula, programs, regulations, entry requirement, degree requirement etc. Currently, he is leading the development of the undergraduate program on Sustainable Energy for HUST-JSSD.

<u>Local Activities:</u> Ghidaoui has been active in the local academic and engineering community. He was a founding member of IAHR-Hong Kong chapter. He has helped organize a number of international conferences in Hong Kong. He served as consultant to government and consultants. He has taught a number of courses to local engineers. As a chair of IAHR-HK, he organized forums, seminars, courses, field trips and social events to the local academic and engineering community and introduced the student chapter of IAHR-HK. He serves as an external examiner to Department of Civil Engineering, Chu Hai College, Hong Kong.



Mohamed Salah GHIDAOUI

<u>Languages and Hobbies</u>: Mohamed Ghidaoui speaks three languages: English, French and Arabic. His hobbies include soccer, traveling and reading history books on science and engineering as well as popular science books.