# فاروق سعيد أستاذ مشارك

## المعلومات الشخصية

الجنسية | كندي

تاريخ الميلاد | 31 أكتوبر 1963

القسم الاست الهندسة الميكانيكية والطاقة

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#### المؤ هلات العلمية و الشهادات (بدءا من الأحدث)

		اسهادات (بدءا من ا	العلو هارك العلمية و
العنوان	مكان الصدور	الشهادة الأكاديمية	التاريخ
جامعة إلينوي في أوربانا شامبين ، قسم هندسة الطيران ،	أوربانا ، إلينوي ، الولايات	دكتوراه	15-01-1999
306 تالبوت لاب ، 104 شارع رايت ، أوربانا ، إلينوي	المتحدة الأمريكية	ماجيستير	09-08-1993
61801			
جامعة NED للهندسة والتكنولوجيا ، طريق الجامعة ،	کراتشی ، باکستان	بكالوريوس الهندسة	26-04-1987
کراتشی ، باکستان	•		
معهد تطوير التميز في القيادة التقييمية (الباحث المثالي) ،	بالتيمور ، الولايات المتحدة	شهادة ABET's	07-08-2009
ABET ، بالتيمور ، الولايات المتحدة الأمريكية	الأمريكية	IDEAL Scholar	
الجمعية الأمريكية لطاقة الرياح / مؤتمر جمعية مهندسي	شيكاغو ، إلينوي ، الولايات	شهادة تقنية تصنيع	13-06-2011
السيارات ، شيكاغو ، إلينوي ، الولايات المتحدة الأمريكية	المتحدة الأمريكية	الشفرات التوربينية	
قاعدة طيران الجيش ، الضميال ، باكستان	ضمیال ، باکستان	شهادة صيانة وتعليم	31-08-1989
		الطيران	

## عنوان بحث كل من الدكتوراة والماجستير والزمالة

طرق التصميم الهجين لمحاكاة تراكم الجليد على نطاق كامل	الدكتوراة
دراسة تجريبية للخصائص الديناميكية الهوائية للجناح المقوس	الماجتسير

# السجل المهني (بدءا من الأحدث)

التاريخ	مكان وعنوان جهة العمل	
27 Sept. 2016 to	قسم الهندسة الميكانيكية والطاقة ، كلية الهندسة ، جامعة الدمام ، الدمام 34212	أستاذ مشارك
present		
01 Sept. 2015 – 31	قسم الهندسة الميكانيكية ، كلية الهندسة ، جامعة الملك فهد للبترول والمعادن ،	أستاذ مشارك
August 2016	الظهران 31261	
26 Jan. 2011 – 31	قسم هندسة الطيران ، كلية الهندسة ، جامعة الملك فهد للبترول والمعادن ، الظهران	أستاذ مشارك
August 2015	31261	

24 Aug. 2003 – 25	قسم هندسة الطيران ، كلية الهندسة ، جامعة الملك فهد للبترول والمعادن ، الظهران	استاذ مساعد
Jan. 2011	31261	
01 Nov. 1998 – 23	قسم الهندسة الميكانيكية ، مدرسة البوليتكنيك في مونتريال ، مونتريال ، كندا	باحث مشارك
Aug. 2003	•	

# الإنجازات العلمية

# براءات الاختراع المنشورة (بالتسلسل الزمني بدءا من الأحدث)

#	اسم المخترع (المخترعين)	عنوان براءة الاختراع	جهة النشر وتاريخ النشر
1.	Saeed, F.	Wind power generation device with	US Patent No. 11,236,725 B2
		real time pitch actuation	issued on February 1, 2022.
2.	Saeed, F.	Real-Time Pitch Actuation in a	US Patent No. 10,927,810 B2
		Vertical Axis Wind Turbine	issued on February 23, 2021.
3.	Saeed, F.	Anti-Icing System and Apparatus	US Patent US20170166313 A1
			issued on June 15, 2017
4.	Saeed, F., and Al-	Portable and Autonomous PV-	US Patent 8,043,499 issued on
	Garni, A. Z.	VAWT-RO Desalination System	October 25, 2011
5.	Saeed, F., and Al-	System for Inertial Particle	US Patent 7,922,784 B2, issued
	Garni, A. Z.	Separation	on April 12, 2011
6.	Al-Garni, A. Z.,	Double Action Solar Distiller	US Patent 7,857,945 B2, issued
	Kassem, A., and		on December 28, 2010
	Saeed, F.		
7.	Al-Garni, A. Z., Saeed,	Wind-Solar Desalination Farm and	US Patent 7,771,568 B2, issued
	<b>F.</b> , and Kassem, A.	Park System	on August 10, 2010
8.	Al-Garni, A. Z.,	Low-Cost Air Conditioning System	US Patent No. US2008/0041083
	Kassem, A. H., Al-	for Open Area	A1, issued on February 21, 2008
	Garni, A. M., and		
	Saeed, F.		
9.	Al-Garni, A. Z., Saeed,	Submersible Craft for Water	US Patent 7,168,387, issued on
	F., and Al-Asaly, A	Purification	January 30, 2007

# الأبحاث العلمية المنشورة (بالتسلسل الزمني بدءا من الأحدث)

#	أسماء الباحثين	عنوان البحث	جهة النشر وتاريخ النشر
1.	Ali, S., Al-Amri, F.,	Numerical and Experimental	Energies. 2022; 15(19):7417.
	Saeed, F.,	Performance Evaluation of a	Published online: 10 October
		Photovoltaic Thermal Integrated	2022
		Membrane Desalination System	
2.	Al-Amri, F. G., Saeed,	Novel dual-function racking	Renewable Energy 198,
	F., Mujeebu, M. A.	structure for passive cooling of solar	2022; 100-113.
		PV panels -thermal performance	Published online: 13
		analysis	August 2022

3.	Houcine, A, Maatallah, T, <b>Saeed, F.</b> ,	Steam and electrical power generation by a hybrid photovoltaic/parabolic dish concentrator using beam splitter technology	Int J Energy Res. 2022; 1- 21 Published online: 29 April 2022
4.	<b>Saeed, F.</b> , Ahmed, K. Z., Owes, A. O. E., and Paraschivoiu, I.	Anti-Icing Hot-Air Jet Heat- Transfer Augmentation Employing Inner Channels	Advances in Mechanical Engineering, Vol. 13(12), 1–13. December 2021
5.	Siddiqui, M. U., Owes, A. O. E., Alamri, F. G., and Saeed, F.	Recent development in search for alternative low global warming potential refrigerants: A review	International Journal of Air-Conditioning and Refrigeration, Vol. 28, No. 3, 2030004, (23-pages) 2020.
6.	Paraschivoiu, I., Dy, N. V., Ammar, S., and Saeed, F.	Multi-Megawatt VAWTs Perspective	Journal of the Transactions of the Canadian Society of Mechanical Engineers, 42(4), pp. 343-403, 2018
7.	Brahimi, T, <b>Saeed, F.</b> , Paraschivoiu, I.	Aerodynamic Models for the Analysis of Vertical Axis Wind Turbines VAWTs	International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering, Jan. 2016
8.	Saeed, F.	Experimental Investigation of the Aerodynamic Characteristics of an Arc Wing,	Journal of Royal Aeronautical Society Aug. 2016
9.	Khan, M. M. A., Saeed, F., and Al-Garni, A. Z.	Numerical Investigation of Mechanism for Anti-Icing Hot-Air Jet Surface Heat Transfer Enhancement	International Journal of Thermo-Physics and Heat Transfer, 2015
10.	Saeed, F.,	Experimental and Numerical Study of Side-Slipping 65-deg Delta and Double-Delta Wings	International Journal of Engineering and Advanced Technology, Vol. 4, Issue 2, Dec. 2014
11.	Saeed, F.,	An Interactive Design Tool for Aircraft Engine Sand Separator Systems	International Journal of Innovative Technology and Exploring Engineering, Dec. 2014
12.	Al-Garni, A. Z., Kassem, A. H., <b>Saeed,</b> <b>F.</b> , and Ahmed, F.,	Effect of Glass Slope Angle and Water Depth on the Productivity of Double Slope Solar Still	Journal of Scientific and Industrial Research, Vol. 70, 2011
13.	Saeed, F., Paraschivoiu, I., Trifu, O., Hess, M., and Gabrys, C.	Inverse Airfoil Design Method for Low-Speed Straight-Bladed Darrieus-type VAWT Applications	Journal of Wind Engineering, Vol. 35, No. 3, 2011, pp. 357- 368
14.	Al-Faris, E., and <b>Saeed, F.</b>	Design and Optimization Method for Inertial Particle Separator	AIAA Journal of Aircraft, Nov Dec. 2009

15.	Paraschivoiu, I., Trifu, O., and <b>Saeed, F.</b>	H-Darrieus Wind Turbine with Blade Pitch Control	International Journal of Rotating Machinery, Aug. 2009
16.	Fregeau, M., Gabr, M., Paraschivoiu, I., and Saeed, F.	Simulation of Heat Transfer from Hot-Air Jets Impinging on 3D Concave Surface	AIAA Journal of Aircraft, Mar Apr. 2009
17.	Saeed, F.	Numerical Simulation of Heat Transfer from an Array of Anti- Icing Hot-Air Jets	AIAA Journal of Aircraft, MarApr. 2008
18.	Al-Garni, A. Z., <b>Saeed, F.,</b> Al-Garni, A. M.	Experimental and Numerical Investigation of 65-deg Delta and 65/40-deg Double-Delta Wings	AIAA Journal of Aircraft, JanFeb. 2008
19.	Saeed, F., and Al-Garni, A. Z.	An Analysis Method for Inertial Particle Separator	AIAA Journal of Aircraft, July—Aug. 2007
20.	Al-Garni, A. Z., Jamal, A., <b>Saeed, F.,</b> and Kassem, A.	Failure Rate Analysis of Boeing 737 Brakes Employing Neural Network	International Journal of Reliability, Quality and Safety Engineering, August 2007
21.	Fregeau, M., <b>Saeed, F.</b> , and Paraschivoiu, I.	Numerical Correlations for Heat Transfer from an Array of Hot-Air Jets Impinging on a 3D Concave Surface	AIAA Journal of Aircraft, May- June 2005
22.	Saeed, F., and Al-Garni, A. Z.	Impact of Floating-Point Arithmetic on Engineering Numerical Analysis	ARA Journal, June 2005
23.	Saeed, F., Gouttebroze, S., and Paraschivoiu, I.	Modified CANICE for Improved Prediction of Ice Accretion	AIAA Journal of Aircraft, Sept. 2004
24.	Yu, J., <b>Saeed, F.</b> , and Paraschivoiu, I.	An Iterative Inverse Design Method Based on Aerodynamic Streamline Equations	AIAA Journal of Aircraft, July—August 2004
25.	Saeed, F.	Numerical Models for Boundary- Layer Analysis on Rough Surfaces	ARA Journal, May 2004
26.	Saeed, F.	State-of-the-Art Aircraft Icing and Anti-Icing Simulation	ARA Journal, June 2003
27.	Saeed, F., Lutz, C., Paraschivoiu, I., Kerevanian, GK., Sidorenko, A., Bernard, E., Cooper, R. K., and Raghunathan, R. S.	A Comparison of Skin Friction and Heat Transfer Prediction by Various Roughness Models	AIAA Journal of Aircraft, Oct. 2002
28.	Saeed, F., Selig, M. S., and Bragg, M. B.	Hybrid Airfoil Design Procedure Validation for Full-Scale Ice Accretion Simulation	AIAA Journal of Aircraft, SeptOct. 1999
29.	Saeed, F., Selig, M. S., and Bragg, M. B.	Hybrid Airfoil Design Method to Simulate Full-Scale Ice Accretion Throughout a Given α Range	AIAA Journal of Aircraft, Mar.—Apr. 1998
30.	Saeed, F., Selig, M. S., and Bragg, M. B.	Design of Subscale Airfoils with Full-Scale Leading Edges for Ice Accretion Testing	AIAA Journal of Aircraft, Jan.—Feb. 1997

31.	Saeed, F., and Selig,	Multipoint Inverse Airfoil Design	AIAA Journal of Aircraft,
	M. S.	Method for Slot-Suction Airfoils	July—August 1996

# الأبحاث العلمية المقدمة لتحكيم المؤتمرات العلمية المتخصصة

#	أسماء الباحثين	عنوان البحث	المؤتمر وتاريخ النشر
1.	Al-Hamaly, A. S., Saeed, F., and Sahin, A.	Coupled Aerodynamic and Structural Optimization of Multi-Megawatt VAWT using MATLAB	AIAA Paper 2018-2021, 36 <sup>th</sup> Wind Energy Symposium of the 2018 AIAA SciTech (Science and Technology) Forum, Kissimmee, Florida, USA, Jan. 8-12, 2018
2.	<b>Saeed, F.</b> , Al-Hamaly, A. S., and Paraschivoiu, I.	Establishment of Wind Energy System Design Expertise at Imam Abdulrahman Bin Faisal University	2017 SAOO Energy Conference and Exhibition, Al-Hasa, Saudi Arabia, Dec. 2017
3.	Al-Hamaly, A. S., and Saeed, F.	Structural Optimization of Utility Scale Vertical Axis Wind Turbine	2017 SAOO Energy Conference and Exhibition, Al-Hasa, Saudi Arabia, Dec. 2017
4.	Paraschivoiu, I., Dy, N. V., Ammar, S., and Saeed, F.	Multi-Megawatt VAWTs Perspective	International Symposium on Wind & Tidal Power, Paper No. 19, Montreal, Canada, May 28-31, 2017
5.	David Marten, D., Lennie, M., Pechlivanoglou, G., Paschereit, C. O., Dy, N. V., Paraschivoiu, I., and <b>Saeed, F.</b>	Validation and comparison of a newly developed aeroelastic design code for VAWT	35th Wind Energy Symposium at the AIAA SciTech Forum, AIAA Paper No. 2017-0452, Grapevine, Texas, USA, Jan. 9-13, 2017
6.	Brahimi, T., <b>Saeed, F.,</b> and Paraschivoiu, I.	Aerodynamic Models for the Analysis of Vertical Axis Wind Turbines (VAWTs)	ICPEEE 2016: 18th International Conference on Power, Energy and Electrical Engineering, January 25-26, 2016 at Istanbul, Turkey (2016)
7.	Saeed, F., Basha, M., and Al-Garni, A. Z.	Simulation of Flow around a Thick Airfoil with a Vortex Trapping Cavity	8 <sup>th</sup> Symposium on Numerical Analysis of Fluid Flow and Heat Transfer, International Conference of Numerical Analysis and Applied Mathematics (ICNAAM), Rhodes, Greece, 21-27 Sept. 2013.
8.	Dy, N. V., <b>Saeed. F.</b> , Ion Paraschivoiu, I.	Dynamic Response Analysis of Darrieus-Type Vertical Axis Water Turbines	23 <sup>rd</sup> International Ocean and Polar Engineering Conference (ISOPE-2013), Anchorage, Alaska, USA, June 30 to July 5, 2013

9.	Saeed, F.	A Model for VAWT Aerodynamic Brakes	Proceedings of the 37 <sup>th</sup> ARA Congress, Chisinau, Republic of Moldova, June 4- 9, 2013
10.	Saeed, F., Omar, H. M., Paraschivoiu, I.	Use of Spinning Finite Element Approach for VAWT Vibratory Modes and Dynamic Response Assessment	AWEA's WINDPOWER 2013 Conference & Exhibition, May 5-8, 2013, at Chicago, USA
11.	Saeed, F., and Al-Garni, A. Z.	An Inverse Design Method for Aircraft Engine Sand Separator System	38 <sup>th</sup> European Rotorcraft Forum of the American Helicopter Society, Amsterdam, The Netherlands, 4-7 September 2012
12.	Hasanzadeh, K., Laurendeau, E., <b>Saeed, F.</b> , and Paraschivoiu, I.	Wing Aerodyn Performance Analysis and Stall Prediction Using CANICE2D-NS Icing	20 <sup>th</sup> Annual Conference of the CFD Society of Canada, Canmore, Alberta, Canada, May 9-12, 2012
13.	Saeed, F., Hasanzadeh, K., Gahlawat, J., Paraschivoiu, I.	Aircraft Icing and Anti-Icing Simulation Code CANICE3D: Panel Method vs. CFD	Oral Presentation at SAE/AIAA International Conf. on Aircraft and Engine Icing and Ground De-Icing, Chicago, Illinois, USA, June 13-17, 2011
14.	Al-Garni, A. Z., Kassem, A. H., <b>Saeed,</b> <b>F.</b> , and Ahmed, F.	Optimization of Glass Tilt Angle of Solar Still in Saudi Arabia	IDA's Desalination Industry Action for Good Conference, Santa Margherita, Portofino, Italy, May 16-18, 2011
15.	Khan, M. M. A., Saeed, F., and Al- Garni, A. Z.	Numerical Investigation of Mechanism for Anti-Icing Hot-Air Jet Surface Heat Transfer Enhancement	AIAA Paper 2010-4770, 10th AIAA/ASME Joint Thermo-Physics & Heat Transfer Conf. in Chicago, USA from 28 June – 1 July 2010
16.	Al-Garni, A. Z., and Saeed, F.	Experimental and Numerical Investigation of 65-deg Delta and 65/40-deg Double-Delta Wings in Sideslip	AIAA Paper 2010-4950, 28 <sup>th</sup> AIAA Applied Aerodynamics Conference, Chicago, Illinois, USA from 28 June – 1 July 2010
17.	Paraschivoiu, I., Saeed, F., Desorby, V.	New Algorithms for Wind Turbine Performance Perdiction and Optimal Design	International Symposium on Transport Phenomena, ISTP-20, Victoria, BC, Canada, 7-10 July 2009
18.	Saeed, F., Al-Garni, A. Z., and Khan, M. M. A.	Numerical Investigation of Mechanisms to Aid in Enhancing Surface Heat Transfer from an Impinging 2D Hot Air Jet	13 <sup>th</sup> CASI Aeronautics Conference & 56 <sup>th</sup> Annual General Meeting, Ottawa, Canada, 5-7 Apr. 2009

19.	Malik, M. A., and Saeed, F.	Performance Optimization of General Aviation Aircraft by Integration of High Power Propulsion System on Existing Airframe	13 <sup>th</sup> CASI Aeronautics Conference and 56 <sup>th</sup> Annual General Meeting, Ottawa, ON, Canada, 5-7 Apr. 2009
20.	Al-Faris, E., and Saeed, F.	Design and Optimization Method for Inertial Particle Separator	AIAA Paper No. 2008-6066, 12 <sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Victoria, British Columbia, Canada, 10 - 12 Sept. 2008
21.	Saeed, F.	Optimum Design of a Small VAWT: A Review of Current Limitations	Proceedings of the 32 <sup>nd</sup> ARA Congress, Boston, USA, July 22-26, 2008
22.	Saeed, F., Paraschivoiu, I., Trifu, O., Hess, M., and Gabrys, C.	Inverse Airfoil Design Method for Low-Speed Straight-Bladed Darrieus- type VAWT Applications	Proceedings of the 7 <sup>th</sup> World Wind Energy Conference 2008, Kingston, Canada, June 24-26 <sup>th</sup> , 2008
23.	Al-Garni, A. Z., Jamal, A., <b>Saeed, F.,</b> and Kassem, A. H.	Failure Rate Analysis of Boeing 737 Brakes Employing Neural Network	AIAA Paper No. 2007-7854, Proceedings of 7 <sup>th</sup> AIAA Aviation Technology, Integration, and Operations Conference, Belfast, Northern Ireland, UK, 18-20 September 2007
24.	Saeed, F., and Al-Garni, A. Z.,	Numerical Simulation of Heat Transfer from an Array of Anti-Icing Hot-Air Jets	AIAA Paper 2007-4287, 25 <sup>th</sup> AIAA Applied Aerodynamics Conference, Miami, Florida, USA, 24-28 June 2007
25.	Al-Garni, A. Z., Saeed, F., and Al- Garni, A. M	Experimental and Numerical Investigation of 65-deg Delta and 65/40-deg Double-Delta Wings	AIAA Paper 2006-0063, 44 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, USA, Jan. 2006
26.	Saeed, F., and Al-Garni, A. Z.	An Analysis Method for Inertial Particle Separator	AIAA Paper 2006-0014, 44 <sup>th</sup> AIAA Aerospace Science Meeting & Exhibit, Reno, USA, Jan 2006
27.	Saeed, F., and Al-Garni, A. Z.	Impact of Floating-Point Arithmetic on Engineering Numerical Analysis	30 <sup>th</sup> Annual ARA Congress, Chisinau, Republic of Moldova, July 2005. <b>Saeed, F.,</b> Brette, C
28.	Fregeau, M., Trifu, O., and Paraschivoiu, I.	A Three-Dimensional Water Droplet Trajectory and Impingement Analysis Program	AIAA Paper 2005-4838, 23 <sup>rd</sup> AIAA Applied Aerodynamics Conference, Toronto, Ontario, Canada, June 6-9, 2005
29.	Al-Garni, A. Z., Tozan, M., Kassem, A., and <b>Saeed, F.</b>	Reliability Analysis of Aircraft Air Conditioning Packs	3 <sup>rd</sup> Aircraft Engineering Symposium of Saudi Arabian Airlines at Jeddah, Saudi Arabia, Nov. 30 - Dec. 1, 2004

30.	Fregeau, M., Saeed, F., and Paraschivoiu, I.	Surface Heat Transfer Study for Ice Accretion and Anti- Icing Prediction in Three Dimension	AIAA Paper 2004-0063, 42 <sup>nd</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, USA, Jan. 2004
31.	Fregeau, M., Saeed, F., and Paraschivoiu, I.	Numerical Correlations for Heat Transfer From an Array of Hot-Air Jets Impinging on a 3D Concave Surface	AIAA Paper 2003-3403, 21st AIAA Applied Aerodynamics Conference, Orlando, Florida, USA, June 2003
32.	Fregeau, M., Gabr, M., <b>Saeed, F.,</b> and Paraschivoiu, I.	Numerical Simulation of Heat Transfer from an Array of Hot-Air Jets Impinging on a 3D Concave Surface	Canadian Aeronautics and Space Institute (CASI): 50 <sup>th</sup> Annual General Meeting and Conference, to be published in the Conference Proceedings, Montreal, Apr. 2003
33.	Yu, J., <b>Saeed, F.,</b> and Paraschivoiu, I.	An Iterative Inverse Design Method Based on Aerodynamic Streamline Equations	AIAA Paper 2003-0214, 41st Aerospace Sciences Meeting & Exhibit, Jan. 2003, Reno, NV, USA
34.	Staelens, Y., Saeed, F., and Paraschivoiu, I.	A Straight-Bladed Variable- Pitch VAWT Concept for Improved Power Generation	AIAA Paper 2003-0524, 22 <sup>nd</sup> ASME Wind Energy Symposium held in conjunction with the 41 <sup>st</sup> Aerospace Sciences Meeting & Exhibit, Jan. 2003, Reno, NV, USA
35.	Kerevanian, GK., Sidorenko, A., Bernard, E., Cooper, R. K., Raghunathan, R. S., <b>Saeed, F.,</b> Paraschivoiu, I., and Kafyeke, F.	Effect of Density and Height of Roughness Elements on Turbulent Boundary Layers	AIAA Paper 2003-0645, 41st Aerospace Sciences Meeting & Exhibit, Jan. 2003, Reno, NV, USA
36.	Yu, J., <b>Saeed, F.,</b> and Paraschivoiu, I.	Efficient Optimized Airfoil Parameterization	AIAA Paper 2003-0725, 41 <sup>st</sup> Aerospace Sciences Meeting & Exhibit, Jan. 2003, Reno, NV, USA
37.	<b>Saced, F.,</b> and Paraschivoiu, I.,	Optimization of a Hot-Air Anti-Icing System	AIAA Paper 2003-0733, 41st Aerospace Sciences Meeting & Exhibit, Jan. 2003, Reno, NV, USA
38.	Paraschivoiu, I., <b>Saeed, F.,</b> and Desobry, V.	Prediction Capabilities in Vertical-Axis Wind Turbine Aerodynamics	World Wind Energy Conference and Exhibition, Berlin, Germany, 2-6 July 2002
39.	Havugimana, PC., Lutz, C., <b>Saeed, F.,</b> Paraschivoiu, I., Kerevanian, GK., Sidorenko, A., Bernard, E., Cooper,	A Comparison of Skin Friction and Heat Transfer Prediction by Various Roughness Models	AIAA Paper 2002-3052, 20 <sup>th</sup> AIAA Applied Aerodynamics Conference, 24—27 June 2002, St. Louis, Missouri, USA

	R. K., and Raghunathan, R. S.		
40.	Kerevanian, GK., Sidorenko, A., Benard, E., Cooper, R. K., Raghunathan, R. S., <b>Saeed, F.,</b> Lutz C., Paraschivoiu, I. and Kafyeke, F.	Effect of Regular Roughness on Turbulent Boundary Layer	CEAS Aerospace Aerodynamics Research Conference of the Royal Aeronautical Society, Cambridge, England, June 10—13, 2002
41.	Saeed, F.	Numerical Models For Boundary-Layer Analysis On Rough Surfaces	Proceedings of the 27 <sup>th</sup> Annual Congress of the American Romanian Academy of Arts and Sciences (ARA), May 29—June 2, 2002, Oradea, Romania, pp. 359—363
42.	Paraschivoiu, I., and Saeed, F.	Ice Accretion Simulation Code CANICE	Proceedings of the International Aerospace Symposium "Carafoli 2001," Oct. 19—20, 2001, Bucharest, Romania, pp. 81—86
43.	Saeed, F.	Joukowski Airfoils with Slot Suction	Proceedings of 26 <sup>th</sup> AnnualARA (American Romanian Academy) Congress, July 25-29, 2001, Montreal, Canada, pp. 359
44.	Saeed, F., Gouttebroze, S., and Paraschivoiu, I.	Modified CANICE for Improved Prediction of Airfoil Ice Accretion	Proceedings of the 48 <sup>th</sup> Annual Conference and the 8 <sup>th</sup> Aerodynamics Symposium of the Canadian Aeronautics and Space Institute (CASI), Apr. 29— May 2, 2001, Toronto, ON, Canada, pp. 283—289
45.	Gouttebroze, S., Saeed, F., and Paraschivoiu, I.	CANICE—Capabilities and Current Status	NATO/RTO Workshop, Assessment of Icing Code Prediction Capabilities, at CIRA, Capua, Italy, Dec. 6—7, 2000
46.	Saeed, F.	Aircraft Icing and Anti-Icing Simulation	Proceedings of the 25th Annual ARA Congress (American Romanian Academy of Arts & Sciences), July 12- 16, 2000, USA
47.	<b>Saced, F.,</b> and Paraschivoiu, I.	Numerical Correlation for Local Nusselt Number Distribution for Hot-Air Jet Impingement on Concave Surfaces	Proceedings of the 8 <sup>th</sup> Annual Conference of the CFD Society of Canada, CFD2K, Montreal, Canada, June 11—13, 2000, Vol. 2, pp. 897—904
48.	Saeed, F., Morency, F.B., and Paraschivoiu, I.	Numerical Simulation of a Hot-Air Anti-Icing System	AIAA Paper 2000-0630, 38 <sup>th</sup> Aerospace Sciences Meeting & Exhibit, Jan. 2000, Reno, NV, USA
49.	Morency, F.B., Tessier, P., <b>Saeed, F.</b> , and Paraschivoiu, I.	Anti-Icing System Simulation on Multi- element Airfoil	Proceedings of the 46 <sup>th</sup> Annual Conference of Canadian Aeronautics and Space Institute, pp. 463—470, May 1999, Montreal, Canada

50.	Saeed, F., Selig, M. S., and Bragg, M. B.	Experimental Validation of the Hybrid Airfoil Design Procedure for Full-Scale Ice Accretion Simulation	AIAA Paper 1998-0199, 36 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Jan. 6-9, 1998
51.	Saeed, F., Selig, M. S., and Bragg, M. B.	A Hybrid Airfoil Design Method to Simulate Full- Scale Ice Accretion Throughout a Given C <sub>l</sub> - Range	AIAA Paper 1997-0054, 35 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Jan. 6-9, 1997
52.	Saeed, F., Selig, M. S., and Bragg, M. B.	A Design Procedure for Subscale Airfoils with Full- Scale Leading Edges for Ice Accretion Testing	AIAA Paper 1996-0635, 34 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Jan. 15-18, 1996
53.	Saeed, F., and Selig, M. S.	A New Class of Airfoils with Slot-Suction	AIAA Paper 1996-0058, 34 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Reno, Jan. 15-18, 1996
54.	Saeed, F., and Selig, M. S.	A Multipoint Inverse Airfoil Design Method for Slot- Suction Airfoils	AIAA Paper 1995-1857, 13 <sup>th</sup> AIAA Applied Aerodynamics Conference, San Diego, June 19-22, 1995

# المشاريع البحثية المنتهية

#	أسماء الباحثين	عنوان البحث	تاريخ البحث
1.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KACST-NSTIP Project No. 14- ENE2337-04	Development of a Reconfigurable Variable Blade-Pitch Control Mechanism for Vertical Axis Wind Turbines of Darrieus-Type	Sept. 2017
2.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KACST-NSTIP Project No. 11- SPA1618-04	Experimental and Numerical Study of Trapped Vortex Wing Concept for UAV and VAWT Applications	Aug. 2015
3.	Al-Garni, Z. A. (PI) Saeed. F. (Co-I), KACST-NSTIP Project No. 11- SPA1648-04	Experimental & Numerical Study of the Rolling Stability Analysis of Delta- and Double-Delta Wing	Aug. 2015
4.	Al-Garni, Z. A. (PI) Saeed. F. (Co-I), KFUPM Internal Project No. IN090026	Design, Testing and Optimization of Economically-Sound Small Solar Sea Water Desalination Units	Apr. 2012
5.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KACST (NSTIP) Project No. 08- SPA49-4	Development of an Efficient Design Method for Aircraft Engine Sand Separator System	Aug. 2011
6.	El Ferik, Sami (PI) Omar, H. (Co-I), Ghouti, L. (Co-I), Saeed, F. (Co-I)	Adaptive Anti-Swing Time-Delayed Feedback Controller for Flying Cranes	Aug. 2011

	KACST-NSTIP Project No. 09-SPA783-04		
7.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KFUPM Fast Track Project No. FT070012	Aerodynamic Performance and Lateral Stability Analyses of Delta and Double- Delta Wing Configurations	Feb. 2010
8.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KFUPM SABIC Project No. SB070026	Numerical Modeling and Investigation of Novel Design Arrangements for Improving Surface Heat Transfer from an Aircraft Hot-Air Anti-Icing System	Apr. 2008
9.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KFUPM Fast Track Project No. FT050004	Numerical Modeling and Analysis of an Aircraft Hot-Air Anti-Icing System	Aug. 2006
10.	Saeed. F. (PI), Al-Garni, Z. A. (Co-I) KFUPM Fast Track Project No. FT/2004-08	Aerodynamic Performance and Longitudinal Stability Analyses of Delta and Double-Delta Wing Configurations	Aug. 2005

## الأبحاث الحالية

#	عنوان البحث	أسماء الباحثين
1.	Adaptation of Photovoltaic Module for Harsh Desert-Like Environment	Fahad Al-Amri, Farooq Saeed, Taher Maatallah, et al (IAU) Dong Seop Kim, Yoonmook Kang, et al (Shinsung, S. Korea)
2.	Hydrogen generator from enhanced performance HCPV	Fahad Al-Amri, Farooq Saeed, Taher Maatallah, et al (IAU) Rafael Cervantes, Ignacio Luque Heredia, et al (BSQ Solar, Spain)
3.	Design, Build and Testing of a Solar-Powered Radiation- Augmented Portable Desalination System	Farooq Saeed, Abdullah Almalki, Faisal Alzahrani, M. Hani Alwaheed (IAU)

# المساهمات في المؤتمرات والندوات العلمية

#	عنوان المؤتمر	المكان والتاريخ	مجال المساهمة
1.	36 <sup>th</sup> Wind Energy Symposium of the 2018 AIAA SciTech (Science and Technology)	Kissimmee, Florida, USA Jan. 8-12, 2018	Paper presentation
	Forum		
2.	2017 SAOO Energy Conference and Exhibition	Al-Hasa, Saudi Arabia Dec. 2017	Paper presentation ( <b>two</b> papers were presented)
3.	International Symposium on Wind & Tidal Power	Montreal, Canada May 28-31, 2017	Paper presentation
4.	35th Wind Energy Symposium at the AIAA SciTech Forum	Grapevine, Texas, USA Jan. 9-13, 2017	Paper presentation

5.	ICPEEE 2016: 18th International Conference on Power, Energy and Electrical Engineering	Istanbul, Turkey January, 25-26, 2016.	Paper presentation
6.	Saudi Arabia Smart Grid Conference 2015	Jeddah, Saudi Arabia Dec. 2015	RETScreen Workshop: organized & delivered
7.	8 <sup>th</sup> Symposium on Numerical Analysis of Fluid Flow and Heat Transfer, International Conference of Numerical Analysis and Applied Mathematics (ICNAAM)	Rhodes, Greece 21-27, Sept. 2013	Paper presentation
8.	23 <sup>rd</sup> International Ocean and Polar Engineering Conference (ISOPE-2013)	Anchorage, Alaska, USA June 30 to July 5, 2013.	Paper presentation
9.	37 <sup>th</sup> ARA Congress	Chisinau, Republic of Moldova, June 4-9, 2013	Paper presentation
10.	AWEA's WINDPOWER 2013 Conference & Exhibition	Chicago, USA May 5-8, 2013.	Paper presentation
11.	38 <sup>th</sup> European Rotorcraft Forum of the American Helicopter Society	Amsterdam, The Netherlands 4-7 September 2012	Paper presentation
12.	20 <sup>th</sup> Annual Conference of the CFD Society of Canada	Canmore, Alberta, Canada May 9-12, 2012	Paper presentation
13.	SAE/AIAA International Conf. on Aircraft and Engine Icing and Ground De-Icing	Chicago, Illinois, USA June 13-17, 2011	Oral Presentation
14.	IDA's Desalination Industry Action for Good Conference	Santa Margherita, Portofino, Italy, May 16- 18, 2011	Paper presentation
15.	10th AIAA/ASME Joint Thermo-Physics & Heat Transfer Conference	Chicago, USA 28 June – 1 July 2010	Paper presentation
16.	28 <sup>th</sup> AIAA Applied Aerodynamics Conference	Chicago, USA 28 June – 1 July 2010	Paper presentation
17.	International Symposium on Transport Phenomena, ISTP-20	Victoria, BC, Canada 7-10 July 2009	Paper presentation
18.	13 <sup>th</sup> CASI Aeronautics Conference & 56 <sup>th</sup> Annual General Meeting	Ottawa, Canada 5-7 Apr. 2009	Paper presentation ( <b>two</b> papers were presented)
19.	12 <sup>th</sup> AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference	Victoria, BC, Canada 10 - 12 Sept. 2008	Paper presentation
20.	32 <sup>nd</sup> ARA Congress	Boston, USA July 22-26, 2008	Paper presentation
21.	7 <sup>th</sup> World Wind Energy Conference 2008	Kingston, Canada June 24-26 <sup>th</sup> , 2008	Paper presentation
22.	25 <sup>th</sup> AIAA Applied Aerodynamics Conference	Miami, Florida, USA 24-28 June 2007	Paper presentation

23.	44 <sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit	Reno, Nevada, USA Jan. 2006	Paper presentation ( <b>two</b> papers were presented)
24.	30 <sup>th</sup> Annual ARA Congress	Chisinau, Republic of Moldova, July 2005	Paper presentation
25.	23 <sup>rd</sup> AIAA Applied Aerodynamics Conference	Toronto, Ontario, Canada June 6-9, 2005	Paper presentation
26.	3 <sup>rd</sup> Aircraft Engineering Symposium of Saudi Arabian Airlines	Jeddah, Saudi Arabia Nov. 30 - Dec. 1, 2004	Paper presentation
27.	42 <sup>nd</sup> AIAA Aerospace Sciences Meeting and Exhibit	Reno, Nevada, USA Jan. 2004	Paper presentation
28.	21 <sup>st</sup> AIAA Applied Aerodynamics Conference	Orlando, Florida, USA June 2003	Paper presentation
29.	Canadian Aeronautics and Space Institute (CASI): 50 <sup>th</sup> Annual General Meeting and Conference	Montreal, Canada Apr. 2003	Paper presentation
30.	41 <sup>st</sup> Aerospace Sciences Meeting & Exhibit	Reno, NV, USA Jan. 2003	Paper presentation (four papers were presented)
31.	22 <sup>nd</sup> ASME Wind Energy Symposium held in conjunction with the 41 <sup>st</sup> Aerospace Sciences Meeting & Exhibit	Reno, NV, USA Jan. 2003	Paper presentation
32.	World Wind Energy Conference and Exhibition	Berlin, Germany 2-6 July 2002	Paper presentation
33.	20 <sup>th</sup> AIAA Applied Aerodynamics Conference	St. Louis, Missouri, USA 24-27 June 2002	Paper presentation
34.	CEAS Aerospace Aerodynamics Research Conference of the Royal Aeronautical Society	Cambridge, England June 10-13, 2002	Paper presentation
35.	27 <sup>th</sup> Annual Congress of the American Romanian Academy of Arts and Sciences (ARA)	Oradea, Romania 29-June 2, 2002	Paper presentation
36.	International Aerospace Symposium "Carafoli 2001"	Bucharest, Romania Oct. 19-20, 2001	Paper presentation
37.	26 <sup>th</sup> AnnualARA (American Romanian Academy) Congress	Montreal, Canada July 25-29, 2001	Paper presentation
38.	48 <sup>th</sup> Annual Conference and the 8 <sup>th</sup> Aerodynamics Symposium of the Canadian Aeronautics and Space Institute (CASI)	Toronto, ON, Canada Apr. 29-May 2, 2001	Paper presentation
39.	NATO/RTO Workshop, Assessment of Icing Code Prediction Capabilities	CIRA, Capua, Italy Dec. 6—7, 2000	Paper presentation
40.	25th Annual ARA Congress (American Romanian Academy of Arts & Sciences)	Boston, MA, USA July 12-16, 2000	Paper presentation

41.	8 <sup>th</sup> Annual Conference of the CFD	Montreal, Canada	Paper presentation
	Society of Canada, CFD2K	June 11—13, 2000	
42.	38 <sup>th</sup> Aerospace Sciences Meeting &	Reno, NV, USA	Paper presentation
	Exhibit	Jan. 2000	
43.	46 <sup>th</sup> Annual Conference of Canadian	Montreal, Canada	Paper presentation
	Aeronautics and Space Institute	May 1999	
44.	36 <sup>th</sup> AIAA Aerospace Sciences Meeting	Reno, Nevada, USA	Paper presentation
	and Exhibit	Jan. 6-9, 1998	
45.	35 <sup>th</sup> AIAA Aerospace Sciences Meeting	Reno, Nevada, USA	Paper presentation
	and Exhibit	Jan. 6-9, 1997	
46.	34 <sup>th</sup> AIAA Aerospace Sciences Meeting	Reno, Nevada, USA	Paper presentation (two
	and Exhibit	Jan. 15-18, 1996	papers were presented)
47.	13 <sup>th</sup> AIAA Applied Aerodynamics	San Diego, CA, USA	Paper presentation
	Conference	June 19-22, 1995	

## العضويات واللجان المشارك فيها

- Life member AIAA (American Institute of Aeronautics & Astronautics)
- Life member RAeS (Royal Aeronautical Society, UK, Pakistan Branch)
- Full member ARA (American Romanian Academy of Arts & Sciences)

#### نشطة التدريس

#### الحامعية

#	المقرر	رقم المقرر	مجال المساهمة
1.	Statics	ENG 232	45 Lectures
		Terms: 2162 (2), 2165,	
2.	Introduction to	ENG 252	30 lectures + Tutorials
	Engineering	Terms: 2161 (2), 2171,	
3.	Dynamics	ENG 311	30 Lectures
		Terms: 2171 (3), 2172, 2181	
		(2), 2182, 2192	
4.	Heat and Mass	ENRG 313	45 Lectures + 30 Labs
	Transfer	Term: 2185	
5.	Fluid Mechanics	EE 321/ENRG 314	45 Lectures + 30 Labs
		Terms: 2172, 2182, 2191	
6.	Fluid Mechanics	ENG 321	30 Lectures + 30 Labs
		Terms: 2161 (2)	
7.	Fluid Mechanics	ENG 342	30 Lectures + 30 Labs
		Terms: 2161	
8.	Thermodynamics	ENG 352	45 Lectures
		Terms: 2162, 2165	
9.	Renewable Energy	ENRG 403	30 Lectures + 30 Labs
		Terms: 2181, 2191, 2201	

10.	Thermodynamics, Mass and Heat	ENG 441 Terms: 2185	30 Lectures + 30 Labs
	Transfer		
11.	Fluid Dynamics	BIOEN 441	30 Lectures
		Terms: 2201	
12.	Summer Training	ENRG 444	Supervision
		Term 2195	
13.	Senior Design Project	ENRG 503	30 Lectures/Supervision
	I	Term: 2191, 2201	
14.	Senior Design Project	ENRG 509	45 Lectures/Supervision
	II	Term: 2192, 2202	
15.	Turbomachinery	ENRG 511	30 Lectures + 30 Labs
		Term: 2192, 2202	
16.	Directed Research	ENRG 565	45 Lectures/Supervision
		Terms: 2182	
The	following course were ta	ught at King Fahd University o	of Petroleum & Minerals (2003-2015)
17.	Aerospace	AE 240	30 Lectures
	Engineering Design		
18.	Gas Dynamics I	AE 325	45 Lectures
19.	Experimental and	AE 355	30 Labs
	Numerical Methods		
	for Aerospace		
	Engineering		
20.	Flight Propulsion I	AE 422	45 Lectures
21.	Aerospace System	AE 427	45 Lectures
	Design		
22.	Gas Dynamics II	AE 429	45 Lectures
23.	Numerical Methods	AE 450	30 Labs
	for Aerospace		
	Engineering		
24.	Fluid Mechanics	ME 311	45 Lectures
25.	Heat and Mass	ME 315	45 Lectures
	Transfer		

# وصف مختصر لمقررات المرحلة الجامعية التي تم تدريسها (عنوان المقرر- رقم المقرر: شرح المقرر)

- 1. **ENG 232 Statics:** Topics coverage includes vectors, Newton's laws, free body diagrams, equilibrium of forces for particles and rigid bodies, friction, center of mass, moment of inertia.
- 2. **ENG 252 Introduction to Engineering:** Topics include introduction to engineering profession, disciplines, career planning, understanding & problem solving, research, professional ethics & code of conduct.
- 3. **ENG 311 Dynamics:** Topics include kinematics of particles & rigid bodies, force & acceleration, work & energy, impulse, momentum & impact, vibrations.
- 4. **ENRG 313 Heat and Mass Transfer:** Topics include conduction in 1 & 2D, unsteady conduction, convection heat transfer, external & internal flows, heat exchanger, thermal radiation heat transfer, diffusion mass transfer and laboratory exercises.

- 5. **EE 321/ENRG 314 Fluid Mechanics:** Topics include fluid properties, fluid statics, conservation laws, control volume analysis, Bernoulli and Euler equations, vorticity, potential flow theory, lift and drag, boundary-layer flows, open—channel flows, flow through pipes & pipe networks; dimensional analysis and similitude, and laboratory exercises.
- 6. **ENG 321 Fluid Mechanics:** Topics include fluid properties, fluid statics, conservation laws, control volume analysis, Bernoulli and Euler equations, vorticity, potential flow theory, lift and drag, boundary-layer flows, open—channel flows, flow through pipes & pipe networks; dimensional analysis and similitude, and laboratory exercises.
- 7. **ENG 342 Fluid Mechanics:** Topics include fluid properties, fluid statics, conservation laws, control volume analysis, Bernoulli and Euler equations, vorticity, potential flow theory, lift and drag, boundary-layer flows, open—channel flows, flow through pipes & pipe networks; dimensional analysis and similitude, and laboratory exercises.
- 8. **ENG 352 Thermodynamics:** Topics include Topics include thermodynamics definitions & basic concepts, properties of pure substance, phase change, ideal gas, first and second law of thermodynamics and applications, entropy, irreversibility, chemical reaction and combustion.
- 9. **ENRG 403 Renewable Energy:** Topics include solar radiation characteristics and measurement, review of heat transfer principles and collector optical properties, Flat plate and Concentrating collectors, Geothermal power systems, Photovoltaic (PV) systems, Wind characteristics, resource assessment, wind power technology, theory, performance analysis and design, and laboratory exercises.
- 10. **ENG 441 Thermodynamics, Mass and Heat Transfer:** Topics include thermodynamics definitions & basic concepts, properties of pure substance, phase change, ideal gas, first and second law of thermodynamics and applications, entropy, irreversibility, chemical reaction and combustion, conduction & convection heat transfer, thermal radiation heat transfer, diffusion mass transfer, and laboratory exercises.
- 11. **BIOEN 441 Fluid Dynamics:** Topics include fluid properties, fluid statics, conservation principles to several micro and macro biological flows, control volume analysis, biological flows, macro and microcirculation, intraocular fluid flow, flow through heart, arteries and veins, and microvascular beds.
- 12. **ENRG 444 Summer Training:** General supervision of summer training of students
- 13. **ENRG 503 Senior Design Project I:** Design of a mechanical system related to renewable energy field
- 14. **ENRG 509 Senior Design Project II:** Design of a mechanical system related to renewable energy field
- 15. **ENRG 511 Turbomachinery:** Topics include introduction to turbomachinery, compressible flow, turbomachine analysis, principles, steam, hydraulic & wind turbines, axial and centrifugal compressors, pumps and turbines, wind turbines, performance characteristics & design
- 16. **ENRG 565 Directed Research:** Research topics related to renewable energy field
- 17. **AE 240 Aerospace Engineering Design:** Topics include history, introduction to aerospace design, lift & drag, performance and design methodology with case studies for subsonic aircraft design.
- 18. **AE 325 Gas Dynamics I:** Topics include compressible fluid flow, isentropic flow, sound waves, Mach number, variable area flow, normal and oblique shocks, expansion fan, Rayleigh and Fanno flows.
- 19. **AE 355 Experimental and Numerical Methods for Aerospace Engineering:** Topics include numerical modeling and problem solving in MS Excel & MATLAB, flow analysis in ANSYS Fluent, matrix operations, solution of system of linear and non-linear equations, root finding, solution of ODEs, and statistical analysis.

20.	AE 422 Flight Propulsion I: Topics include aerothermodynamics of gas turbine engines,
	inlets/diffusers, combustors and nozzles, axial compressors and turbines, rocket vehicle
	performance, chemical rocket thrust chambers, chemical rocket propellants.

- 21. **AE 427 Aerospace System Design:** Topics include theory, background, and methods of aerospace system (e.g., aircraft, rockets, and space craft) design; including requirements and specifications of design, integration of aerodynamics, structure, propulsion, and flight dynamics and control; performance analysis and prediction; and complete integration of aerospace system.
- 22. **AE 429 Gas Dynamics II:** Topics include conical flow, transonic, supersonic and hypersonic flows, linearized flow, method of characteristics
- 23. **AE 450 Computational Methods in Aerospace Engineering:** Topics include numerical modeling and problem solving in MS Excel & MATLAB, airfoil flow analysis in ANSYS Fluent, matrix operations and solution of system of linear and non-linear equations, root finding, complex numbers & conformal mapping, solution of ODEs & PDEs, statistical analysis, control system and flight trajectory modeling.
- 24. **ME 311 Fluid Mechanics:** Topics include fluid properties, fluid statics, conservation laws, control volume analysis, Bernoulli and Euler equations, vorticity, potential flow theory, lift and drag, boundary-layer flows, open—channel flows, flow through pipes & pipe networks; dimensional analysis and similitude.
- 25. **ME 315 Heat and Mass Transfer:** Topics include Topics include conduction in 1 & 2D, unsteady conduction, convection heat transfer, external & internal flows, heat exchanger, thermal radiation heat transfer, diffusion mass transfer.

#### الدر اسات العليا

#	المقرر	رقم المقرر	مجال المساهمة
	Aerodynamics of Compressible Flow	AE 520	45 Lectures
	Aerospace Computational Fluid Dynamics	AE 528	45 Lectures

# وصف مختصر لمقررات المرحلة الجامعية التي تم تدريسها (عنوان المقرر- رقم المقرر: شرح المقرر)

- 1 AE 520 Aerodynamics of Compressible Flow: Advanced topics in gas dynamics such as conical flow, transonic, supersonic and hypersonic flows, linearized flow, method of characteristics
- 2 AE 528 Aerospace Computational Fluid Dynamics: Advanced topics in CFD modeling, mathematical behavior of PDEs, discretization, stability, grid generation, 1 & 2D flows, FVM, FEM techniques.

# الإرشاد الأكاديمي للطلاب

#	المرحلة	عدد الطلاب	من	إلى
1	Undergraduate	Averaged 19 students per semester for a total of	2003	2015
		30 semester		

# الإشراف على رسائل الماجستير والدكتوراة

#	الشهادة العلمية	المعنوان	الجهة	التاريخ	
1.	PhD	Anti-Icing Simulation Code (Francois Morency)	École Polytechnique de Montréal Montréal, Canada	1999	
2.	PhD	Radiation Modelling (Fahad G. Al-Amri)	King Fahad University of Petroleum & Minerals	2008	
3.	PhD	Aircraft Icing & Anti-Icing Simulation (Jaideep Gahlawat)	École Polytechnique de Montréal Montréal, Canada		
4.	PhD			2011	
5.	PhD	Wind Turbine Fluid-Structure Interaction Model (Norbert Voutthi Dy)			
6.	MS	Adaptive Attitude Control of Satellite (Rihan Ahmed Irfan Ahmad)	King Fahad University of Petroleum & Minerals		
7.	MS	Missile Performance and Stability (Ayman Abdullah)	King Fahad University of Petroleum & Minerals	nerals	
8.	MS	Design of a Light Aircraft (Muhammad Aamir Malik)	nir Malik) Petroleum & Minerals		
9.	9. MS Numerical Investigation of Mechanisms King		King Fahad University of Petroleum & Minerals	2010	
10	MS	Numerical Modelling and Simulation of a Hot-Air Jet Anti Icing System using Channels for Increasing Heat Transfer (Kamran Z. Ahmed)	King Fahad University of Petroleum & Minerals		
11	MS	Aerodynamic and Structural Optimization of Vertical Axis Wind Turbine (Ali S. Alhamaly)	King Fahad University of Petroleum & Minerals		

المهمات الإدارية واللجنات وخدمة المجتمع (بداءا من الأحدث)

# عضوية اللجنات

#	ها*ر	الم ر	المنصب	الحمة
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1.	2017	2020	Chairman – College of Engineering Quality and Assessment Committee	College of Engineering, IAU
2.	2017	Present	Chairman - Departmental Program Assessment committee	Department of Mechanical and Energy Engineering, College of Engineering, IAU
3.	2016	Present	Member - Departmental Academic & Research committee	Department of Mechanical and Energy Engineering, College of Engineering, IAU
4.	2003	2015	Member - Departmental Academic & Research committee	Aerospace Engineering Department, KFUPM
5.	2003	2015	Member - Departmental Senior Design Project and Industry Cooperative Training Evaluation Committee	Aerospace Engineering Department, KFUPM
6.	2003	2015	Member – Departmental ABET committee	Aerospace Engineering Department, KFUPM
7.	2011	2014	Member – College of Engineering Sciences Strategic Planning Committee	College of Engineering Sciences, KFUPM
8.	2009	2010	Member – University Committee on Management of Quality Assurance and Improvement for NCAAA Accreditation	KFUPM
9.	2009	2010	Member – University Program Assessment Center Committee	KFUPM
10	2003	2008	Member - Departmental Advising & Student Affairs committee	Aerospace Engineering Department, KFUPM

# الاستشارات العلمية

#	إلى _ من	الجهة	وقت كامل ـ وقت جزئي
1.	2003 - Present	IOPARA Inc., Canada	Part-time
2.	2018 - Present	ANEM, Cyprus	Part-time
		(Anem)	
3.	2022 - Present	MAHLE Powertrain, LLC, Plymouth, USA	Part-time
		(MAHLE Powertrain)	
4.	2021	TBHAWT Manufacturing Co., Estonia	Part-time
5.	2020 - 2021	Shaanxi CHENMA Wind Power Limited, China	Part-time
6.	2015 - 2018	CHAVA Wind LLC, Brazil/ USA	Part-time
		(Chava Wind)	
7.	2014-2018	Guangzhou YATU Wind Energy Co. Ltd. (formerly	Part-time
		known as ENGGA), Ghangzhou, China	
8.	2010-2014	Guangzhou ENGGA Generators Co. Ltd., Ghangzhou,	Part-time
		China	
		(Inge (Yangjiang) Electric Co., Ltd.)	
9.	2012	OrganoWorld Inc., Montreal, Canada	Part-time

		(http://organoworld.com/)	
10	1998 - 2012	Bombardier Aerospace, Montreal, Canada	Part-time
		(Bombardier)	
11	2011	Jansen Aero Inc., Florida, USA,	Part-time
12	2010	ENESSERE, Italy	Part-time
		(Enessere)	
13	2009	OGIN Inc. (ex FloDesign WT), Waltham, USA	Part-time
		(Ogin Energy)	
14	2009	WindPower Ltd., UK	Part-time
		(http://www.windpower.ltd.uk/)	
15	2009	Wind Power Tree, Denmark	Part-time
		( <a href="http://www.windpowertree.com/index-en.html">http://www.windpowertree.com/index-en.html</a> )	
16	2008	UrWind Inc., Montreal, Canada	Part-time
17	2008	Norwegian Ocean Power AS, Norway	Part-time
		(https://www.norwegianoceanpower.com/)	
18	2008-2012	Wind Harvest International, California, USA	Part-time
		(Wind Harvest)	
19	2008 - 2010	CO <sub>2</sub> Vortech Inc., Vaudreuil-Sur-Le-Lac, Quebec,	Part-time
		Canada.	
		(http://co2vortech.com/)	
20	2008	Plainfield Asset Management LLC, Greenwich, CT,	Part-time
		USA ( <a href="https://www.pfam.com/default_dhtml.asp">https://www.pfam.com/default_dhtml.asp</a> )	
21	2007-2008	Windsprie Energy Inc. (formerly known as Mariah	Part-time
		Power Inc., Nevada, USA), Reedsburg, WI, USA	
		(Windspire Verticle Axis Wind Turbines)	
22	2007	OrganoWorld Inc., Montreal, Canada	Part-time
		(http://organoworld.com/)	
23	2001-2002	Ecofys Inc., The Netherlands,	Part-time
	1001 1000	(http://www.ecofys.com/)	
24	1994 - 1998	NASA, USA	Part-time
	1000 100:	(NASA)	7
25	1993 - 1994	McDonnell-Douglas Aircraft Co.	Part-time
•		St. Louis, Illinois, USA	

الكفاءات والمهارات الشخصية (الحاسب, تقنية المعلومات, التقنية .. الخ)

# Technical

- 1 Wind Energy System Design & Analysis
- 2 Aerodynamic Design & Analysis (wind turbine, gas turbines, steam turbines, aircraft)
- 3 CFD Analysis: Structural, Fluid, FSI, Thermal, and Electrical
- 4 Commercial software: ANSYS, QBLADE, XFOIL, COMSOL, RETScreen, MATLAB, LabView, Fortran
- 5 Computer Operating systems: DOS, MS Windows, Linux, Unix, IBM's Solaris, Mac OS

- 6 Computer Hardware: System configuration, setup, build
- 7 Metal/Wood Working machines: lathe, bandsaw, cut, roll, bend, mill, turn, bore, weld.

## Academic

- ABET Program Evaluator: ABET Accreditation, Program Development, Evaluation, Assessment and Quality Assurance
- 2 Engineering Labs and Mechanical Workshop Development
- 3 Aerospace & Energy (Renewable) Engineering Program Development, Assessment and Accreditation
- 4 Biomedical, Construction and Environmental Engineering Program Accreditation

آخر تحدیث

6-Feb-23