Curriculum Vitae (C.V.)

Personal data

Name:	Mohamed Saber Ahmed Ibrahim Sokar
Birth date and Place:	13. December 1971 in Cairo, Egypt
Nationality:	Egyptian
Marital status:	Married
Address:	Teraat EL-Gabel St. 212, Post code 11331, Hadayek EL-Qubba, Cairo, Egypt
Telephone:	+201229705606, +201015266019
E-Mail:	mohamed.sokar@feng.bu.edu.eg

Current position

4/2011 until now	Assistant professor at Faculty of Engineering-Shoubra, mechanical engineering department, Benha University, Greater Cairo, Egypt.
In parallel 9/2015 until now	Head of Practical mechanical Technology Department, Integrated Technical Educational Cluster ITEC, At El-Ameeria.

Professional education

1/2007 to 02/2011	Ph.D. in Mechanical Engineering from RWTH Aachen University of Technology, Institute of Fluid Power Drives and Controls (IFAS), Aachen, **Germany**. Title: „ Investigation of Hydraulic Transmissions in Passenger cars“, ISBN 9783832299286, SHAKER Publisher, Germany.
07/2000 to 03/2003	M.Sc. of Mechanical Power Engineering, Faculty of engineering at Shubra, Zagazig Univ., Benha Branch. Title: “Robust Control of hydrostatic Transmission system”
03/1998 to 06/2000	Preliminary study of Master courses in mechanical engineering, Faculty of engineering at Shubra, Zagazig Univ. Benha Branch, Egypt • **Major**: Mechanical power and Energy. • **Special**: Fluid power drives , control engineering, mechatronics.
09/1991 to 05/1996	Bachelor of Science in Mechanical engineering (Power and energy), Faculty of Engineering at Shubra, Zagazig Univ., Benha branch, Egypt **Degree:** Very good with honor degree (Average of five years 84.72%) Excellent in 1st, 2nd, 3rd and 4th year, and V.Good in preparatory year.

Work experience and practical training

07/1996 to 12/1996	Design Engineer at DIRK Company for Refrigeration and Central Air-Condition system, Heliopolis, Cairo.
07/1995 to 08/1995	Training in Internal Combustion Engine workshops of the Authority of Public Transportation at Mazallat workshops, Cairo.
06/1995 to 07/1995	Training in Cairo Company for Petrol oil manufacture and refining
07/1994 to 08/1994	Practical training in electrical power plant station at Shubra El-Khiema.
06/1994 to 07/1994	Practical training at Misr Petroleum company, Ghamra Branch, Cairo
Summer holiday from 1988 to 1996	**Specialist**: Maintenance and repair of Refrigeration and air-condition appliances as well as gas and electrical Heater at private workshop.

Military service

12/1996 to 03/1998	Worked as a maintenance engineer in the printing workshops of the Egyptian armed forces

Languages

Arabic ……Native, **English** …… Excellent, **German** ……V. Good

Software and computer skills

MS office……	Very good (ICDL)	Solidworks ……	Good
MatLab and simulink ..	Very good	C++ Programing …..	Good
DSHplus ……..…	Very good	Labview ……...	Good
FluidSIM (P&H)……	Very good	CorelDRAW……..	Good
Automation Studio …	Very good	Photoshop……..	Good

Qualification courses

05/2008	Course in „ ***DSHplus Software*** , 3 days, (Getting Started, Professional und Expert with DSHplus) FLUIDON Company of Fluid power technology mbH, Aachen, Germany
08/2009	Course in "***Scientific Writing and Conference English***", at RWTH Aachen University, Germany
04/2011	Course in "***Strategic Planning***" and "***Scientific thinking***", at Benha University, Greater Cairo, Egypt

Academic experience, teaching activity and positions:

04.2011 until now	**Assistant professor:** Mechanical Engineering department (Mechatronics), Faculty of Engineering at Shubra, Benha University, Egypt
01.2007 to 03.2011	**PhD. student and scientific researcher in fluid power controls**, at IFAS of RWTH Aachen university, Aachen,

	Germany
04/1998 to 12/2006	**University Demonstrator:** Mechanical Engineering department, Faculty of Engineering at Shubra, Benha University, Egypt

Lectureship experience from demonstration position until now:	
1- Automatic control engineering 2- Industrial process control 3- Measurement and instrumentation 4- Hydraulics and pneumatics equipments 5- Control of Electro-Hydraulic and Electro-Pneumatic systems 6- Mechanical vibration 7- Programmable logic control 8- Kinematic of Robots	9- Computer programming in Matlab and Simulink 10- Fluid power systems 11- Control of refrigeration and air condition 12- Fluid mechanics, and Thermodynamics 13- Hydraulic machines and pumps & Turbo-machinery 14- Heat and mass transfer 15- Mechanics and dynamics of machines
The place I woke in (Full time and part time): 1- Faculty of engineering, Benha, University, Cairo, Egypt. 2- Akhbar Elyoum Acadmey, 6th October City, Giza, Egypt. 3- Al-Salam Higher institute SHI for engineering and technology, Cairo, Egypt. 4- Integrated Technical Education Cluster ITEC, Al-Ameerya, Cairo, Egypt.	

Publications and research

1. Sokar M., El-mashed Y. A., Abd Rabbo S. and Osman A. M. 2003. ***Theoretical, Experimental Sensitivity Analysis and Control of Hydrostatic Transmission System,*** Proceeding of the 10th international conference on Aerospace science & Aviation Technology ASAT, 13-15 May 2003. Military Technical college, Cairo, Egypt
2. P. Achten, G. Vael, M. Ib-Sokar and T. Kohmäscher, ***Energy Efficiency of the Hydrid***, Proc. Int. Fluid Power Conference 6.IFK, 1-2 April 2008, Dresden, Germany.
3. P. Achten, G. Vael, M. Ib-Sokar and T. Kohmäscher, ***Design and Fuel Economy of A Series Hydraulic Hybrid Vehicle,*** Proceedings of the 7th JFPS International Symposium on Fluid Power, September 15-18, 2008 TOYAMA, Japan.
4. M. Ib-Sokar, H. Murrenhoff, 2010, ***Potential of Hydrostatic drives for efficiency improvements in drivetrains of automobiles,*** 7th International Fluid Power Conference 7.IFK, 22-24 March 2010, Aachen, Germany.
5. M. Ib-Sokar, H. Murrenhoff, 2010, ***Research on Series Hydraulic Hybrid Drivetrain for Using in Automobile,*** Proceedings of the 14th International

Conference on Applied Mechanics and Mechanical Engineering AMME-14, Military Technical college, 25-27 May, 2010, Cairo, Egypt

6. M. Ib-Sokar, H. Murrenhoff, ***Simulation Modeling, Assessment and Energy Management of the Innovative Concept of Series Hydraulic Hybrid for Passenger Cars***, International Congress on Automotive and Transport Engineering CONAT2010, October 27-29, 2010 Brasov, Romania.
7. M. Ib-Sokar, " ***Investigation of Hydraulic Transmissions in Passenger cars*** ", ISBN 9783832299286, 2011, SHAKER Publisher, Germany.
8. Ibrahim Ali Badway, **Mohamed Ib. Sokar**, Saber Abd Rabbo "**Modeling, Identification, and Control of Hydro-pneumatic Suspension Systems**", Engineering and Scientific Research Journal (ESR), 2015/6, Vol. 1, Issue 24.
9. M. Elsayed, M. Ib. Sokar, S. Abd Rabbo, M. ElArabi "**Voice robot control using advanced fuzzy control techniques**", International Journal of Scientific & Engineering Research (IJSER), Vol. 6, issue 11, November 2015, Pp 1195-1201
10. Mohamed Emam, Mohamed Ib. Sokar, Aref Eliwa , and Osama Abdellatif "**Effect of Active Cooling on the Performance of PV Solar Cells**", International conference Renewable Energy Conference, (IRS 2015), March 15-17, 2016, Cairo, Egypt
11. M. Elsayed, M. Sokar, S. Abd Rabbo and M. El-Arabi "**Wheeled Mobile Robot Control Using Advanced Fuzzy Control**", Proceedings of the 17th International Conference on Applied Mechanics and Mechanical Engineering AMME-17, Military Technical College, 19-21 April, 2016, Cairo, Egypt**.**
12. Ibrahim A. Badway, M. Ib. Sokar, S. Abd Raboo, "**Simulation and Control of a Hydro-pneumatic Suspension system** " International Journal of Scientific & Engineering Research IGSER, ISSN 2229-5518, Volume 8, Issue 9, September-2017, pp. 930-935.
13. M. N. Awad, M Ib Sokar, S. A. Rabbo, M. E. El-Arabi , "**Performance Evaluation and Damping Characteristics of Hydro-Pneumatic Regenerative Suspension System** " , International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 7 (2018) pp. 5436-5442.
14. M. N. Awad, M. Ib. Sokar, SA Rabbo, M. E. El-Arabi,"**Hydro-Pneumatic Energy Harvesting Suspension System Using a PSO Based PID Controller** " **,** *SAE International Journal Commercial Vehicles.* 11(4):223-234, 2018, https://doi.org/10.4271/02-11-04-0018
15. Houda E. Aboelnour, H. A. Refaey, M. Ib. Sokar, T. A. Khalil, A. R. Elshamy, " **Effect of Passive Cooling on the Electrical Performance of PV panel** ", Engineering Research Journal (ESR), 2019/ April, Vol. 1, Issue 40.

Teaching courses for (Engineers and Technicians):

Design, maintenance and operation of hydraulic and fluid power machines

Design, maintenance and operation of pneumatic machines

Hydraulic Valves Operation & Maintenance

Design and control of hydraulic pipelines

Design of oil and petroleum pipelines and networks

Pumps Repair and Maintenance

Surface production operations

Pipeline Process Technology (control, tuning and troubleshooting)

System dynamics and Automatic control Engineering

Industrial process control

Programmable Logic controllers (PLC)

Matlab, Simulink and Labview programming

Measurements and instrumentation

Engineering drawing, Autocad and Solidworks software

Control of refrigeration and air conditioning engineering

Fluid mechanics and fluid and turbine machines

Reservoir and tanks design and maintenance

Interests and hoppies:

Football, Reading technological subjects, History and Literature.

Place, Date, Signature

Mohamed Saber Sokar
Cairo, 01.04.2019

RWTH RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN

URKUNDE

Die Fakultät für Maschinenwesen
der Rheinisch-Westfälischen Technischen Hochschule Aachen

verleiht unter dem Rektorat des Universitätsprofessors
für Kunststoffwerkstofftechnik Dr.-Ing. Ernst Schmachtenberg

und unter dem Dekanat des Universitätsprofessors
für Strömungslehre Dr.-Ing. Wolfgang Schröder

Herrn
Mohamed Saber Ahmed Ibrahim

geboren am 13. Dezember 1971 in Kairo, Ägypten,

den akademischen Grad

Doktor der Ingenieurwissenschaften

(Dr.-Ing.)

nachdem er in ordnungsgemäßem Promotionsverfahren unter Mitwirkung der Berichter
Universitätsprofessor Dr.-Ing. Hubertus Murrenhoff
apl-Prof. Dr.-Ing. Jan Welm Biermann

durch die Dissertation:

"Investigation of Hydraulic Transmissions for Passenger Cars"

sowie durch die mündliche Prüfung am 01.02.2011 seine wissenschaftliche Befähigung erwiesen
und hierbei die Gesamtnote

gut

erhalten hat.

Aachen, den 4. März 2011

Der Rektor

E. Schmachtenberg

Der Dekan

W. Schröder

RWTH RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN

URKUNDE

ENGLISH TRANSCRIPT

The Faculty for Mechanical Engineering
of RWTH Aachen University

under the Rectorship of Dr.-Ing. Ernst Schmachtenberg
Professor of Plastics and Materials Technology

and under the Deanship of Dr.-Ing. Wolfgang Schröder
Professor of Fluid Mechanics

herewith confers on

Mr.
Mohamed Saber Ahmed Ibrahim

born on 13th December 1971 in Kairo, Ägypten,

the academic degree

Doktor der Ingenieurwissenschaften

(Dr.-Ing.)

after having satisfied all conditions prescribed in the regulations of the doctoral programme under supervison of the examiners
Professor Dr.-Ing. Hubertus Murrenhoff
apl-Prof. Dr.-Ing. Jan Welm Biermann

and having submitted a thesis entitled

"Investigation of Hydraulic Transmissions for Passenger Cars"

and in the oral examination on 1st February 2011 having proven his academic competence.

The overall grade of
cum laude
was awarded.

Aachen, 4th March 2011

The Rector

E. Schmachtenberg

The Dean

جمهورية مصر العربية
المجلس الأعلى للجامعات

شهادة معادلة

062500

بناء على الطلب المقدم من السيد/ محمد صابر احمد ابراهيم (المدرس المساعد بقسم الهندسة الميكانيكية بكلية الهندسة بشبرا – جامعة بنها والموفد إلى المانيا في بعثة خارجية على نفقة الدولة للحصول على درجة الدكتوراه) للنظر في معادلة درجة Doktor der Ingenieurwissenschaften .

الحاصل عليها من جامعة Rwth Aachen المانيا عام ٢٠١١.

تشهد أمانة المجلس بأنه صدر قرار المجلس الأعلى للجامعات بجلسته رقم (٥٤٣) بتاريخ ٢٠١٠/١٢/٢ بتعديل البند رقم (١) من قرار المجلس الأعلى للجامعات بجلسته رقم (٤٢٦) بتاريخ ٢٠٠٥/٠٤/١٢ ليصبح على النحو التالي :

الموافقة على معادلة درجة الدكتوراه التي يحصل عليها المبعوثون على نفقة الدولة من الجامعات الخاضعة لقانون تنظيم الجامعات المصرية ولائحته التنفيذية وجامعة الأزهر و مبعوثي المراكز البحثية والكليات التابعة لوزارة التعليم العالي وأكاديمية السادات – ج.م.ع ، وكذا الطلاب الموفدين للخارج للحصول على درجة الدكتوراه على منح دراسية مقدمة لهذه الجهات بشرط توافر الضوابط التالية :

١)أن تكون الجهة الموفد إليها المبعوث من المؤسسات التعليمية المعترف بها و سبق معادلة الدرجات التى تمنحها بنظيرتها التي تمنحها الجامعات المصرية .

٢)أن يكون المبعوث أو الموفد تحت الإشراف العلمي للبعثات و المكتب الثقافي المصري بالخارج

٣)موافقة مجلسي القسم والكلية على خطة البحث وعدم تغيير المبعوث أو الموفد للتخصص الموفد إليه أصلا أو بموافقة مجلسي القسم والكلية (إذا طرأ أي تغيير على خطة البحث) .

٤)أن يتم التنسيق فى هذا الشأن بين لجنة المعادلات بالمجلس الأعلى للجامعات والمستشارين الثقافيين بالخارج عن طريق إدارة العلاقات الثقافية بوزارة التعليم العالى فى حالة الاحتياج لذلك.

علما بأن السيد/ محمد صابر احمد ابراهيم مستوفى للضوابط الواردة بقرار المجلس المشار إليه.

وقد أعطيت هذه الشهادة بعد سداد الرسم المقرر بالقسيمة ٣٣ ع ح رقم (٠٢٠٩٠٨٦) بتاريخ ٢٠١١/٤/٢٧.

الموظف المختص	مدير الإدارة	المدير العام	يعتمد
			رئيس الإدارة المركزية
			١٥/٥/٢٠١١

BENHA UNIVERSITY
FACULTY OF ENGINEERING
SHOUBRA - CAIRO

CERTIFICATE

This is to certify that Mr. : **MOHAMED SABER AHMED IBRAHIM SOKAR**

Nationality : **EGYPTIAN** Date& Place of Birth : **13/12/1971 CAIRO**

Has been awarded the Degree of :

MASTER OF SCIENCE

In : **MECHANICAL ENGINEERING (POWER & ENERGY)**

The Research Title :

ROBUST CONTROL OF HYDROSTATIC TRANSMISSION SYSTEM

The degree has been awarded by Faculty Council held on: **18/03/2003**

The degree has been approved by UNIVERSITY BOARD at : **01/04/2003**

Date : 29 / 12 / 2007

Prepared by : Yasmin Amal

Registrar :

VICE DEAN

DEAN A. Abdulal

BENHA UNIVERSITY
FACULTY OF ENGINEERING
SHOUBRA - CAIRO

CERTIFICATE

This is to certify that :**MOHAMED SABER AHMED IBRAHIM SOKAR**

Nationality : **EGYPTIAN** Date & Place of Birth**13/12/1971 CAIRO**

Has completed the requirements of the Department of : **MECHANICAL ENGINEERING (POWER & ENERGY)** and passed the final Examination.

He was granted the degree of : **MASTER OF SCIENCE**

The Research Title :

ROBUST CONTROL OF HYDROSTATIC TRANSMISSION SYSTEM

He studied the following courses:

First Year 1997/1998		
No	**Subjects**	**Grade**
1	Heat Transfer	EXCELLENT
2	Computers	V. GooD
3	Alternative and Renewable Energy	V. GooD
4	Internal Combustion engine	GOOD
5	Refrigeration And Air Conditioning	EXCELLENT
6	Thermodynamic	V. GooD
General Grade		V. GooD

Second Year 1998/1999		
No	**Subjects**	**Grade**
1	Advanced Numerical Analysis And Its Applications	V.GOOD
2	theory and applications of automatic control	(GOOD)
3	Project	V.GOOD
General Grade		V.GOOD

The degree has been awarded by **Shoubra Faculty of Engineering council** held on : **18/3/2003**

The degree has been approved by UNIVERSITY BOARD at : 1/4/2003

Date : 29 / 12 / 2007

Prepared by :

Yasmin Amal

VICE DEAN

Registrar :

DEAN

A. Abdelal

ZAGAZIG UNIVERSITY - BANHA BRANCH

FACULTY OF ENGINEERING - SHOUBRA

Certificate

This is to certify that : MOHAMED SABER AHMED IBRAHIM

Nationality EGYPTIAN Date & Place of Birth : 13/12/1971 CAIRO

Has fulfiled the requirements of the degree at the department of: MECHANICAL ENGINEERING and passed the final Examination.

He was granted the :

BACHELOR OF SCIENCE

In : POWER (ENERGY)

At : MAY 19 96

With a general appreciation of : AVERAGE OF FIVE YEARS : VERY GOOD WITH HONOUR DEGREE (84.72%)

and graduation project grade of : EXCELLENT

That result has been approved by the University Board at : 12 / 8 / 19 96

This certificate is given upon his own request to be offered to whom it may concern without any obligation.

Prepared by

Registrar

General Director

Hoda

DEAN

Rifat A. Is l

date : 3 / 9 / 1996

ZAGAZIG UNIVERSITY

BANHA BRANCH

FACULTY OF ENGINEERING

SHOUBRA - CAIRO

Name : **MOHAMED SABER AHMED IBRAHIM**
Date & Place of Birth : **13/12/1971 CAIRO**
Nationality : **EGYPTIAN**
Degree : B.Sc. **IN MECHANICAL ENGINEERING POWER (ENERGY)**
At : **MAY 1996**
Average of Five Years : **V.GOOD WITH HONOUR DEGREE** 84,72%
The result has been approved by UNIVERSITY COUNCIL at : **12/8/1996**

	Year & Course Title	Hrs. Lec	Week Tut Lab	Grade
	SECOND YEAR 1993/1994			
1	Machine Design (1)	2	3	EXCELENT
2	Production Engineering	2	2	EXCELENT
3	Thermodynamics	2	2	EXCELENT
4	Eng. Analysis & Computers	2	2	(GOOD)
5	Metallurgy & Heat Treatment	1	1	EXCELENT
6	Machine Design (2)	2	3	EXCELENT
7	Engineering Economy	2	0	V.GOOD
8	Fluid Mechanics	2	2	EXCELENT
9	Dynamic of Machines	2	2	(GOOD)
10	Electric. & Electronic Circuit	2	1	V.GOOD
	GENERAL GRADE	**19**	**18**	**EXCELENT**

	Year & Course Title	Hrs. Lec	Week Tut Lab	Grade
	PREP. YEAR 1991/1992			
1	English Language	0	2	V.GOOD
2	Descriptive Geometry	1	2	PASS
3	Engineering Mechanics	2	1	V.GOOD
4	Mathematics	5	3	(GOOD)
5	Physics	2	2	(GOOD)
6	Chemistry	2	1	(GOOD)
7	Production Eng. & Workshop	2	2	EXCELENT
8	Engineering Drawing	0	4	EXCELENT
	GENERAL GRADE	**14**	**17**	**V.GOOD**
	FIRST YEAR 1992/1993			
1	Mathematics	4	2	EXCELENT
2	Theory of Machines	2	2	V.GOOD
3	Production Eng. & Workshop	2	3	EXCELENT
4	Stress Analysis	2	1	EXCELENT
5	Properties & Test .of Eng. Mat.	2	1	V.GOOD
6	Principles of Elect. Engineering	2	2	EXCELENT
7	Machine Drawing	0	4	EXCELENT
8	Civil Engineering & Survey	1	1	(GOOD)
9	Profession & Society	1	0	(GOOD)
	GENERAL GRADE	**16**	**16**	**EXCELENT**

	Year & Course Title	Hrs. Lec	Week Tut Lab	Grade
	THIRD YEAR 1994/1995			
1	Syst. Dynamic & Mech. Vib.1	2	2	EXCELENT
2	Hydraulic Machines	2	2	V.GOOD
3	Heat Transfer	2	2	EXCELENT
4	Machine Design	2	2	V.GOOD
5	Production Engineering	2	2	V.GOOD
6	Heat Engines	2	2	EXCELENT
7	Measurements	2	1	V.GOOD
8	Elect. Machine & Power Eng.	2	1	EXCELENT
9	Environmental Engineering	1	1	V.GOOD
	GENERAL GRADE	**17**	**15**	**EXCELENT**
	FOURTH YEAR 1995/1996			
1	Internal Combustion Engines	2	2	EXCELENT
2	Therm. & Nuclear Power Station	2	2	V.GOOD
3	Automatic Control	2	2	EXCELENT
4	Indust. Organis. & Fact. Plan.	2	2	EXCELENT
5	Rotating Machines	2	2	EXCELENT
6	Alternative & Renewable Energy	2	2	(GOOD)
7	Refrigeration & Aircondition.	2	2	EXCELENT
8	Computer Appl. in The Energy Field	0	2	V.GOOD
9	Project	0	2	EXCELENT
	GENERAL GRADE	**14**	**18**	**EXCELENT**

Prebared by Nawal

Reviewer 21/1/2004

Registrar Gouda

DEAN Saad