




Dr. Abdel-Aziz Belal curriculum vitae (CV)

PERSONAL DETAILS

Surnames	Belal		
First names	Abdel-Aziz		
Title	Associate Professor of soil sciences and <u>Head of Soil Sciences Department, Agriculture Application, Soil and Marine Division (NARSS)</u>		
Gender	Male		
Address	Soil Department, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo , Egypt		
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Telephone Numbers	0020226251238	Evening	0020226632480
Mobile	00201006865756	Email	belalabd@gmail.com or Belalaz@yahoo.com
Date of birth	01/02/1972	Place of Birth	Kafr Elshiekh, Egypt



EDUCATION

Universities	Degree obtained	Dates (From - to)
Tanta University , Kafr Eishiekh, Egypt	BSc in Soil Science, Fac. of Agriculture,	From 1990 to 1994
Cairo University , Cairo, Egypt	MSc., Soil Sciences, Faculty of Agriculture,	From Oct. 1997 to June 2001
Frieburg University, Freiburg, Germany	PhD., Precision Farming	From April 2002 to July 2006

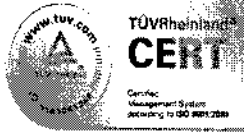
TRAINING

Training attended	Place	Dates (From - to)
Production of Land Use and Land Cover Maps Based on Satellite Imagery, Africover Project East Africa.	FAO, Nairobi - Kenya	From Aug. 1998 to Sept. 1999
Monitoring and Assessment Land Degradation on National/Site Levels	ACSAD, Damascus-Syria	From 11/26 to 6/12/2006
Developing a personality of Leaderships	DAAD, Cairo, Egypt	17/10/2011
Proposal Writing for Post Docs	DAAD, Cairo, Egypt	16/10/2011
Trimble TerraSync Professional Edition Software Ver. 4.13	Vice of Trimble (Zone technology)	26-28/6/2011



EMPLOYMENT HISTROY

Employer	Position	Dates (From - to)
Soil conservation and Agriculture production in El-Firous Company, Alexandria - Egypt.	Agriculture Engineering	Jun. 1994 - Oct.1995
Research Assistant of Soils (Application of remote sensing, GIS in soil survey, soil mapping, land evaluation, soil degradation and desertification, produce landuse and land cover mapping, monitoring crop production, land management and land use planning), National Authority of Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.	Research Assistant	Nov. 1995 - May 2001
Assistant Research of Soils (Application of remote sensing, GIS in soil survey, soil mapping, land evaluation, soil degradation and desertification, produce landuse and land cover mapping, monitoring crop production, land management and land use planning), National Authority of Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.	Assistant Research	May 2001 - April 2002
PHD Student in the Dept. Remote Sensing and Landscape Information Systems Uni. Freiburg, Germany	PHD Student	April 2002 - July 2006
Researcher of Soils, National Authority of Remote Sensing and Space Sciences (NARSS), Cairo, Egypt	Researcher of Soils,	From July 2006 - Feb. 2012
Postdoctoral Student in Institute of Agricultural Remote Sensing & Information Application, Zhejiang University, China under title: Testing Different Classification System for Delineation Crop Types in South China	Postdoctoral Student	From March 2007- June 2007
Head of Soil Dept. National Authority of Remote Sensing and Space Sciences (NARSS), Cairo, Egypt	Head of Soil Dept.	From Dec. 2007 until now
Postdoctoral student in the Agriculture Dept., Faculty of Life Sciences, University of Copenhagen , Copenhagen Denmark under title: Using Precision Faming to Increase crop Production of Field crops (wheat and Barley) Using New Information Technology	Postdoctoral Student	From July 2008 to Sept. 2008



Postdoctoral student in the Institute for Photogrammetry, Faculty of Aerospace Engineering and Geodesy, Stuttgart University, Stuttgart, Germany under title: Produce geomorphological mapping using LiDAR and remote sensing data	Postdoctoral Student	From Nov. 2009 to Jan. 2010
Associate Prof. of Soils, National Authority of Remote Sensing and Space Sciences (NARSS), Cairo, Egypt	Head of Soil Sciences Department	From Feb 2012 until Now
Head of Agriculture Application, Soil and Marine Division		From Jan. 2014 until now

MEMBERSHIP OF PROFESSIONAL ASSOCIATION

Professional body	level of membership	Year of Award
Egyptian Soil Science Society (ESSS)	Member	1996
Egyptian Remote Sensing and Space Sciences Society	Member	1997
Society for Developing Clean Farming System	Member	2011
Scientific Society for Environmental protection	Member	2011
Union of Agricultural	Member	1994

PROFESSIONAL SKILLS

- 1- GIS software (ESRI ArcGIS / Arc Info)
- 2- Image analyses (ERDAS Imagine, eCognition, ILWIS & Envi)
- 3- Office applications (MS Office)
- 4- Statistical Software (SPSS & Mintab)
- 5- Database Design and Building
- 6- MS Project professional



FIELDS OF INTEREST

Application of New information Technology (Remote Sensing, GIS, Spatial and Statistical Modeling) in the following fields:

- Precision Farming and Sustainable Agriculture,
- Yield prediction and crop growth modeling,
- LAI Inversion ,
- Building spectral library for soil and crop,
- Mapping Geomorphology,
- Modeling Land and water resources and landuse planning,
- Land and crop Management,
- Survey of Soil and Water Resources,
- Soil Degradation and Desertification,
- Monitoring of Agriculture Crop,
- Change Detection,
- Building Soil Information Systems
- Water use Efficiency using Remote Sensing and GIS
- Soil Information Systems and Databases
- Environmental hazards monitoring and control

PUBLICATIONS AND PATENTS

A-PROJECT REPORT

Co-investigator of the following projects:

- Integration Development of Halayib-Shalation Region Using Remote Sensing and GIS Technology, ASRT-NARSS, (Principle Investigator, Prof. Dr. M. A. Yehia), 1998-1999.



- Studies of Coastal Changes of Gamsa-Baltiém Area Using Remote Sensing Techniques (Principle Investigator, Prof. Dr. A. Yehia) 1998.
- Soil Map of Halayib and Shalatain Area Using Remote Sensing Techniques, NARSS, 1998.
- Mangrove Forest Habitat Assessment in Egypt, NARSS-Ministry of Agriculture; 1999.
- Evaluation of Land Resources of Darb El Arbain, Kharga Oasis, NARSS-Ministry of Agriculture, 1999-2000.
- Land Use Map of Siwa Oasis (1:25.000) NARSS-Italian Cooperation Program, 1998.
- Assessment and Evaluation of Natural Resources of Waid El Natron Burg El Arab-Eidabaa Area, NARSS 2000- 2002.
- Soil Mapping of Tushka Project, GARPAD-MPWR-NARSS, 1999.
- Soil and Capability Maps of Tushka Project, GARPAD-MPWR-NARSS, 199-2000.
- Digital Soil Map of Egypt, Scale 1:1000,000, FAO-NARSS, 2000-2001.
- Digital Soil Map of Egypt, Scale 1:1000, 000, European Commission, 2000-2001.
- Digital Soil Map of Egypt Scale 1: 25,000, By Using Remote Sensing and Geographic Information System Techniques, NARSS, 2001.
- Development of an integrated system for evaluation of the cultivated arable land of egypt. Project financed by NARSS 2007.
- Producing soil and land capability maps of Wadi Qena using remote sensing techniques Sept. – Nov. 2009.



- Study on Validation of Crop Leave Area Inversion Using Multi-Source Remote Sensing Data, NARSS and IRS (China Academic of Sciences) from 2007 until 2009.
- Modeling yield prediction for the main cereal crops in Egypt using multi-source remote sensing data from 2008 until 2010.
- Study the desertification sensitivity using remote sensing, GIS and MEDLUS Method in Egypt from 2009 until 2012.
- Electronic organization of agricultural schools with geoinformation technologies for the promotion of convergent strategies in the management of rural regions, water resources and environment in South-Eastern Mediterranean (GI@MED). Joint Research Project, NARSS (National Authority for Remote Sensing and Space Sciences) and CIHEAM (Mediterranean Agronomic Institute of Chania, Greece). (2009 – 2011).
- Establishment of an integrated system engineering support of development projects on the road of Sohag - Safaga - Eastern Desert, Egypt. From 2010 until 2014.
- Building spectral library for common crops and soil types in Egypt from 2010 until 2011.
- Sinai Information System for Land management and Environment Monitoring from 2011 -2013.
- Land Resources Assessment of El-Galaba Plain, South Egypt for the Potentiality of Agriculture Expansion Using Remote Sensing and GIS Technologies. Project financed by NARSS. (2013).



PRINCIPAL INVESTIGATOR OF THE FOLLOWING PROJECTS

- Evaluation of soil and surface and groundwater in agriculture expansions in Qena Governorate, Upper Egypt using remote sensing and GIS (from 2009 to 2010), funded by NARSS.
- Using On-The-Go Sensors Advances in Spatial Sampling and Prediction to Characterize Soil and Wheat Crop Variability for Precision Farming (from 2010 to 2013) , funded by Ministry of Scientific Research and Technology, Egypt.
- Water Use efficiency in farm land using remote sensing and GIS. Joint Research Project between NARSS (National Authority for Remote Sensing and Space Sciences), Egypt and Cordoba University, Spain. From 2012 to 2013.
- Detecting salinity hazard in El-Tina plain North West Sinai Peninsula using remote sensing and GIS techniques, from 2012 – 2013 fund by NARSS.
- Egyptian coordinator for EU project under titled: Improving the local governance processes through exchange of good practices, pilots and training in geospatial technologies (LOCAL-SATS). “Financed under the Second Call for Proposals for Standard Projects of the ENPI CBC Mediterranean Sea Basin Programme”. The Project Reference Number: II-B/4.3/0599 (1/1/2014 -30/12/2015).

B-PUBLISHED ARTICLES

- Belal, A.A., S. Abdel Rahman, F. Hanna, Sh. Sadek, (2002): “Impact of Soil Degradation on Land Productivity of Some Areas in the North Nile Delta” International Conference for Environmental Problems Mediterranean Region (EPMR), Turkey 12-15 April 2002.
- Belal A.A., B. Koch, R. Doluschitz and R. Siwe (2006): Using Crop Growth Models and Remote Sensing to Delineate Management Zones on Small Cotton Farms in Egypt. 8th International Conference on Precision



Agriculture and Other Precision Resources Management, July 23-26 in Minneapolis, Minnesota, USA.

- Belal, A.A., B. Koch, R. Doluschitz and R. Siwe (2006): Change Detection in the Eastern Nile Delta Egypt Based on Object-Based Classification. 6th AARSE international Conference on Earth Observation & Geoinformation Sciences in Support of Africa's Development, 30 October – 2 November, 2006.
- Huang, J. and Belal, A.A., (2007). Comparing Spectral Angle Mapper and Object Based Approach for Land Use Classification from Multispectral Imagery. International Symposium on Intelligent Information Technology in Agriculture (ISIITA) is held at Beijing Friendship Hotel from Oct.26 to 29, Beijing, China.
- Abdel Kawy, W.A.M. and Belal, A.A., (2009): Impact of Soil Degradation on Land Qualities of Some Cultivated Areas at East Nile Delta –Egypt. Australian Journal of Basic and Applied Sciences, 3(3): 2054-2063, ISSN 1991-8178.
- Belal, A.A., (2011): Impact of soil and water resources on land reclamation in western side of Qena Governorate using remote sensing and GIS. International congress water 2011. Katholieke Universiteit Leuven (University of Leuven) Belgium.
- Abdel Kawy, W.A.M. and A.A., Belal, (2011): Spatial analysis techniques to survey the heavy metals content of the cultivated land in El-Fayoum depression, Egypt. Arabian Journal of Geo-sciences, DOI 10.1007/s12517-011-0312-9.
- Abdel Kawy, W.A.M. and A.A., Belal, (2011): Use of satellite data and GIS for soil mapping and monitoring soil productivity of the cultivated land in El-Fayoum depression, Egypt. Arabian Journal of Geo-sciences, DOI 10.1007/s12517-011-0371-y.
- Saleh, A.M., A.A., Belal and S. M. Arafat, (2011): Identification and mapping of some soil types using field spectrometry and spectral mixture analyses: a case study of North Sinai, Egypt. Arabian Journal of Geo-sciences, DOI:10.1007/s12517-011-0501-6.



- Abdel Kawy, W.A.M. and A.A., Belal, (2011): Soil resilience mapping in selective wetlands, West Suez Canal, Egypt. The Egyptian Journal of Remote Sensing and Space Sciences, DOI:10.1016/j.ejrs.2011.11.00.
- Abdel Kawy, W.A.M. and A.A., Belal, (2011): GIS to Assess the Environmental Sensitivity for Desertification in Soil Adjacent to El-Manzala Lake, East of Nile Delta, Egypt. American-Eurasian J. Agric. & Environ. Sci., 10 (5): 844-856, 2011, ISSN 1818-6769. © IDOSI Publications, 2011.
- Belal, A.A., and F.S. Mognanm (2011): Detecting urban growth using remote sensing and GIS techniques in Al Gharbiya governorate, Egypt. Egypt. J. Remote Sensing Space Sci., doi:10.1016/j.ejrs.2011.09.001.
- Elbein, S.F., A.A., Belal, E.A. Zaghtoul, (2011): Hazards mitigation and natural resources evaluation around Sohag – Safaga highway, Eastern Desert, Egypt. The Egyptian Journal of Remote Sensing and Space Sciences, DOI: 10.1016/j.ejrs.2011.01.001.
- Al-Ashri, K. M.A. and A.A., Belal, (2010): Relationship between landforms and soil characteristics in Bahariya Oasis, Egypt. J. Soil Sci. and Agric. Eng., Mansoura Univ., Vol.1 (12):1157-11756.
- Belal, A.A., and Al-Ashri, K. M.A. (2011): GIS based land evaluation in Bahariya Oasis, Western Desert, Egypt. J. Soil Sci. and Agric. Eng., Mansoura Univ., Vol. 2 (1): 11 - 24, 2011.
- Aboelghar, M., S. Arafat, A. Saleh, S. Naeem, M. Shirbeny, A.A. Belal, (2010): Retrieving leaf area index from SPOT4 satellite data. Egypt. J. Remote Sensing Space Sci., DOI:10.1016/j.ejrs.2010.06.001.
- Abdel Aal, T.A., and A.A., Belal, (2011): Monitoring land cover changes of the north-western area at El-Fayoum depression and its soil suitability for agricultural purposes. Fayoum J. Agric. Res. & Dev., Vol.25, No.1.
- Belal, A.A., (2011): Impact of soil and water resources on land reclamation in western side of Qena Governorate using remote sensing



and GIS. International congress water 2011. Katholieke Universiteit Leuven (University of Leuven) Belgium.

- Abdel Kawy W.A., A.A., Belal, and Kh. M. Darwish, (2012): Crop water requirements in selective wetland areas, West Suez Canal, Egypt. Journal of Agricultural Extension and Rural Development (JAERD). Vol. 4(1), pp. 011-018, Available online [http:// academicjournals.org/JAERD](http://academicjournals.org/JAERD), DOI: 10.5897/JAERD11.086 ISSN- 2141 -2154 ©2012 Academic Journals
- Mohamed .E.S., Belal, A. A., and Saleh, A. M., (2012): Assessment of Land Degradation East of the Nile Delta, Egypt, Using Remote Sensing and Gis Techniques. Arabian Journal of Geosciences (23 March 2012), pp. 1-11, [doi: 10.1007/s12517-012-0553-2](https://doi.org/10.1007/s12517-012-0553-2).
- Mohamed E.S., Belal A., and Saleh A. (2012). Desertification Assessment in North Sinai Using Remote Sensing and GIS. International Conference on Environmental Science and Technology 2012: June 25-29, American Academy of Sciences, Texas, USA.
- Belal, A.A., H. R., El-Ramady, E.S. Mohamed and A. M. Saleh, (2012): Drought risk assessment using remotesensing and GIS techniques. Arabian Journal of Geosciences, DOI 10.1007/s12517-012-0707-2.
- Belal, A. A., Mohamed, S. S. and Sharkwy, M. (2012). Spatial- Multi-Criteria Evaluation Approach for Land Evaluation: a Case Study Wadi El-Assyouty –Egypt. 10th International Conference of Egyptian Soil Science Society (ESSS) and 4th International Conference “On-Farm Irrigation and Agroclimatology” 5-8 November 2012, America, Alexandria, Egypt.
- Saleh, A. M., Belal, A.A., El Baroudy, A.A. & Mohamed, E. S. (2012). Assessing soil electrical conductivity for site-specific management with electromagnetic induction and response surface sampling design: a case study of East Nile Delta, Egypt. Joint SSA and NZSSS Soil Science Conference. 2-7 December 2012, Hobart, Australian.
- Mohamed E.S., Schutt B., Belal A.A. (2013). Assessment of Soil Erosion Hazard in the Northern West Coast -Egypt Using RS and



GIS"12th International UFZ-AquaConSoil Conference 16–19 April 2013
Barcelona, Spain.

- Badawy W. M., Eissa H. S., Belal A. A. and Mohamed E. S. (2013). Estimation Of Some Radiological Parameters Due To Gamma Radioactivity In Soil Samples From Some Southern Governorates – Egypt J.N.R.D, N. 5, 2013.
- Mohamed E.S., Schutt B., Belal A.A. (2013). Assessment of environmental hazards in the north western coast -Egypt using RS and GIS. The Egyptian Journal of Remote Sensing and Space Sciences 16, 219–229.
- Mohamed E.S., Belal A. & Saleh A. (2013). Sustainable utilization Of agricultural soil In North of Sinai –Egypt. Submitted Journal of Environmental Management. Ref. JEMA-D-13-01601.
- Belal A.A., Moganm F.S, S.F. Elbein (2013). Evaluation of Some Agriculture Expansion Areas in the Eastern Desert, Egypt using GIS. Int'l Journal of Arts & Sciences (IJAS) Conference which will be held at Hotel Ibis München City Nord, Ungererstrasse 139, 80805 Munich, Germany (23-26 June 2013).

C- BOOK PUBLISHED

- El-Ramday H.R., Abdalla, N., Shalaby, T., and Belal, A. (2010). Glossary of Agricultural and Environmental Sciences Terms. Volume 3, Year 2010, ISBN: 978-3-634-25885-1
- El-Ramady, H. R., Belal, A., S. M. El-Marsafawy, S. A. Shenata, S. Z. A. Yehia, and E. - S. B. Belal, (2012). Contemporary Environmental Readings Volume 1 Climate Change A Blessing or a Curse for Agriculture, , Germany, LAP Lambert Academic Publishing , 2012.



D- ESSAY PUBLISHED

- Belal, A.A., and Mohamed, E., (2011). Agricultural horizontal development in Northern Sinai, Egypt. Oct. 2011, Sciences Journal of Egyptian Scientific Research and Technology.
- Belal, A.A. and Saleh A., (2013). Scientific view for development of west Aswan (EL-Ghaba Plain) for sustainable agriculture. March 2013, Sciences Journal of Egyptian Scientific Research and Technology.

PRESENTATIONS

- Belal, A.A. (2006): Using Crop Growth Models and Remote Sensing to Delineate Management Zones on Small Cotton Farms in Egypt. 8th International Conference on Precision Agriculture and Other Precision Resources Management, July 23-26 in Minneapolis, Minnesota, USA
- Belal, A.A. (2006): Change Detection in the Eastern Nile Delta Egypt Based on Object-Based Classification. 6th AARSE international Conference on Earth Observation & Geoinformation Sciences in Support of Africa's Development, 30 October – 2 November, 2006.
- Belal, A.A. (2007): Comparing Spectral Angle Mapper and Object Based Approach for Land Use Classification from Multispectral Imagery. 4th International Symposium on Intelligent Information Technology in Agriculture (ISIITA) is held at Beijing Friendship Hotel from Oct.26 to 29, Beijing, China.
- Belal, A.A. (2007): Precision Farming Techniques. China Academic of Sciences, Beijing, China
- Belal, A.A., (2008): Precision Farming in the Small Farmland in the Eastern Nile Delta, Egypt Using, Remote Sensing, GIS and Modeling. National Research Center, El Buhouth St., Dokki, Cairo, Egypt.



- Belal, A.A. (2009): Precision Farming for Crop and Soil Management Using, Remote Sensing, GIS and Modeling. National Authority for Sensing and Space Sciences (NARSS), Cairo, Egypt
- Belal, A.A., (2009): Prediction of Crop Yield Using Remote Sensing, GIS and Leaf Area Index (LAI). National Authority for Sensing and Space Sciences (NARSS), Cairo, Egypt
- Belal, A.A. et al. (2009): Study on Validation of Crop Leave Area Inversion Using Multi-Source Remote Sensing Data. China Academic of Sciences, Beijing, China
- Belal, A.A., (2012): Precision Farming Technology, Agriculture Research Center, Cairo, Egypt.
- Belal, A.A. (2013): Soil and Crop Management in Egypt , Faculty of Agriculture, Zagazig University, Egypt

SUPERVISOR FOR PHD AND MSC

Finished Thesis in 2013:

Ph.D. under titled: Developing soil and land capability maps of Baharya Oasis using remote sensing and GIS techniques. Fac. Agri. Mansoura University, Egypt.

In going thesis:

- 1- Ph.D. under titled: Effect of irrigation improvement in Nile Delta on crop pattern distribution and crops water requirements using remote sensing and GIS. . Fac. Agri. Mansourâ University, Egypt



- 2- MSc under titled: Monitoring quantity and quality for land degradation in salt effect soil in North Nile Delta using remote sensing and gis. Fac. Agric, KAfer El-Sheikh University, Egypt
- 3- MSc under titled: Evaluation of some soil soils in Northern Western Coast of Egypt Using Information Technology. Fac. Of Agric., Ain Shams University, Egypt
- 4- MSc under titled: Effect of climate change on agriculture sector in Nile Delta, Egypt using remote sensing and GIS. Fac. Of Agric., Alazher University, Egypt
- 5- MSc under titled: Assessment of land degradation northern coast of Egypt using remote sensing. Fac. Of Agric., Alazher University, Egypt
- 6- MSc under titled: Evaluation of natural resources west Aswan for Agriculture Development. Fac. Of Art., Ain Shams University, Egypt
- 7- MSc under titled: Detecting waterlogging in Ismailia Governorate, Egypt using remote sensing techniques. Fac. of Agric ., Suez Canal University, Egypt
- 8- MSc under titled: Monitoring soil productivity in Kafr-Eiskieh Governorate using remote sensing and GIS. Fac. of Agric ., Tanta University, Egypt

REVIEWER IN NATIONAL AND INTERNATIONAL JOURNALS

- 1- Egyptian Journal of Remote Sensing and Space Sciences
- 2- Arabian Journal of Geosciences
- 3- Arid Land Research and Management



4- Journal of Agricultural Research , Monofiy University, Egypt

GRANTS / AWARDS

- Fellowships for Ph.D. study in Germany from Egyptian Mission (Feb. 2002 –July 2006)
- Postdoc study in Zhejiang University, China Government (March-June 2007)
- Postdoc study in Copenhagen University, Denmark, from Egyptian Mission (July-Sept., 2008)
- Postdoc study in Stuttgart University, Germany, From DAAD (Nov. 2009- Jan. 2010)

الجوائز وبراءات الإختراع:

الفوز بجائزة التميز فى النشر العلمى – بوزارة التعليم العالى مشاركة مع جامعة كفر الشيخ لعام 2012
عن موضوع :

- Belal, A.A., and F.S. Moghanm (2011): Detecting urban growth using remote sensing and GIS techniques in Al Gharbiya governorate, Egypt. Egypt. J. Remote Sensing Space Sci., doi:10.1016/j.ejrs.2011.09.001.

مناقشة الرسائل العلمية :

مناقشة رسالة الماجستير عن "دراسات بيدولوجيا الاراضى باستخدام الاستشعار من البعد ونظم المعلومات الجغرافية " قسم الاراضى - كلية الزراعة – جامعة الزقازيق فى شهر مارس 2013