

Bassam Abdellatif
NARSS, 23 Joseph Tito st. El Nozha Elgidida
POB 1564 Alf Maskan, Cairo, Egypt

Tel: +20 1008 223 225
E-mail : abdellatif.bassam@gmail.com

Personal Information:

- Birth date: 1st January, 1975
- Gender: Male
- Marital Status: Married
- Nationality: Egyptian

Educational Qualification:

- 2008, Ph.D. Signal and Telecommunications:
 - In research project: Change monitoring for soil occupation of anthropogenic and climatic origin by means of remote sensing tools: application to Brittany, **University of Rennes 2, France.**
- 2004, M.Sc. Signal – Telecommunications – Image – Radar (Image Option), **Telecom-Bretagne, Brest, France**
- 1997, B. Sc. Of Engineering (computer architecture and Control)

Main Research:

Preprocessing and processing of satellite images for extracting valuable information, Machine learning and deep learning. Use of remote sensing data to enhance water resources management. Analysis of water consumption and storage patterns. Enhancement of crop types classification in Egypt.

Positions Held:

- (July 2019 – now) Knowledge and Technology Transfer Office Head
- (July 2012 – July 2018) Supervisor of Digital Image Processing and its application department at NARSS.
- (October 2014 – Nov. 2017) Project manager (Regional coordination for improved water resources management and capacity building program)
- (July 2011 – July 2012) Researcher at National Authority for Remote Sensing and Space Sciences (NARSS).
- (June 2010 to April 2011) Post Doctoral
 - Research Project: Acoustic and sea-floor project, **Europol Mer, Brest, France**
- (Nov. 2008 to Nov. 2009) Post Doctoral
 - Research project: Underground SAR for mine detection, **Telecom-Bretagne, Brest, France**
- (Jun. 1998 – Sep. 2003) Researcher Assistant at NARSS.

Experiences:

- Remote sensing image processing
 - Radiometric calibration and correction,
 - Geometric correction and image to image referencing,
 - Classification and segmentation optimization: object-based, pixel based and sub-pixel classification,

- Hyperspectral image processing: extracting of relevant signatures, unmixing algorithms, object identification.
- Image enhancement and reconstruction: reconstruction of cloud contaminated images.
- Model building and enhancement.
- Systems and platforms installation and operation: NASA-LIS for earth surface parameters, ETWatch for evapotranspiration calculation, GRACE Ground water monitoring.
- Geographic Information System; ArcGIS, operation and administration
- Lidar Image processing
 - Cloud preprocessing and filtration
 - Cloud registration
 - Cloud to cloud change monitoring
 - Volume and area estimation

Projects:

→ Potentiality of Remote Sensing Data and models for spatial and temporal pattern analysis: case study water consumption/storage in the Nile Basin	PI	July-2018 June-2020
→ Regional coordination for improved water resources management and capacity building program (5 sub projects)	project manager	Oct. 2014 – Nov. 2017
<ul style="list-style-type: none"> ○ Use of GRACE data for Ground water monitoring ○ Use of remote sensing data and algorithms for delineation of natural discharge areas in Western desert as potential areas for agricultural development ○ Improving crop mapping in Nile and Delta ○ Evapotranspiration calculation on the farm field level (technology transfer, installation and operation, of ETWatch system) ○ NASA-LIS (NASA Land Information System), technology transfere, installation and operation, for earth surface fluxes and parameters. 		
→ Regional coordination for improved water resources management and capacity building program	Technical coordinator	Sep. 2012 – Oct. 2014
→ Sustainable development planning for Halaeib and Shalateen area, South-Est, Egypt	Researcher	June 2014 – June 2016
→ Rock-fall and Landslide Monitoring Using LiDAR Imaging System for Mokattam and Om-Elseed plateau	Co-PI	June 2013 - June 2014
→ Sinai Information System for Land management and Environment Monitoring	Researcher	June, 2011- June, 2013

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→ Acoustic and sea-floor project, Europol Mer, Brest, France	Researcher	June, 2010- Apr. 2011
→ Underground SAR for mine detection, Telecom-Bretagne, Brest, France	Researcher	Nov. 2008 – Nov. 200
→ Change monitoring for soil occupation of anthropogenic and climatic origin by means of remote sensing tools: application to Brittany, University of Rennes 2, France	PhD candidate	Nov. 2004 – Nov. 2008
→ Preparation of base maps and geographic information system for Marsa Alam-Baranies area on the Red Sea coast	Research assistant	2002
→ UNDP-UNESCO joint project for the capacity building of The Egyptian Geological Survey & Mining Authority and The National Authority for Remote Sensing and Space Sciences for the sustainable development of the south valley and Sinai-Egy/97/011/A/01/13	Research assistant	1999-2000
→ Using remote sensing applications in integrated development of Halaib and Shalateen region, (GIS) project conducted for the Academy of Scientific Research and Technology	Research assistant	1998-1999
→ Environmental changes and its effect on diseases widespread in southern Sinai using GIS, NARSS	Research assistant	1998-1999
→ Dune fields of the western desert of Egypt using Landsat data. Conducted for (ALECSO) Arab League Education, Culture, and Science Organization	Research assistant	2001

Teaching Activities:

→ Remote Sensing and Instruments	Fall 2015	Zewail city for Science and technology
→ Computer Graphics	spring 2011/2012	Faculty of Computers & Information, Fayoum University
→ Operating Systems	spring 2011/2012	Faculty of Computers & Information, Fayoum University
→ Artificial Intelligence	fall 2011/2012	Faculty of Computer and Information Sciences, Suez Canal University
→ Assembly programming language	fall 2011/2012	Faculty of Computer and Information Sciences, Suez Canal University

→ Image formation and processing	fall 2010/2011	Telecom-Bretagne engineering faculty, Brest, France
→ Automatic and linear systems	fall 2009/2010	Engineering Faculty ISEN, Brest, France
→ Laboratory sessions on base band communications	fall 2009/2010	Faculty of Engineering ISEN, Brest, France
→ Different capacity building workshops	2014 - now	

Publications:

→ Book Chapters:

- [1] Bassam Abdel Latif and Gregoire Mercier (2010). **Self-Organizing Maps for Processing of Data with Missing Values and Outliers: Application to Remote Sensing Images**, Self-Organizing Maps, George K Matsopoulos (Ed.), ISBN: 978-953-307-074-2, InTech.
- [2] Nouredin Laban, Bassam Abdellatif, Hala M Ebeid, Howida A Shedeed, Mohamed F Tolba, **Machine Learning for Enhancement Land Cover and Crop Types Classification**, Machine Learning Paradigms: Theory and Application, Springer, Cham
- [3] Mohamed El-Sharkawi, Nagy Shawky Botros, Ahmed A. Madani, Mohamed Ahmed, Bassam Abdellatif, Yasser M. Abd El-Rahman, Sultan Awad Sultan Araffa, **History of the Geological Research in Egypt**, The Geology of Egypt pp 1-35, Online ISBN978-3-030-15265-9, Springer Cham, Sep. 2019.

→ Papers in International journals:

- [1] B. Abdel Latif, R. Lecerf, G. Mercier and L. Hubertmoy, **Preprocessing of Low-Resolution Time Series Contaminated by Clouds and Shadows**, IEEE Transactions on Geoscience and Remote Sensing, vol. 46, NO. 7 July 2008.
- [2] H.Farouk and B.M.Abdel Latif, **Classification Based Approach for Spectral Signature of Remotely Sensed Temporal Data**, IJCSNS, VOL.13 No.11, November 2013
- [3] Bassam Abdellatif, Ayman H. Nasr, Safaa M. Sayed, **Detection of Ground Hazards of El Mokattam Plateau, East Cairo (Egypt), using Terrestrial Laser Scanning**, International Journal of Computer and Information Technology (ISSN: 2279 – 0764) Volume 05 – Issue 03, May 2016.
- [4] Mohammed A. El-Shirbeny, Bassam Abdellatif, Abd-Elraouf M. Ali, Nasser H. Saleh1, **Evaluation of Hargreaves based on remote sensing method to estimate potential crop evapotranspiration**, International Journal of GEOMATE, Vol. 11, Issue 23, pp. 2143-2149, July, 2016
- [5] Mohammed A El-Shirbeny, Bassam Abdellatif, **Reference Evapotranspiration Borders Maps of Egypt Based on Kriging Spatial Statistics Method**, International Journal of Geomate, V13, pp 1-8, September 2017.

- [6] Ihab Samir, Bassam Abdellatif, Amr Badr, ***New Divide and Conquer Method on Endmember Extraction Techniques***, International Journal of Advanced Computer Science and Applications, V8, Issue 7, July, 2017, pp 94-100.
 - [7] Maha Elbana, Khaled Refaie, Mohamed Ahmed Elshirbeny, Mohamed AbdelRahman Elsayed AbdelRahman, Bassam Abdellatif, Reda Elgendy, Wael Attia, ***Indirect estimation of deep percolation using soil water balance equation and NASA Land Simulation Model (LIS) for more sustainable water management***, EJSS, article in press, available on line since Oct. 3rd , 2019
- Papers in international conference:
- [1] B. Abdel Latif and G. Mercier, ***Self-Organizing Map for erroneous data processing in time series analysis***, IEEE IGARSS, Denever, Colorado, USA, 2006, pp. 196 199.
 - [2] B. Abdel Latif, R. Lcerf, G. Mercier and B. Solaiman, ***Self-Organizing Map for surface characterization in time series***, IEEE IGARSS, Barcelona, Spain, july 2007, pp. 38473850.
 - [3] R. Lecerf, L. Hubert-Moy, F. Baret, B. Abdel Latif, T. Corpetti and H. Nicolas, ***Estimating Biophysical Variables at 250m With Reconstructed EOS/MODIS Time Series to Monitor Fragmented Landscapes***, IEEE IGARSS, Boston, Massachusetts, U.S.A., 2008.
 - [4] G. Mercier and B. Abdel Latif, ***Implementing Kohonen's SOM With Missing Data In OTB***, IEEE IGARSS, Cape Town, South Africa, 2009.
 - [5] B. Abdellatif, A. O. Boudraa, C. Osswald and J.M. Boucher, ***Comparison and improvement of Dempster-Shafer models***, 7th Int. Symp. On Intelligent Signal Processing (WISP), Floriana 2011.
 - [6] Nouredin Laban, Bassam Abdellatif, Hala M Ebied, Howida A Shedeed, Mohamed F Tolba, ***Performance Enhancement of Satellite Image Classification Using a Convolutional Neural Network***, International Conference on Advanced Intelligent Systems and Informatics, Springer, Cham, September 2017.
 - [7] Nouredin Laban, Bassam Abdellatif, Hala M Ebeid, Howida A Shedeed, Mohamed F Tolba, ***Improving Land-Cover and Crop-Types Classification of Sentinel-2 Satellite Images***, International Conference on Advanced Machine Learning Technologies and Applications, Springer, Cham, Feb. 2018.
 - [8] Nouredin Laban, Bassam Abdellatif, Hala M. Ebeid, Howida A. Shedeed, Mohamed F. Tolba, ***Reduced 3-D Deep Learning Framework for Hyperspectral Image Classification***, The International conference on Advanced Machine Learning Technology and Applications. March, 2019.
 - [9] Nouredin Laban, Bassam Abdellatif, Hala M. Ebeid, Howida A. Shedeed, Mohamed F. Tolba, ***Seasonal Multi-temporal Pixel Based Crop Types and Land Cover Classification for Satellite Images using Convolutional Neural Networks***, 13th International Conference on Computer Engineering and Systems (ICCES). December, 2018

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Utilities:

- Software for image processing: ENVI, ERDAS, PCI, ECongnition
- JRC Reconstructor for Lidar data processing, Polyworks.
- Programming languages (best first): C/C++, Java, CUDA, Visual basic, Assembly.
- Scripting : Matlab, Python, IDL, Scilab.
- Libraries C++: OTB/ITK, OpenCV, VTK.
- Cartography and thematic analysis: ArcGIS
- Data base: SQL, Oracle developer 2000.
- Operating Systems: Linux & Windows
- Office: Word, Excel, PowerPoint, Access, Latex and Lyx.
- Microsoft project

Spoken and written languages:

- Arabic: Mother language
- French: Fluent (read, spoken)
- English: Excellent (Read, written, spoken)