AYMAN S. EL-BAZ

Chair of Bioengineering Department
Professor of Bioengineering
University of Louisville, University Scholar Professor
Coulter Fellow
Speed School of Engineering
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Citizenship: American

Education:

2001-2006	**Ph.D. in Electrical and Computer Engineering,** University of Louisville, Louisville, KY. Dissertation: "Novel Stochastic Models for Medical Image Analysis." *GPA=4.0/4.0*
1997-2001	**M.S. in Electronics and Communications Engineering,** Mansoura University, Mansoura, Egypt. Thesis: "Design and Optimization of Current Mode Circuits."
1993-1997	**B.S. in Electronics and Communications Engineering,** Mansoura University, Mansoura, Egypt. Sr. Project: "Direct-Sequence Spread Spectrum Communications Systems."

Experience:

2016 – Present	Chair, Bioengineering Department, Speed School of Engineering, University of Louisville (UofL).
2016 – Present	**Professor – Tenured (Promoted for Early Professorship)**, Bioengineering Department, Speed School of Engineering, University of Louisville (UofL).
2016 – Present	Associate Faculty – Professor, Department of Pharmacology and Toxicology, School of Medicine, University of Louisville (UofL).
2016 – Present	Associate Faculty – Professor, Computer Engineering and Computer Science Department, Speed School of Engineering, University of Louisville (UofL).
2016 – Present	Associate Faculty – Professor, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Louisville (UofL).
2016 – Present	Associate Faculty – Professor, Department of Electrical and Computer Engineering, Speed School of Engineering, University of Louisville (UofL).
2013 – 2014	Interim Chair, Bioengineering Department, Speed School of Engineering, University of Louisville (UofL).
2011 – 2016	**Associate Professor – Tenured (Promoted for Early Tenure)**, Bioengineering Department, Speed School of Engineering, University of Louisville (UofL).
2015 – Present	Associate Faculty – Associate Professor, Department of Pharmacology and Toxicology, School of Medicine, University of Louisville (UofL).

2014 – Present	Associate Faculty – Associate Professor, Computer Engineering and Computer Science Department, Speed School of Engineering, University of Louisville (UofL).
2011 – Present	Associate Faculty – Associate Professor, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Louisville (UofL).
2011 – Present	Associate Faculty – Associate Professor, Department of Electrical and Computer Engineering, Speed School of Engineering, University of Louisville (UofL).
2007 – 2011	Associate Faculty – Assistant Professor, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Louisville (UofL).
2007 – 2011	Associate Faculty – Assistant Professor, Department of Electrical and Computer Engineering, Speed School of Engineering, University of Louisville (UofL).
2006 – 2011	Assistant Professor – **Tenure Track**, Bioengineering Department, Speed School of Engineering, University of Louisville (UofL).
2001 – 2006	Research Assistant, Computer Vision & Image Processing (CVIP) Laboratory, UofL.
1997 – 2001	Engineer, College of Engineering, Mansoura University, Egypt.

Professional Affiliations and Training:

- Coulter Foundation (Fellow since 2010)
- Institute of Electrical and Electronics Engineers (IEEE) – *Senior Member.*
- Biomedical Engineering Society (BMES) - *Member*
- Medical Imaging, Computing and Computer-Assisted Interventions (MICCAI) - *Member.*
- International Association of Pattern Recognition (IAPR) - *Member.*
- Sigma Xi and Eta Kappa - *Member.*

Summary of Awards and Recognitions

	El-Baz's Awards and Recognitions	**Awards and Recognition of Students Advised (Main Advisor)**
1999-2010	26	12
2011-2015	32	65
2016-2018	4	12
Total	**62**	**79**

Awards and Recognitions (Total = 62)

1. 2016-2017 Nomination by BE students for **Faculty Favorites**

2. **Top 5%** researcher between ResearchGate members

3. 2015-2016 **"Top 4" Faculty Favorite**.

4. **Early promotion for full professor, November 2015.**

5. **A. El-Baz** is the recipient of the Page Morton Hunter Distinguished Seminar award, Department of Bioengineering, Clemson University, Clemson, South Carolina, USA, Feb 25, 2016.

6. **Citation Paper Award from the Annual International Society for Biofeedback, March 30, 2015.**

7. **Researchers recognized for work that can lead to commercialization**, September 2015.

8. The Louisville University's single nominee for *The Blavatnik National Awards for Young Scientists*, 2015.

9. 2014-2015 **Faculty Favorite**.

10. **Researchers recognized for work that can lead to commercialization**, September 2014.

11. 2013-2014 **Faculty Favorite**.

12. **University Scholar (University of Louisville), 2013-present.**

13. **Researchers recognized for work that can lead to commercialization**, September 2013.

14. **MICCAI MRBrainS13 Grand Challenge Winner, September 2013. (International Award).**

15. **Best paper runner-up** in the International Symposium on Computational Models for Life Science (CMLS'13) (http://cmls-conf.org/2013/index.php?page=prizes), 2013.

16. 2012-2013 **Faculty Favorite**.

17. **Recipient of the Provost's Award for Exemplary Advising Award**, 2012-2013.

18. First place winner annual **Research Louisville**, 2013 in Clinical Research.

19. 2011-2012 **"Top 4" Faculty Favorite**.

20. Speed School nominee for **Outstanding Scholarship in Basic and Applied Sciences**, 2012.

21. First place in **OVALS** conference for our research in developing a new technology for early diagnosis of autism, October 2012 (The OVALS Partnership developed in 2002 as a forum to discuss and stimulate economic development opportunities for Life Sciences within the "Ohio Valley" region). (**Regional Award).**

22. **Citation Paper Award** from the 20th Annual International Society for Neurofeedback & research Conference, September, 2012. (**International Award**).

23. First place winner annual **Research Louisville**, 2012 in Innovation in Biotechnology.

24. **Researchers recognized for work that can lead to commercialization** for his patent of a new image-based technology for early diagnosis of lung cancer, September 2012.

25. **The Provost's Award for Exemplary Advising** Award Nominee, 2011-2012.

26. **Citation Paper Award** from the Society of UroRadiology (SUR), 2011. (**International Award**).

27. **Researchers recognized for work that can lead to commercialization** for his new image-based technology for early diagnosis of lung cancer, December 2011.

28. First place winner annual **Research Louisville**, 2011 in Innovation in Biotechnology (For his research in early diagnosis of Autism using MR images).

29. First place winner annual **Research Louisville**, 2011 in Innovation in Behavioral Sciences. (For his research in early diagnosis of autism using EEG signals).

30. Speed School nominee for **Outstanding Scholarship in Basic and Applied Sciences**, 2011.

31. **Early promotion for associate professor and tenure**.

32. **Citation Paper Award** from the Association for Applied Psychology and Biofeedback (AAPB), 2011. (**International Award**).

33. **Finalist of Saint Louis County Economic Council Business Plan Competition** for developing a new technology for early diagnosis of lung cancer, 2011.

34. Won second place **in Washington University Olin Cup business plan competition** for developing a new technology for early diagnosis of lung cancer, 2011. (**National Award**).

35. **The Provost's Award for Exemplary Advising** Award Nominee, 2010-2011.

36. **Coulter Fellow** since August 9th, 2011. (**National Award**).

37. **Named by Kauffman Foundation among 50** most promising startups worldwide (PulmoCAD, Inc, St. Louis, MO) for developing a new technology for early diagnosis of lung cancer, 2010. (**National Award**).

38. **Won second place in the Kauffman Foundation's "Startup Open (PulmoCAD, Inc, St. Louis, MO)"** competition for developing a new technology for early diagnosis of lung cancer, 2010. (**National Award**).

39. **Won Phase 0 SBIR award (**PulmoCAD, Inc, St. Louis, MO**) from Missouri Technology Corporation for developing** a new technology for early diagnosis of lung cancer, 2010.

40. First place winner annual **Research Louisville**, 2010 in Innovation in Biotechnology (For his research in early diagnosis of lung cancer).

41. **Citation Paper Award** from the Association for Applied Psychology and Biofeedback (AAPB), 2010. (**International Award**).

42. **Wallace H. Coulter Foundation Early Career Translational Research Award in Biomedical Engineering Phase II, 2009.** (**National Award**).

43. **EUREKA RO1 award NIMH on autism, 2009- 2013.** (**National Award**).

44. **Researchers recognized for work that can lead to commercialization** for his new image-based technology for early diagnosis of lung cancer, November 2009.

45. **PAMI Travel Award** to attend IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'08). (**International Award**).

46. First place winner annual **Research Louisville**, 2008 in Young Faculty Investigator Award. (For his research in early diagnosis of lung cancer).

47. First place winner annual **Research Louisville**, 2008 in Innovation in Behavioral Sciences. (For his research in early diagnosis of autism).

48. **Wallace H. Coulter Foundation Early Career Translational Research Award in Biomedical Engineering Phase I, 2007.** (**National Award**).

49. **The Louisville University's single nominee for Pew Scholars Award, 2007.**

50. First place winner annual **Research Louisville** Meeting, 2007 in Potential for Major Clinical Application. (For his research in early diagnosis of autism).

51. First place winner annual **Research Louisville**, 2007 in Innovation in Behavioral Sciences. (For his research

in early diagnosis of autism).

52. **The John M. Houchens Prize for Outstanding Dissertation for Summer and Fall 2006.**

53. University of Louisville, **Dean's Citation Award** for Summer and Fall 2006.

54. First place winner annual **Research Louisville**, 2006 in Potential for Major Clinical Application. (For his research in early diagnosis of lung cancer).

55. **Best Paper Award in ICGST** (International Conference on Graphics, Vision and Image Processing), 2005.

56. Second place winner annual **Research Louisville** Meeting, 2005 in the Engineering Collaboration category. (For his research in early diagnosis of lung cancer).

57. **Who's Who** Among Students in American Universities, 2005.

58. University of Louisville **Travel Awards** in 2002, 2003, 2004, and 2005.

59. **Second place in Annual Engineers' Day**, University of Louisville, 2003.

60. First place winner annual **Research Louisville** Meeting, 2002. (For his research in early diagnosis of lung cancer).

61. **Second place in Annual Engineers' Day**, University of Louisville, 2002.

62. **ECE Outstanding Student**, April 2002.

Awards and Recognition of Students Advised (Main Advisor) (Total = 79)

1. Samineh Mesbah was the recipient of the Theobald Scholarship Award in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2018, **Advisor: Ayman El-Baz**

2. **Speed School Exposition 2018,** by Ahmed Shaffie won 1st place award (PhD Category).

3. **Speed School Exposition 2018,** by Samineh Mesbah won 2nd place award (PhD Category).

4. **Research Louisville**, 2017 paper by Ahmed Shaffie won the first place award in the Doctoral Engineering Student Award.

5. **Research Louisville**, 2016 paper by Ahmed Soliman won the first place award in the Doctoral Engineering Student Award.

6. **Ahmed Soliman** received the **Graduate Dean's Citation** award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, Fall 2016.

7. **Marwa Ismail** received the Graduate Dean's Citation award in recognition of her excellent achievement as a candidate for advanced degree in the University of Louisville, Fall 2016.

8. **M. Shehata**, his paper (M. Shehata, F. Khalifa, A. Soliman, A. Takieldeen, M. A. El-Ghar, A. Shaffie, A. C. Dwyer, R. Ouseph, A. El-Baz, and R. Keynton, "3D Diffusion MRI-Based CAD System for Early Diagnosis of Acute Renal Rejection". In: Proc. IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI'16), Prague, Czech Republic, April 13–16, pp. 1177-1180, 2016) is selected to be one of the top 39 student papers in IEEE ISBI 2016 conference from around 340 accepted publications.

9. **M. Shehata** received a certificate for his Merit of Excellence for participating in community research symposium in Graduate Student Regional Research Conference at UOFL, April 1st and 2nd, 2016.

10. **E Hosseini-Asl** received the **John M. Houchens Prize** in recognition of his excellent doctoral dissertation, Spring 2016.

11. **E. Hosseini-Asl** received the **Graduate Dean's Citation** award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, Spring 2016.

12. **M. El-Baz**, DuPont Manual/ Meyzeek Regional Science Fair, 2016, Second place (Software division).

13. M. El-Baz, Kentucky Science and Engineering Fair, 2016, Third place (Software division).

14. **R. Khodeir**, DuPont Manual/ Meyzeek Regional Science Fair, 2016, Third Place (Biomedical Engineering).

15. **Research Louisville,** 2015 paper by Islam Reda and Ahmed Magdi won the first place award in the Doctoral Engineering category**.**

16. **Patrick McClure** received Cambridge International Scholarship (a three-year scholarship to study at the University of Cambridge, England, valued at more than $230,000), Spring 2014. (**International Award**).

17. **Mohamed Shehata** was the recipient of IEEE Signal Processing Society (SPS) Travel Award to attend International Conference on Image Processing (ICIP), 2015, Canada. (**International Award**).

18. **Marwa Ismail** was the recipient of ECE Outstanding Graduate Student Award, 2015.

19. **Matthew Nitzken** received the Graduate Dean's Citation award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, Spring 2015.

20. **Marwa Ismail** was the recipient of the *Theobald Scholarship Award* in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2015.

21. **Mahmoud Mostapha** was the recipient of the ECE Alumni Award.

22. **Mohamed Shehata** was the recipient of the *Theobald Scholarship Award* in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2015.

23. **Fahmi Khalifa** won the Second place Postdoctoral Fellow Award in Research ! Louisville, September 2014.

24. **Research Louisville**, 2014 paper by Matthew Nitzken won second place award in the Engineering Collaboration category.

25. **Ahmad Firjani** received the Graduate Dean's Citation award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, Fall 2014.

26. Marie Hensley won **$1500 Dollar Research Grant from Autism Research Institute**, 2014. (**National Award**).

27. **Fahmi Khalifa** was the recipient of ECE Outstanding Graduate Student Award, 2014.

28. **Fahmi Khalifa** received the John M. Houchens Prize in recognition of his excellent doctoral dissertation, Spring 2014.

29. **Fahmi Khalifa** received the Graduate Dean's Citation award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, Spring 2014.

30. **Ahmed Soliman** was the recipient of ECE Outstanding Graduate Student Award, 2014.

31. **Ahmed Soliman** was the recipient of the *Theobald Scholarship Award* in recognition of valuable

contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2014.

32. **Matthew Nitzken** was the recipient of **ECE Outstanding Graduate Student Award**, 2014.

33. **Matthew Nitzken** was the recipient of the *Theobald Scholarship Award* in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2014.

34. **Amir Alansary** was the recipient of the Theobald Scholarship Award in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2014.

35. **Mahmoud Mostapha** was the recipient of the Theobald Scholarship Award in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2014.

36. **Mahmoud Mostapha** received University of Louisville Fellowship (a four-year scholarship to study at the University of Louisville, USA), Fall 2014.

37. **Marie Hensley** was the recipient of **Mickey R. Wilhelm Achievement Award**, 2011.

38. **Ahmed Elnakib** received the John M. Houchens Prize in recognition of his excellent doctoral dissertation, Fall 2013.

39. **Ahmed Elnakib** received the Graduate Dean's Citation award in recognition of his excellent achievement as a candidate for advanced degree in the University of Louisville, 2013.

40. **Ahmed Elnakib** was the recipient of the *Theobald Scholarship Award* in recognition of valuable contributions to Department of Electrical and Computer Engineering J.B. Speed School of Engineering University of Louisville April, 2013.

41. **Ahmad Firjani** was the recipient of Arthur M. Riehl Award in the Computer Engineering and Computer Science Department, Speed School of Engineering, University of Louisville, April 2013.

42. **Fahmi Khalifa** was the recipient of the *Theobald Scholarship Award* in the Electrical and Computer Engineering Department, Speed School of Engineering, University of Louisville, April 2013.

43. **Matthew Nitzken** was the recipient of the Electrical Engineering Outstanding Graduate Student Award in the Electrical and Computer Engineering Department, Speed School of Engineering, University of Louisville, April 2013.

44. **Matthew Nitzken** was the recipient of a Novel Research Innovation Award as exemplified by an Option Agreement for his patent on 3D Shape Analysis for Early Assessment of Detected Lung Nodules by the University of Louisville, April 2013.

45. **Matthew Nitzken** was the recipient of a Novel Research Innovation Award as exemplified by a Non-Exclusive License to PulmoCADx, Inc. for Pulmocad-Lung Nodule Diagnostic Software by the University of Louisville, April 2013.

46. **Hisham Soliman** was the recipient of the Best paper runner-up in the *International Symposium on Computational Models for Life Science (CMLS'13)* (http://cmls-conf.org/2013/index.php?page=prizes), November 2013. (**International Award**).

47. **Hisham Sliman** won the first place *Student Engineering Collaboration Award* in Research ! Louisville, September 2013.

48. **Patrick McClure** received the Jerry and Pat Strugeon Academic Excellence Award, April, 2013.

49. Patrick McClure received Barry **M. Goldwater Scholarship and Excellence in Education Foundation**,

2012 (Note that the Barry M. Goldwater Scholarship has two selection phases, an institutional round and a national round. Each institution is only allowed to nominate a maximum of four students for the national round based on intellectual merit and research experience. At the national level, only about 20% of candidates are given the award). (**National Award**).

50. **Expo 2012**, paper by Matthew Nitzken won first place award (Graduate Category).

51. **Expo 2012**, paper by Patrick McClure won first place award (Undergraduate Category).

52. **Louisville Chapter of the Society for Neuroscience**, 2012 paper by Brynn Dombroski won second place award, April, 2012.

53. **Research Louisville**, 2012 paper by Anita Allison-McNutt won second place award in the Engineering collaboration category.

54. **Excellence in Neuroscience Research**, 2012 paper by Brynn Dombrowski won second place award in the graduate student poster competition.

55. Ahmed Elnakib was the recipient of **ECE Outstanding Graduate Student Award**, 2012.

56. Fahmi Khalifa was the recipient of **ECE Outstanding Graduate Student Award**, 2012.

57. Eric Gross was the recipient of **Lewis S. Streng Award**, 2012.

58. **Excellence in Neuroscience Research**, 2011 paper by Marie Hensley won second place award in the undergraduate student poster competition.

59. **Research Louisville**, 2011 paper by Matthew Nitzken won second place award in the Basic-Science category.

60. **Expo 2011**, paper by Matthew Nitzken won third place award (Graduate Category).

61. Gela Sokhadze won **$3000 Dollar Research Grant from Autism Research Institute**, 2011. (**International Award**).

62. Marie Hensley won **$1500 Dollar Research Grant from Autism Research Institute**, 2011. (**International Award**).

63. Eric Gross was the recipient of **Jerry and Pat Sturgeon Academic Excellence Award**, 2011.

64. Eric Gross was the recipient of **Robert C. Ernst Scholarship Award**, 2011.

65. Eric Gross was the recipient of **Mickey R. Wilhelm Achievement Award**, 2011.

66. Ahmed Elnakib, **Who's Who** Among Students in American Universities, 2011.

67. Fahmi Khalifa, **Who's Who** Among Students in American Universities, 2011.

68. Fahmi Khalifa was the recipient of **NSF Travel Award** to attend International Symposium on Biomedical Imaging (ISBI' 2011). (**National Award**).

69. **Research Louisville**, 2009 paper by Tim Horrell won second place award in the Engineering Collaboration category.

70. **Idea State U-March**, 2009 paper by James Bahe, Chad Barras, John Weis and Laura Zanewicz won the first place in State Business Concept and Plan Competition for State Universities.

71. **Ballard Morton New Venture Competition**, 2009 paper by James Bahe, Chad Barras, John Weis and Laura Zanewicz won the fourth place in business plan competition. (**National Award**).

72. **Ballard Morton New Venture Competition**, 2009 presentation by Chad Barras won the first place in 60-second fast pitch for Clarity Imaging Solutions. (**National Award**).

73. **Research Louisville**, 2009 paper by Tim Horrell won second place award in the Basic-Science category.

74. **Expo-2009,** paper by David Heredia won fifth place award.

75. Tim Horrell won **$1000 Dollar Research Grant from AAPB**, 2009. (**International Award**).

76. Vedant Kumar received the first place in **Kentucky Science and Engineering Fair**, 2009.

77. Vedant Kumar received the first place in **Intel Excellence in Computer Science Award**, 2009.

78. Teresa Shaffer received the first place in the **Kentucky Academy of Science (KAS)**, 2008.

79. **Research Louisville**, 2007 paper by Eric Van Bogaert won first place award in the Engineering Collaboration category.

NARRATIVE ON CONTRIBUTIONS TO THE SCHOLARSHIP OF DISCOVERY, INTEGRATION AND APPLICATION

I have started my career at University of Louisville in 2006 as Assistant Professor of Bioengineering, since then, I have established a thriving and internationally recognized research group as part of the new BioImaging Laboratory. My research lab has been committed to excellence in research and teaching. With the research group that I have established, I have made several internationally recognized, well-funded contributions to my research in the area of medical image analysis. The primary contributions have included developing and implementing innovative and ground-breaking techniques for use in image-guided surgeries, and the creation of non-invasive image-based diagnostic systems, which can help to revolutionize the early diagnosis of numerous diseases and brain disorders.

The work of the BioImaging lab has achieved worldwide recognition and is helping to pave the way for upcoming cutting-edge medical systems and has succeeded to establish strong and successful interdisciplinary collaboration with researchers in Medical School at University of Louisville, Radiology Department at University of Chicago, Computer Science Department at University of Auckland, Kidney Transplant Center at University of Mansoura. My main research contributions include: 1) Development of a new image-based technology for the early diagnosis of lung cancer, 2) Development of techniques for the early diagnosis of Autism, based on using magnetic resonance images to analysis various brain structures (several companies show their interest to license this technology such as Siemens Medical Solution, Malvern, PA, and PulmoCAD, Inc, St. Louis, MO), 3) Development of a new technology for the early detection of Acute renal rejection, based on using dynamic magnetic resonance images, 4) Development of a new technology for the early diagnosis of prostate cancer using non-invasive diffusion magnetic resonance images, and 5) Development of image based systems for the early detection of heart failure

using tagged, cine, and late contrast magnetic resonance images.

I have succeeded to acquire **$11.3** million in funding as PI/Co-I. I have published 11 books, 100 papers in prestigious high-impact journals and extremely selective peer reviewed conferences in my field, while mentoring and advising 30 students, leading to 17 Ph.D dissertations and 13 master's theses. My research has led to 20 national prizes and best paper awards and travel scholarships. Three of the Ph.D. students that we have advised have won the prestigious John M. Houchens dissertation awards, and our research group has received 20 national/international awards and travel scholarships. I was elected as Fellow of the Coulter Foundation for Translational Research, Senior Member of the IEEE, and I serve on the editorial board of 7 journals. Also, I was invited to serve on the program committee of the 18th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2015), the most prestigious conference in medical image analysis, and this year I will be the Chair of the Biomedical Image Processing and Analysis Track at the 8th Cairo International Biomedical Engineering Conference (CIBEC 2016), the Multimedia, Computer Vision and Image Processing Track of the 13th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2016), and Image Processing for Bio-Application Track of the IEEE 59th Midwest Symposium on Circuits and Systems, (MWSCAS'16).

Summary of Research Productivity

	Journal Articles	Books	Book Chapters	Peer-reviewed Conferences	Abstracts	Patents and Disclosures	Technology licensing	Software Copyrights	Tutorials	Invited Talks	Funding
1999-2010	28	3	6	106	26	1	0	0	0	5	$2,007,031
2011-2015	50	2	28	38	45	6	0	1	1	5	$6,365,970
2016-2018	44	14	12	40	44	16	2	2	1	11	$4,707,000
Total	**122**	**19**	**46**	**184**	**115**	**23**	**2**	**3**	**2**	**21**	**$13,080,001**

Citation Indices (Source: Google Scholar)

http://scholar.google.com/citations?user=RkQNgg4AAAAJ&hl=en

Linked:

https://www.linkedin.com/in/ayman-el-baz-74302314

Research Gate:

https://www.researchgate.net/profile/Ayman_El-Baz/stats

	Google Scholar	
	All	**2013-2018**
Citations	5622	4474
h-index	37	31
i10-index	174	151
	Research Gate	
Research Gate Score	**38.99**	
Read	**18,370**	
Percentile	**Your score is higher than 95% of Research Gate members'**	

Information about University of Louisville

- **#171 in National Universities***

- **#116 in Engineering (the rank of Speed School of Engineering)***

- **#103 in Medicine (The rank of School of Medicine)***

  *Source: https://www.usnews.com/best-colleges/university-of-louisville-1999

Books (Total = 22):

1. **A. El-Baz** and J. Suri, *Diabetes, Retinopathy and Cardiovascular Risk, Volume 1: Diabetics and Cardiovascular Risk*, Elsevier, (in press).

2. **A. El-Baz** and J. Suri, *Diabetes, Retinopathy and Cardiovascular Risk, Volume 2: Diabetics and Retinopathy*, Elsevier, (in press).

3. **A. El-Baz** and J. Suri, *Diabetes, Retinopathy and Cardiovascular Risk, Volume 3: Diabetics and Fundus OCT*, Elsevier, (in press).

4. **A. El-Baz**, Luca Saba and J. Suri, *Neurological Disorders and Imaging Physics, Volume 1: Application of Multiple Sclerosis*, Taylor & Francis, (in press).

5. **A. El-Baz**, Luca Saba and J. Suri, *Neurological Disorders and Imaging Physics, Volume 2: Application to Autism Spectrum Disorders and Alzheimer's,* Taylor & Francis, (in press).

6. **A. El-Baz**, Luca Saba and J. Suri, *Neurological Disorders and Imaging Physics, Volume3: Application to Dyslexia, Epilepsy and Parkinson's,* Taylor & Francis, (in press).

7. **A. El-Baz**, Luca Saba and J. Suri, *Neurological Disorders and Imaging Physics, Volume 4: Application to Attention Deficit Hyperactivity Disorder,* Taylor & Francis, (in press).

8. G. Barnes, **A. El-Baz**, and J. Suri, ***Multimodality Autism Imaging***," Taylor & Francis, (in press).

9. **A. El-Baz** and J. Suri, ***Level Set Method in Medical Imaging Segmentation***, Taylor & Francis, (in press).

10. **A. El-Baz** and J. Suri, ***Big Data in Multimodal Medical Imaging***, Taylor & Francis, (in press).

11. **A. El-Baz** and J. Suri, *Machine Learning and Deep Learning in Biomedical Imaging*, Taylor & Francis, (in press).

12. **A. El-Baz** and J. Suri, Lung Imaging and CADx, Taylor & Francis, (in press).

13. **A. El-Baz** and J. Suri**,** *Cardiovascular Imaging and Image Analysis*, Taylor & Francis, (in press).

14. **A. El-Baz,** G. Pareek, and J. Suri, Editors, *Prostate Cancer Imaging: An Engineering and Clinical Perspective*, Taylor & Francis, (**in press**).

15. M. Casanova, **A. El-Baz** and J. Suri, Editors, *Autism Imaging and Devices*, Taylor & Francis, ISBN 9781498709811, February 3, 2017.

16. **A. El-Baz**, X. Jiang, and J. Suri, Editors, *Biomedical Image Segmentation Advances and Trends*, Taylor & Francis, ISBN 9781482258554 , November 17, 2016.

17. **A. El-Baz**, G. Gimel'farb, and J. Suri, Editors, *Stochastic Modeling for Medical Image Analysis*, Taylor & Francis, ISBN 9781466599079, January 2016.

18. **A. El-Baz**, Luca Saba and J. Suri, Editors, *Abdomen and Thoracic Imaging - An Engineering & Clinical Perspective*, Springer-Verlag, New York, 2014, ISBN-13: 978-1-4614-8498-1.

19. M. Casanova, **A. El-Baz** and J. Suri, Editors, *Imaging the Brain in Autism*, Springer-Verlag, New York, May 2013, **ISBN-13**: 9781461468424, **ISBN-10**: 1461468426.

20. **A. El-Baz** and J. Suri, Editors, *Lung Imaging and Computer Aided Diagnosis*, Taylor & Francis, October 2011, ISBN: 9781439845578, ISBN 10:1439845573.

21. **A. El-Baz**, R. Acharya, M. Mirmedhdi, and J. Suri, Editors, *Multi Modality State-of-the-Art Medical Image Segmentation and Registration Methodologies: Volume 1*, Springer-Verlag, New York, March 2011, ISBN: 978-1-4419-8194-3.

22. **A. El-Baz**, R. Acharya, A. Laine, and J. Suri, Editors, *Multi Modality State-of-the-Art Medical Image Segmentation and Registration Methodologies: Volume 2*, Springer-Verlag, New York, March 2011, ISBN: 978-1-4419-8203-2.

Peer-Reviewed Journal Manuscripts (Total = 124):

('*' means that Dr. El-Baz is the advisor of this student)

1. H. Sandhu, **A. El-Baz**, and J. Seddon, "Progress in Automated Deep Learning for Macular Degeneration and Ophthalmology," JAMA Ophthalmology. In Press

2. A. Eltanboly; H. Hajjdiab; M. Ghazal; A. Shalaby; A. Mahmoud, M. El-Azab; P. Sahoo; **A. El-Baz**, "Level Sets-Based Image Segmentation Approach using Statistical Shape Priors," *Applied Mathematics and Computation.* In Press.

3. B. García-Zapirain, M. Elmogy, A. Elmaghraby, and **A. El-Baz**, "Classification of Pressure Ulcer Tissues with 3D Convolutional Neural Network," *Medical & Biological Engineering & Computing Journal*. In-Press.

4. M. Maniruzzaman, M. Rahman, M. Al-MehediHasan, H. Suri, M. Abedin, **A. El-Baz**, J. Suri, "Accurate

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136. **A. El-Baz**, G. Gimel'farb, and M. Abou El-Ghar, "New Motion Correction Models for Automatic Identification of Renal Transplant Rejection," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'07)*, Brisbane, Australia, October 29 - November 2, 2007, pp. 235-243. *(Overall acceptance rate is 25%).*

137. A. Ali, A. Farag, and **A. El-Baz**, "Graph Cuts Framework for Kidney Segmentation with Prior Shape Constraints," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'07)*, Brisbane, Australia, October 29 - November 2, 2007, pp. 384-392. *(Overall acceptance rate is 25%).*

138. A. Farag, **A. El-Baz**, S. Yuksel, T. El-Diasty, and M. Ghoneim, "A Framework for the Detection of Acute Rejection with Dynamic Contrast Enhanced Magnetic Resonance Imaging," *Proc. of IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI'06)*, Arlington, Virginia, USA, April 6–9, 2006, pp. 418–421.

139. E. Yuksel, **A. El-Baz**, and A. Farag, "A Kidney Segmentation Framework for Dynamic Contrast Enhanced Magnetic Resonance Imaging," *Mathematical Methods in Engineering (MME'06) International Symposium*, Ankara, Turkey, April, 27–29, 2006, pp. 55–64.

140. **A. El-Baz**, A. Farag, A. Ali, G. Gimel'farb, and M. Casanova, "A Framework for Unsupervised Segmentation of Multi-Modal Medical Images," *Proc. of the Second International Workshop of Computer Vision Approaches to Medical Image Analysis (CVAMIA'06)*, Graz, Austria, May 12, 2006, pp. 120-131.

141. **A. El-Baz**, A. Farag, H. Abd El Munim, and E. Yuksel, "Level Set Segmentation using Statistical Shape Priors," *Proc. of IEEE Conference on Computer Vision and Pattern Recognition Workshop (CVPRW'06)*, New York, NY, USA, June 17-18, 2006, pp. 78-85.

142. **A. El-Baz**, A. Farag, and G. Gimel'farb, "Experiments on Robust Image Registration using a Markov-Gibbs Appearance Model," *Joint IAPR International Workshop on Structural and Syntactic Pattern Recognition (SSPR'06) and Statistical Techniques in Pattern Recognition (SPR'06)*, Hong Kong, China, August 17-19, 2006, pp. 65-73. *(Selected for oral presentation. Oral acceptance rate is 10% and the overall acceptance rate is 35%).*

143. **A. El-Baz**, A. Farag, G. Gimel'farb, M. Abou El-Ghar, and T. Eldiasty, "Probabilistic Modeling of Blood Vessels for Segmenting MRA Images," *Proc. of International Conference on Pattern Recognition (ICPR'06)*, Hong Kong, August 20–24, 2006, vol. 3, pp. 917-920. *(Acceptance rate is 35%).*

144. **A. El-Baz**, A. Farag, R. Fahmi, S. Yuksel, M. Abou El-Ghar, and T. Eldiasty, "Image Analysis of Renal DCE MRI for the Detection of Acute Renal Rejection," *Proc. of International Conference on Pattern Recognition (ICPR '06)*, Hong Kong, August 20–24, 2006, vol. 3, pp. 822-825. *(Acceptance rate is 35%).*

145. **A. El-Baz**, A. Farag, G. Gimel'farb, R. Falk, M. Abou El-Ghar, and T. Eldiasty, "A Framework for Automatic Segmentation of Lung Nodules from Low Dose Chest CT Scans," *Proc. of International Conference on Pattern Recognition (ICPR '06)*, Hong Kong, August 20–24, 2006, vol. 3, pp. 611-614. *(Selected for oral presentation. Oral acceptance rate is 10% and the overall acceptance rate is 35%).*

146. **A. El-Baz**, A. Farag, G. Gimel'farb, and A. Abdel-Hakim, "Robust Image Registration Based on Markov-Gibbs Appearance Model," *Proc. of International Conference on Pattern Recognition (ICPR'06)*, Hong Kong, August 20–24, 2006, vol. 2, pp. 1204-1207. *(Selected for oral presentation. Oral acceptance rate is 9% and the overall acceptance rate is 35%).*

147. **A. El-Baz**, A. Farag, G. Gimel'farb, and A. Abdel-Hakim, "Image Alignment using Learning Prior Appearance Model," *Proc. of IEEE International Conference on Image Processing (ICIP '06)*, Atlanta, GA, October 8-11, 2006, pp. 341-344.

148. **A. El-Baz**, A. Farag, G. Gimel'farb, M. Abou El-Ghar, and T. Eldiasty, "Fast Unsupervised Segmentation of 3D Magnetic Resonance Angiography," *Proc. of IEEE International Conference on Image Processing (ICIP '06)*, Atlanta, GA, October 8-11, 2006, pp. 93-96. *(Selected for oral presentation. Also, this paper has been ranked among the best 10% of the conference papers).*

149. **A. El-Baz**, A. Farag, R. Fahmi, S. Yuksel, W. Miller, M. Abou El-Ghar, T. El-Diasty, and M. Ghoneim, "A New CAD System for the Evaluation of Kidney Diseases using DCE-MRI," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'06)*, Copenhagen, Denmark, October 1–6, 2006, vol. 2, pp. 446-453. *(Acceptance rate is 25%).*

150. **A. El-Baz**, A. Farag, G. Gimel'farb, M. Abou El-Ghar, and T. El-Diasty, "A New Adaptive Probabilistic Model of Blood Vessels for Segmenting MRA Images," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention, (MICCAI'06)*, Copenhagen, Denmark, October 1–6, 2006, vol. 2, pp. 799-806. *(Acceptance rate is 25%).*

151. **A. El-Baz**, A. Ali, A. Farag, and G. Gimel'farb, "A Novel Approach for Image Alignment using a Markov-Gibbs Appearance Model," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'06)*, Copenhagen, Denmark, October 1–6, 2006, vol. 2, pp. 734-741. *(Acceptance rate is 25%).*

152. A. Farag, **A. El-Baz**, G. Gimel'farb, R. Falk, M. Abou El-Ghar, T. El-Diasty, and S. Elshazly, "Appearance Models for Robust Segmentation of Pulmonary Nodules in 3D LDCT Chest Images," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'06)*, Copenhagen, Denmark, October 1–6, 2006, vol. 1, pp. 662-670. *(Selected for oral presentation. Oral acceptance rate is 5% and the overall acceptance rate is 25%).*

153. R. Mohammed, **A. El-Baz**, W. Emara, and A. Farag, "Automatic Change Detection in Remotely Sensed Data Using Shape Priors," *Proc. of International Conference on Information Fusion*, Florence, Italy, July 10–13, 2006.

154. R. Fahmi, A. Abdel-Hakim Aly, **A. El-Baz**, and A. Farag, "New Deformable Registration Technique Using Scale Space and Curve Evolution Theory and a Finite Element Based Validation Framework," *Proc. of the 28th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society,* New York, NY, August 30 - September 3, 2006, pp. 3041-3044.

155. **A. El-Baz**, A. Farag, and G. Gimel'farb, "MGRF Controlled Stochastic Deformable Model," *Proc. of Fourteenth Scandinavian Conference on Image Analysis (SCIA'05)*, Joensuu, Finland, June 19-22, 2005, pp. 1138-1147.

156. **A. El-Baz**, A. Farag, and G. Gimel'farb, "Cerebrovascular Segmentation by Accurate Probabilistic Modeling of TOF-MRA Images," *Proc. of Fourteenth Scandinavian Conference on Image Analysis (SCIA'05)*, Joensuu, Finland, June 19–22, 2005, pp. 1128–1137.

157. **A. El-Baz**, R. Mohamed, A. Farag, and G Gimel'farb, "Unsupervised Segmentation of Multi-Modal Images by a Precise Approximation of Individual Modes with Linear Combinations of Discrete Gaussians," *Proc. of IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW'05)*, San Diego, California, June 19-25, 2005, vol. 3, pp. 54-61.

158. **A. El-Baz**, S. Yuksel, S. Elshazly, and A. Farag, "Non-Rigid Registration Techniques for Automatic Follow-Up of Lung Nodules," *Proc. of Computer Assisted Radiology and Surgery (CARS'05),* Berlin, Germany, June 22-25, 2005, pp. 1115-1120.

159. S. Yuksel, **A. El-Baz**, A. Farag, M. Abou El-Ghar, T. Eldiasty, and M. Ghoneim, "Automatic Detection of Renal Rejection After Kidney Transplantation," *Proc. of Computer Assisted Radiology and Surgery (CARS'05)*, Berlin, Germany, June 22-25, 2005, pp. 773-778.

160. H. Hassan, **A. El-Baz**, A. Farag, A. Farman, D. Tazman, and W. Miller, "A Volumetric 3D Model of the Human Jaw," *Proc. of Computer Assisted Radiology and Surgery (CARS'05)*, Berlin, Germany, June 22-25, 2005, pp. 1244-1249.

161. **A. El-Baz**, R. Mohamed, and A. Farag, "Shape Constraints for Accurate Image Segmentation with Applications in Remote Sensing Data," *Proc. of the Eighth International Conference on Information Fusion (IF'05)*, Philadelphia, PA, USA, July 25-29, 2005, vol. 2, pp. 1154-1161.

162. R. Mohamed, **A. El-Baz**, and A. Farag, "Remote Sensing Image Segmentation using SVM with Automatic Selection for the Kernel Parameters," *Proc. of the Eighth International Conference on Information Fusion (IF'05)*, Philadelphia, PA, July 25-29, 2005, vol. 2, pp. 1451-1458.

163. **A. El-Baz**, A. Farag, and G. Gimel'farb, "Stochastic Deformable Model," *Proc. of British Machine Vision (BMVC'05)*, Oxford Brookes University, Oxford, UK, September 5-8, 2005, pp. 230-239. *(Acceptance rate is 30%).*

164. R. Mohamed, **A. El-Baz**, and A. Farag, "Advanced Algorithms for Bayesian Classification in High Dimensional Spaces with Applications in Hyperspectral Image Segmentation," *Proc. of the International Conference on Image Processing (ICIP'05)*, Genoa, Italy, Sept. 11-14, 2005, vol. 2, pp. 646-649.

165. **A. El-Baz**, A. Farag, G. Gimel'farb, and S. Hushek, "Automatic Cerebrovascular Segmentation by Accurate Probabilistic Modeling of TOF-MRA Images," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'05)*, Palm Springs, California, USA, October 26-29, 2005, vol. 1, pp. 34-42. *(Selected as oral. Oral acceptance rate is 5% and the overall acceptance rate is 25%).*

166. A. Farag, **A. El-Baz**, G. Gimel'farb, M. Abou El-Ghar, and T. Eldiasty, "Quantitative Nodule Detection in Low Dose Chest CT Scans: New Template Modeling and Evaluation for CAD System Design," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'05)*, Palm Springs, California, USA, October 26–29, 2005, vol. 1, pp. 720–728. *(Acceptance rate is 25%. Also, this paper has been ranked as one of the best papers in MICCAI 2005).*

167. **A. El-Baz**, S. Yuksel, H. Shi, A. Farag, M. Abou El-Ghar, T. Eldiasty, and M. Ghoneim, "2D and 3D

Shape Based Segmentation using Deformable Models," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'05)*, Palm Springs, California, USA, October 26-29, 2005, vol. 2, pp. 821-829. *(Acceptance rate is 25%).*

168. **A. El-Baz**, G. Gimel'farb, and A. Abdel-Hakim, "Robust Image Segmentation with Parametric Deformable Model using Learned Shape Priors," *ICGST International Conference on Graphics, Vision and Image Processing, (GVIP'05)*, Cairo, Egypt, December 19–21, 2005, pp.558–570. *(Best Paper Award).*

169. A. Farag, M. Hassouna, and **A. El-Baz**, "Real Time Vision-Based Image Guided Neurosurgery," *Proc. of Computer Assisted Radiology and Surgery (CARS'04)*, Chicago, IL, June 23–26, 2004, pp. 467–472.

170. A. Farag, **A. El-Baz**, and G. Gimel'farb, "Precise Image Segmentation by Iterative EM-Based Approximation of Empirical Grey Level Distributions with Linear Combinations of Gaussians," *Proc. of IEEE Conference on Computer Vision and Pattern Recognition Workshop (CVPRW'04)*, Washington, D.C., June 27-July 2, 2004, pp. 109–116.

171. A. Farag, **A. El-Baz**, G. Gimel'farb, and R. Falk, "Detection and Recognition of Lung Abnormalities using Deformable Templates," *Proc. of IAPR International Conference on Pattern Recognition (ICPR'04)*, Cambridge, UK, August 23–26, 2004, vol. 3, pp. 738–741. *(Selected for oral presentation. Oral acceptance rate is 9% and the overall acceptance rate is 35%).*

172. G. Gimel'farb, A. Farag, and **A. El-Baz**, "Expectation-Maximization for a Linear Combination of Gaussians," *Proc. of IAPR International Conference on Pattern Recognition (ICPR'04)*, Cambridge, UK, August 23–26, 2004, vol. 3, pp. 422–425. *(Acceptance rate is 35%).*

173. A. Farag, **A. El-Baz**, G. Gimelfarb, R. Falk, and S. Hushek, "Automatic Detection and Recognition of Lung Abnormalities in Helical CT Images using Deformable Templates," *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI'04)*, France, Rennes, Saint-Malo, September 26–29, 2004, pp. 856–864. *(Acceptance rate is 25%).*

174. A. Farag, **A. El-Baz**, and G. Gimel'farb, "Density Estimation using Modified Expectation Maximization for a Linear Combination of Gaussians," *Proc. of IEEE International Conference on Image Processing (ICIP'04)*, Singapore, October 24–27, 2004, vol. 3, pp. 1871–1874. *(Selected for oral presentation. Also, this paper has been ranked among the best 10% of the conference papers).*

175. A. Farag, **A. El-Baz**, and G. Gimel'farb, "Detection and Recognition of Lung Nodules in Spiral CT Images using Deformable Templates and Bayesian Post-Classification," *Proc. of IEEE International Conference on Image Processing (ICIP'04)*, Singapore, October 24–27, 2004, vol. 5, pp. 2921–2924.

176. **A. El-Baz**, A. Farag, R. Falk, and R. La Rocca, "Automatic Identification of Lung Abnormalities in Chest Spiral CT Scans," *International Conference on Acoustics, Speech, and Signal Processing (ICASSP'03)*, Hong Kong, Hong Kong, April 6–10, 2003, pp. 261–264. *(Selected for oral presentation).*

177. **A. El-Baz**, A. Farag, R. Falk, and R. La Rocca, "A Unified Approach for Detection, Visualization, and Identification of Lung Abnormalities in Chest Spiral CT Scans," *Computer Assisted Radiology and Surgery (CARS'03)*, London, UK, June, 25–28, 2003, pp. 998–1004.

178. **A. El-Baz** and A. Farag, "Parameter Estimation in Gibbs–Markov Image Models," *International Conference on Information Fusion (IF'03)*, Queensland, Australia, July 8–11, 2003, pp. 934–942.

179. **A. El-Baz** and A. Farag, "Image Segmentation using GMRF Models: Parameters Estimation and Applications," *Proc. of IEEE International Conference on Image Processing (ICIP'03)*, Barcelona, Spain, September 14–17, 2003, vol. 2, pp. 177–180. *(Selected for oral presentation).*

180. **A. El-Baz** and A. Farag, "Stochastic Models in Image Analysis: Parameter Estimations and Case Studies in Image Segmentation," *IEEE Workshop on Statistical Signal Processing (SSP'03)*, September 28 - October 1, 2003, pp. 154–157.

181. **A. El-Baz**, A. Farag, R. Falk, and R. La Rocca, "Detection, Visualization, and Identification of Lung Abnormalities in Chest Spiral CT Scans: Phase I," *Proc. of the International Conference on Biomedical Engineering (ICBE'02)*, Cairo, Egypt, December 24-25, 2002, pp. 38-42.

182. M. Yakout, A. Abdelfattah, and **A. El-Baz**, "Design Fifth Order Active Current Mode Filter by using Leap Frog Method," *Eighteenth National Radio Science Conference*, March 2000, pp. 104–111.

183. M. Yakout, A. Abdelfattah, and **A. El-Baz**, "BICMOS Current Conveyor: Design and Application," *Proc. of IEEE International Symposium on Circuits and Systems (ISCAS'00)*, May 28-31, Geneva, Switzerland, pp. 463–466.

184. M. Yakout, A. Abdelfattah, and **A. El-Baz**, "Design of Current-Mode Active Filters for High Frequency Applications," *Mansoura Third International Conference*, April 2000, pp. 51–58.

185. M. Yakout, A. Abdelfattah, and **A. El-Baz**, "Analysis of Circuits Containing Nonlinear Elements using Neural Networks and Genetic Algorithm," *Seventeenth National Radio Science Conference*, Feb. 2000, pp. 80–87.

Abstracts Published in Proceedings and Invited Presentations (Total = 136):

('*' means that Dr. El-Baz is the advisor of this student)

1. Y. Elnakieb, O. Dekhil, A. Shalaby, B. Ainde, A. Mahmoud, A. Switala, A. Elmaghraby, R. Keynton, M. Ghazal, G. Barnes, and **A. El-Baz** , "A Personalized Early-Detection of Autism Spectrum Disorder using DTI and sMRI", Accepted for Oral Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

2. H. Abdeltawab, M. Shehata, A. Shalaby, S. Mesbah, M. El-Baz, M. Ghazal, Y. Alkhalil, M. Abou-Elghar, A. Dwyer, and M. El-Melegy, and **A. Elbaz**, "Deep Learning-Based Framework For Early Detection Of Acute Renal Transplant Rejection" , Accepted for Oral Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

3. M. Shehata, M. Ghazal, G. Beache, M. Abou El-Ghar, A. Dwyer, A. Khalil, A. Elmaghraby, **A. El-Baz**, "Fusion of Image and Clinical Markers for Renal Transplant Rejection Assessment: A Pilot Study", Accepted for Oral Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

4. S. Mesbah, C. Angeli, R. Keynton, **A. El-Baz**, and S. Harkema, "A Novel Approach for Automatic Visualization and Activation Detection of Evoked Potentials Induced by Epidural Spinal Cord Stimulation in Individuals with Spinal Cord Injury", Accepted for Oral Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

5. M. Ali, O. Dekhil, A. Shalaby, R. Keynton, M. Ghazal, G. Barnes, and **A. El-Baz**, "A Personalized Treatment For Autism Spectrum Disorder Using Task-Based Functional-MRI," Accepted for Oral Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta, GA, USA.

6. A. ElTanboly, A. Shalaby, M. Ghazal, H. Sandhu, G. Giridharan, R. Keynton, M. El-Aazab, and **A. El-Baz**, "Comprehensive Framework for Automatic Diagnosing and Grading of Diabetic Retinopathy that Uses Optical Coherence Tomography (OCT) Images", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

7. H. Kandil, A. Soliman, G. Giridharan, A. Mahmoud, A. Shalaby, M. Ghazal, A. Elmaghraby, and **A. El-Baz**, "A Novel MRA- Based Framework for Correlating Cerebrovascular Changes to MAP", Accepted for

Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta, GA, USA.

8. A. Sleman, A. Eltanboly, A. Soliman, M. Ghazal, H. Sandhu, S. Schaal, R. Keynton, A. Elmaghraby, and **A. El-Baz**, "An Innovative 3D Adaptive Patient-Related Atlas for Automatic Segmentation of Retina Layers from OCT Images", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

9. O. Dekhil, M. Ali, A. Shalaby, R. Keynton, M. Ghazal, A. Elmaghraby, G. Barnes, and **A. El-Baz**, "Identifying Significant Activation Resting State Activation Components in Autistic Subjects using Semi-Restricted Boltzmann machines", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

10. F. Taher, A. Soliman, A. Mahmoud , A. Shalaby, and **A. El-Baz**, "A New 3D Appearance Model for Accurate Segmentation of Brain Vascular System", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.Mohamed Shaban, Zeliha Ogur,

11. A. Aslantas, A. Mahmoud, A. Shalaby, M. Ghazal, H. Sandhu, H. Kaplan, and **A. El-Baz**, "Accurate Diagnosis of Diabetic Retinopathy Using Convolutional Neural Networks", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

12. F. El-Gamal, M. Elmogy, A. Atwan, M. Ghazal, H. Soliman, G. Barnes, R. Keynton, and **A. El-Baz**, " A Novel Significant Based CAD System of Alzheimer's Disease using 11C PIB-PET Scans", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

13. A. Shaffie, A. Soliman, V. van Berkel, N. Dunlap, B. Wang, M. Ghazal, G. Gimel'farb, X. Fu, M. Nantz, G. Giridharan, and **A. El-Baz**, "Integration of Imaging based Markers and Clinical Biomarkers for Early Detection of Lung Cancer", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

14. I. Reda, B. Ayinde, M. Elmogy, A. Aboulfotouh, A. Shalaby, M. Abou El-Ghar, A. Elmaghraby, M. Ghazal, and **A. El-Baz**, "Prostate Cancer Diagnosis Using Convolutional Neural Network", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

15. M. Elmogy, A. Switala, E. Rouchka, M. Ghazal, R. Keynton, **A. El-Baz**, and G. Barnes, "Genomic Analysis of Autism Spectrum Disorders Based on Different Brain Imaging Modalities", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

16. M. Elmogy, B. García-Zapirain, C. Burns, A. Elmaghraby, and **A. El-Baz**, "Pressure Ulcer Tissues Segmentation System Based on Fusing Different Feature Modalities and Deep Learning Technique" , Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

17. F. El-Gamal, M. Elmogy, M. Ghazal, H. Soliman, A. Atwan, R. Keynton, G. Barnes, and **A. El-Baz**, "A Novel Detailed CAD System for Mild Cognitive Impairment Diagnosis Based on Feature Fusion of sMRI", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta, GA, USA.

18. N. Eladawi, M. Elmogy, L. Fraiwan, F. Pichi, M. Ghazal, A. Aboelfetouh, A. Riad, R. Keynton, S. Schaal, and **A. El-Baz**, "A Novel Early Diagnosis System for Diabetic Retinopathy Based on Local Features from OCTA Scans", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

19. S. Mesbah, F. Gonnelli, E. Rejc, S. Harkema, and **A. El-Baz**, "Frequency Analysis of EMG Signals of Individuals with Spinal Cord Injury: Comparison Between FFT, STFT and Wavelet Methods", Accepted for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

20. M. Ghazal, S. Ali, A. ElTanboly, A. Mahmoud, S. Schaal, and **A. El-Baz**, "Early Detection of Diabetic Retinopathy in Optical Coherence Tomography Images Using Convolutional Neural Networks", Accepted

for Poster Presentation in 2018 BMES Annual Meeting October 17-20, 2018, Atlanta , GA, USA.

21. M. Elmogy, A. Switala, E. Rouchka, M. Ghazal, R. Keynton, **A. El-Baz**, and G. Barnes,: Imaging Genetics Analysis for Autism Spectrum Disorders Based on Functional and Structural Brain Imaging Modalities, *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

22. M. Shehata, M. Abou El-Ghar, and **A. El-Baz**, "Deep learning in classification of kidney transplant dysfunction: combined imaging and clinical biomarkers," in the 25th European Symposium on Urogenital Radiology, Barcelona 13th -16th September 2018.

23. F. El-Gamal, M. Elmogy, M. Ghazal, H. Soliman, A. Atwan, R. Keynton, **A. El-Baz**, and G. Barnes, "Feature Fusion Based CAD System for a Detailed Diagnosis of Mild Cognitive Impairment Diagnosis using sMRI," *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

24. F. El-Gamal, M. Elmogy, M. Ghazal, H. Soliman, A. Atwan, R. Keynton, **A. El-Baz**, and G. Barnes, "A Significant Regional Based Diagnosis Framework of Alzheimer's Disease using ^{11}C PIB-PET Scans," *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

25. Y. ElNakieb, O. Dekhil, A. Shalaby, B. Ayinde, A. Mahmoud, A. Switala, A. Elmaghraby, R. Keynton, M. Ghazal, **A. El-Baz**, and G. Barnes, "An Early-Detection Diagnostic Framework for Autism Spectrum Disorder using DTI and sMRI," *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

26. O. Dekhil, M. Ali, A. Shalaby, R. Keynton, M. Ghazal, A. Elmaghraby, **A. El-Baz**, and G. Barnes, "A Deep Learning Based Generative Model for Functional MRI Analysis," *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

27. Mohamed T. Ali, Omar Dekhil, Ahmed Shalaby, R. Keynton, M. Ghazal, **A. El-Baz**, and G. Barnes: Autism Diagnosis Using a Novel CAD System and Task-Based Functional-MR," *Society of Neuroscience (SfN) Annual Meeting*, San Diego, CA, 2018.

28. O. Dekhil, H. Hajjdiabe, B. Ayinde, A. Shalaby, A. E. Switala, A. Elshamekh, M. Ghazal, R. Keynton, G. Barnes, and A. El-Baz, "Using Resting State Functional MRI to Build a Personalized Autism Diagnosis System, *INSAR 2018 Annual Meeting*, May 9-12, Rotterdam, Netherlands.

29. H. Sandhu, O. Helmy, N. Eladawi*, M. Elmogy, **A. El-Baz**, and S. Schaal, "Automatic Detection of Early Structural Changes in Nonproliferative Diabetic Retinopathy Using Optical Coherence Tomography Angiography Images," *The Association for Research in Vision and Ophthalmology (ARVO)*, Seattle 2018.

30. O. Dekhil, M. Ghazal, A. Shalaby, A. Switala, G. Barnes, **A. El-Baz**, and A. Khalil, "Towards Personalized Medicine in Autism Diagnosis: Anatomical Abnormalities Analysis using a Deep Learning Based Approach," *INSAR 2018 Annual Meeting*, May 9-12, Rotterdam, Netherlands.

31. O. Helmy, A. ElTanboly*, A. Soliman, A. Sleman*, H. Sandhu, **A. El-Baz**, S. Shlomit, "Automated 3-D Segmentation of Retinal Layers from Optical Coherence Tomography Images Using Pattern Recognition-Based Method," *The Association for Research and Vision in Ophthalmology (ARVO)* Meeting 2018.

32. M. Shehata*, E. Hollis*, M. Abou El-Ghar, M. Ghazal, T. Eldiasty, M. Merchant. A. Switala, A. C. Dwyer, and **A. El-Baz**, "Possible Role of Diffusion MRI in Diagnosing Acute Renal Rejection," In: Proceedings of 14th Annual Scientific Meeting of American Society for Diagnostics and Interventional Nephrology (ASDIN'18), Salt Lake City, Utah, USA, February 16-18, 2018.

33. M. Shehata*, M. Abou El-Ghar, and **A. El-Baz**, "An integrated CAD system of DWI MRI and Laboratory Biomarkers in Diagnosis of Kidney Transplant Dysfunction," *European Congress of Radiology* (ECR), Austria Center Vienna, Bruno-Kreisky-Platz 11220, Vienna, Austria, February 28 − March 4, 2018 *(Selected for Oral Session).*

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44. A. Soliman, F. Khalifa, A. Shaffie*, N. Dunlap, B. Wang, A. Elmaghraby, G Gimel farb, V.V. Berkel, and **A. El-Baz**, "A Comprehensive Framework for Early Assessment of Radiation Induced Lung Injury", In Biomedical Engineering Society Annual Scientific Meeting (BMES'17), Phoenix, Arizona, USA, October 11–14, 2017, poster presentation.

45. A. Shaffie*, A. Soliman, N. Dunlap, B. Wang, A. Elmaghraby, G Gimel'farb, V.V. Berkel, and **A. El-Baz**, "A New Framework for Incorporating Appearance and Shape Features of Lung Nodules for Precise Diagnosis of Lung Cancer", In Biomedical Engineering Society Annual Scientific Meeting (BMES'17), Phoenix, Arizona, USA, October 11–14, 2017, poster presentation.

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120. M. Casanova, **A. El-Baz**, A. Elnakib[*], J. Giedd, J. Rumsey, E. Williams, and A. Switala, "Corpus Callosum Shape Analysis with Application to Dyslexia," *Book of Scientific Proceedings, AACAP 57th Annual Meeting*, October 28, 2010; 57, NRPOSTER-2.25.

121. M. Casanova, **A. El-Baz**, A. Switala, E. Williams, D. Williams, N. Minshew, and T. Conturo, "Quantitative Analysis of the Shape of the Corpus Callosum in Autism," *IMFAR Program Booklet & Abstracts*, May 21, 2010, §130.005.

122. E. Sokhadze, J. Baruth, **A. El-Baz**, T. Horrell, A. Tasman, G. Mathai, L. Sears, and M. Casanova, "Effects of Repetitive Transcranial Magnetic Stimulation on Behavior and Functional Cortical Connectivity Outcomes in Autism," *IMFAR Program Booklet & Abstracts*, May 22, 2010, §136.047.

123. T. Horrell[*], **A. El-Baz**, R. Ramaswamy, A. Tasman, and E. Sokhadze, "EEG Gamma Cue Reactivity to Assess Neurofeedback Effects in Addiction," *Presented at the Association for Applied Psychophysiology & Biofeedback Annual Meeting*, March 25-27, 2010, pp. 318-319.

124. M. Casanova, P. Narahari, **A. El-Baz**, E. Vanbogaert[*], and A. Switala, "Minicolumnar Core Width by Lamina in Brains of Patients with Autism," *IMFAR Program Booklet & Abstracts,* May 8, 2009, §105.12.

125. M. Casanova, **A. El-Baz**, M. Mott, G. Mannheim, H. Hassan, R. Fahmi, J. Giedd, J. Rumsey, A. Switala, and A. Farag, "Reduced Gyral Window and Corpus Callosum Size in Autism: Possible Macroscopic

Correlates of a Minicolumnopathy," *IMFAR Program Booklet & Abstracts*, May 8, 2009, §105.13.

126. E. Sokhadze, **A. El-Baz**, J. Baruth, A. Tasman, G. Mathai, L. Sears, and M. Casanova, "Electrocortical and Behavioral Outcomes of Novel Experimental Trial of Repetitive Transcranial Magnetic Stimulation in Autism," *IMFAR Program Booklet & Abstracts*, May; 8, 2009, §112.43.

127. E. Sokhadze, A. Tasman, J. Baruth, **A. El-Baz**, L. Sears, G. Mathai, and M. Casanova, "Repetitive TMS Affects EEG Gamma and ERP During Perceptual Processing in Autism," *Presented at the Annual Meeting of Association for Applied Psychophysiology & Biofeedback*, Albuquerque, NM, April 2-4, 2009.

128. E. Sokhadze, C. Stewart, **A. El-Baz**, M. Hollifield, and A. Tasman, "Induced EEG Gamma Oscillations in Response to Drug- and Stress-Related Cues in Addicts and Patients with Dual Diagnosis," *Presented at the Conference of International Society for Neurofeedback Research*, Indianapolis, IN, September 2-4, 2009.

129. J. Baruth, E. Sokhadze, **A. El-Baz**, R. Ramaswamy, L. Sears, and M. Casanova, "TMS Study of Gamma Frequency Induction in Response to Llusory Figures in Patients with Autism Spectrum Disorder," *Presented at the Conference of International Society for Neurofeedback Research*, Indianapolis, IN, September 2-4, 2009,

130. E. Sokhadze, S. Singh, J. Baruth, C. Stewart, M. Hollifield, **A. El-Baz**, and A. Tasman, "Cue Reactivity to Drug-Related Pictures in Cocaine Addiction Comorbid with Posttraumatic Stress Disorder," *Presented at Association for Psychological Science 20th Annual Convention*, Chicago, IL, May 22-25, 2008.

131. E. Sokhadze, M. Stewart, M. Hollifield, **A. El-Baz**, and A. Tasman, "Neurofeedback and Motivational Interviewing based Biobehavioral Treatment in Cocaine Addiction," *Presented at 17th conference of the ISNR (International Society for Neurofeedback Research)*, San Antonio, TX, August 28-31, 2008.

132. **A. El-Baz**, G. Gimel'farb, R. Falk, and M. Abou El-Ghar, "A Novel Image-Based Diagnostic System for Early Diagnosis of Lung Cancer," *Presented at AACC Oak Ridge Conference*, San Jose, California, April 17-18, 2008.

133. **A. El-Baz**, A. Farag, M. Mott, H. Hassan, R. Fahmi, A. Switala, and M. Casanova, "Abnormalities of the Gyral Window in Autism: A Macroscopic Correlate to a Putative Minicolumnopathy," *Presented at the 6th International Meeting for Autism Research*, Seattle, WA, May 3-5, 2007.

134. E. Sokhadze, S. Singh, **A. El-Baz**, L. Sears, and M. Casanova, "Induced Gamma Oscillations, ERP, and Coherence Abnormalities During Processing Perceptual Binding in Autism," *Presented at the 19th Annual Meeting of the Association for Psychological Sciences*, Washington, DC, May 24-29, 2007.

135. E. Sokhadze, S. Singh, **A. El-Baz**, G. Mathai, L. Sears, and M. Casanova, "Evoked and Induced Gamma Frequency Oscillations, Interhemispheral Coherence and Event-Related Potential Abnormalities During Processing of Illusory Figures in Autism Spectrum Disorders," *Presented at the ISNR Meeting*, San Diego, September 6-9, 2007.

136. **A. El-Baz**, A. Farag, S. Yuksel, M. El-Ghar, and T. Eldiasty, "A Novel Approach for the Detection of Acute Rejection with Dynamic Contrast Enhanced Magnetic Resonance Imaging," *13th European Symposium on Urogenital Radiology (ESUR), Book of Abstracts*, September 2006.

Patents and Disclosures (Total = 23):

1. **A. El-Baz**, Amy Dwyer, Rosemary Ouseph, Fahmi Khalifa, Ahmed Soliman, Mohamed Shehata, " Computer aided diagnostic system for classifying kidneys ". U.S. Patent Application No. US9928347B2, March, 27th, 2018.

2. **A. El-Baz**, A. Soliman, A. Shaffie, G. Giridharan, V. Berkel, X. Fu, M. Nantz, "Breath Analysis-CAD Platform for Early, Accurate Detection of Small Lung Nodules". U.S. Disclosure No. 118032.

3. **A. El-Baz**, S. Schaal, N. Eladawi, H. Sandhu, and M. Elmogy, "System for Segmentation of Retinal Blood Vessels Using Optical Coherence Tomography," United States Provisional Patent Application ser. no. 62/522,592 filing date: June 20, 2017.

4. **A. El-Baz**, A. Soliman, A. Shaffie, F. Khalifa, N. Dunlap, and B. Wang, "Accurate Detection and Assessment of Radiation-Induced Lung Injury Based on a Computational Model and Computed Tomography Imaging". U.S. Non-Provisional Patent Application No. 15/704,719.

5. **A. El-Baz**, A. Elmaghraby, B. Zapirain, "Method and System for Monitoring and Evaluation of Pressure Ulcer Severity," U.S. Provisional Patent Application No. 62/508,493.

6. A. El-Baz, A. Shalaby, O. Dekhil, G. Barnes and R. Keynton, "Computer-Aided Diagnostic System for Autism Diagnosis using Structural, Functional and Diffusion Weighted MRI", US Patent Disclosure **ULRF #17033.**

7. A. El-Baz, A. Shalaby, S. Mesbah, E. Rejc and S. Harkema, "Automatic 3-D Muscle and Fat Segmentation of Thigh MRI Volumes in Individuals with Spinal Cord Injury.", US Patent Disclosure. **Submitted.**

8. **A. El-Baz,** S. Harkema, C. Angeli, S. Mesbah, "Methods for Detecting and Mapping Spinal Cord Epidurally-Evoken Potentials" U.S. Provisional Patent Application Serial No. 62/432,908, Jan 12, 2017.

9. **A. El-Baz**, A. Soliman, N. Dunlap, and B. Wang "Accurate Detection and Assessment of Radiation Induced Lung Injury Based on a Computational Model and Computed Tomography Imaging," U.S. Provisional Patent Application, to be filed September 2016, ULRF Ref. 16078.

10. **A. El-Baz**, M. Nitzken, and M. Casanova, "Computer aided diagnostic system for mapping of brain images," US Pat. App. No. 15/223,671, filed July 29, 2016, ULRF Ref. 13098.

11. **A. El-Baz**, A. Shalaby, F. Khalifa and I. Abdelmaksoud, "Computer-Aided Diagnostic System for Early Detection of Prostate Cancer", US Provisional Patent ULRF# 16080

12. **A. El-Baz**, S. Schaal, and A. Reza**, "**Automated Methods for the Objective Quantification of Retinal Characteristics by Retinal Region and Diagnosis of Retinal Pathology," *International Non-Provisional Patent # PCT/US16/20280*, March 1st, 2016.

13. **A. El-Baz**, "Computer Aided Diagnostic System Incorporating Lung Segmentation and Registration," US Patent #8,731,255 B2, May 20, 2014.

14. **A. El-Baz**, "Computer Aided Diagnostic System Incorporating Appearance Analysis for Diagnosing Malignant Lung Nodules," US Patent, US 9,014,456 B2, April 21, 2015.

15. **A. El-Baz** and M. Nitzken, "Computer Aided Diagnostic System Incorporating Shape Analysis for Diagnosing Malignant Lung Nodules," US Patent #US 9,230,320 B2, Jan 5th, 2016.

16. **A. El-Baz**, M. Nitzken, and M. Casanova, "Computer Aided Diagnostic System Incorporating 3D Shape Analysis of the Brain for Identifying Brain Disorders," US Patent #US 9,230,321 B2, Jan 5th, 2016.

17. **A. El-Baz**, M. Nitzken, and G. Beache "Improved Spatial-Spectral Analysis by Augmented Modeling of 3D Image Appearance Characteristics with Application to Radio Frequency Tagged Cardiovascular Magnetic Resonance (CMR)," US Patent application #US 2013/0259346.

18. **A. El-Baz**, M. Nitzken, N. Bajaj and A. Ovechkin, "Localized ECG Removal from EMG Signals Using Wavelet Analysis" US Patent disclosure.

19. **A. El-Baz**, E. Sokhadze, and M. Casanova, "Neuromodulation Method and System based on TMS and Neurofeedback Combination to Treat Symptoms in Autism Spectrum Disorder" US Patent disclosure, #13028.

20. **A. El-Baz**, M. Nitzken, M. Casanova, "Computer aided diagnostic system for mapping of brain images," US Provisional Patent Application, US Provisional Patent Application, 62/024,831, Jul 15, 2014.

21. **A. El-Baz**, M. Nitzken, A. Al Ansary, A. Soliman, M. Casanova, "Computer Aided Diagnostic System for Medical Data," US Non Provisional Patent application #62/024,829, Jul 15, 2014.

22. **A. El-Baz**, M. Nitzken, N. Bajaj, S. Aslan, G. Gimel'farb, A. Ovechkin, "Local Wavelet-Based Filtering of Electromyographic Signals," US Provisional Patent Application, 2013.

23. **A. El-Baz** and A. Farag, "Automatic Detection and Monitoring of Nodules and Shaped Targets in Image Data," US Patent #8,073,226, Dec 6, 2011.

Technology licensing:

- *Early Diagnosis of Autism*, Autism Diagnostic Technologies, Inc, Canada.

- *Early Diagnosis of Lung Cancer*, J&J, USA. (Pending)

Software Copyrights (Total = 3):

1. **A. El-Baz** and A. Soliman, "Brain Image Segmentation Software,"ULRF Ref. 13100, Application Case No. 1-402120627.

2. **A. El-Baz** and M. Nitzken, "Shape Analysis for Early Diagnosis of Autism and Lung Cancer," #TX 7-520-124.

3. **A. El-Baz** and M. Nitzken,"3D Image Enhancement for Improvements in Spectral Tracking," #TX 7-546-226.

Tutorials

1. **A. El-Baz,** "Stochastic Modeling for Medical Image Analysis," *MICCAI,* Nagoya, Japan, Sept. 22-26, 2013.
2. **A. El-Baz,** "Medical Image Analysis," *ISSPIT,* Abu Dhabi, UAE, Dec. 7-10, 2015.

Citations in Popular Media:

1. Virginia Hughes. Autism Brains have too Many Neurons, Study Suggests. News & Opinion (New York: Simons Foundation), 2011 November 10.

2. Kelly House. UL Researchers may have Found Link between Conditions such as Autism, Dyslexia. Louisville Courier-Journal, 2009 July 21.

3. Laura Ungar. U of L Researchers Received Autism Grant. Louisville Courier-journal, 2009 June 22.

4. Lori Lyle. UofL Autism Study Gets Additional Funding. WAVE-TV, 2009 June 22.

5. Keith Seinfeld. Autism and Brain Development [radio program]. KPLU, Seattle, 2007 May 4.

Invited Talks:

1. **A. El-Baz,** "Machine Learning in Medecine," Abu Dhabi, UAE, March 29, 2018.

2. **A. El-Baz,** "Big Data in Autism," UMass Amherst, May 21st, 2017.

3. **A. El-Baz,** "Early Detection of Acute Renal Rejection," *Cairo University*, July 21st, 2017.

4. **A. El-Baz,** "Early Diagnosis of Diabetic Retinopathy," *Mansoura University*, July 20, 2017.

5. **A. El-Baz,** "Machine Learning in Medicine," *Abu Dhabi University*, March 30, 2017.

6. **A. El-Baz,** "Big Data in Autism," *Dubai University*, November 29th 2016.

7. **A. El-Baz,** "Big Data in Acute Renal Rejection," *Abu Dhabi University*, November 27th 2016.

8. **A. El-Baz,** "State of the art Stochastic Approaches for early Detection of Prostate Cancer," *Khalifa University*, November 21th 2016.

9. **A. El-Baz,** "Big Data in Autism," *Abu Dhabi University*, November 18th, 2016.

10. **A. El-Baz,** "Early Detection of Acute Renal Rejection," *U.S. - Egypt S&T Joint Fund Symposium*, July 15, 2016.

11. **A. El-Baz,** "Big Data in Autism," the *Page Morton Hunter Distinguished Seminar award, Department of Bioengineering, Clemson University*, Clemson, South Carolina, USA, Feb 25, 2016

12. the Page Morton Hunter Distinguished Seminar award, Department of Bioengineering, Clemson University, Clemson, South Carolina, USA, Feb 25, 2016

13. **A. El-Baz,** "Early Detection of Acute Renal Rejection," *Mansoura University*, July 15th, 2015.

14. **A. El-Baz**, "Early Diagnosis of Acute Renal Rejection," *University of Louisville, Computer Engineering and Computer Science (CECS)*, October 2015.

15. **A. El-Baz**, "Early Diagnosis of Autism," *Autism Center, University of Louisville,* August 7th, 2015.

16. **A. El-Baz**, "Early Diagnosis of Acute Renal Rejection," *University of Mansoura, Faculty of Computers and Information*, July, 2015.

17. **A. El-Baz**, "Early Diagnosis of Lung Cancer," *University of Louisville, Computer Engineering and Computer Science (CECS)*, November 28, 2008.

18. **A. El-Baz**, "A Framework for Automatic Detection and Segmentation of Lung Nodules from LDCT Images," *Siemens Medical Solution*, Philadelphia, Pennsylvania, USA, April, 2006.

19. **A. El-Baz**, "A Novel Stochastic Models for Medical Image Analysis," *National Institutes of Health*, USA, June, 2006.

20. **A. El-Baz**, "Modified EM Algorithm in Density Estimation and Image Classification," *University of Louisville, Mathematical Department*, March 1, 2005.

21. **A. El-Baz**, "A Novel Image Analysis Approach for Automatic Follow-Up of Detected Lung Nodules," *GE Imaging Technologies*, Niskayuna, NY, October, 2005.

Grants:

Ongoing Research Support

1. **National Institute of Health: R15**
   Big data in acute renal rejection.
   PI: A. El-Baz ($454K).
   Period: 07-01-2018 to 06-30-2021.

2. **EVPRI Internal Grant program: Competitive Enhancement Grant**
   Title: Big data in acute renal rejection

Investigators: A El-Baz, G. Beache (Co-I), A. Dwyer (Co-I), M. Eng (Co-I), G. Giridharan (Co-I), **M. Kong (Co-I)**, $20K
Date: 05/01/2018-04/30/2019

3. **The AWARE grant program is titled: "Advancing Women and underrepresented Entrepreneurs (AWARE): Accelerating Entrepreneurial success (ACCESS): Building Innovation Capacity through Diversity"**
   The subaward was awarded to Fourth Dimension Medical Solutions.
   PI: A. El-Baz, $4K
   CO-PI: Dr. Dwyer
   Student: Yitzhak Gebru
   07-01-2017:06-30:2018

4. **National Institute of Health: SPARC**
   Functional Mapping with Lumbosacral Epidural Stimulation for Restoration Of Bladder Function After Spinal Cord Injury.
   PIs: Susan Harkema & Charles Hubscher, Ayman El-Baz (CO-I, 10%, $1.3M).
   Period: 09-01-2017 to 08-31-2018.

5. **NSF-I.CORPS, University of Louisville**
   Subaccount of AWARE GB161120: Fourth Dimension Medical Solutions
   PI: A. El-Baz, $4K
   01-01-2017:12-31:2017

6. **iRFP program committee, University of Louisville**
   Big Data Analysis in Medicine
   PIs: R. Keynton and A. El-Baz: $1.86M
   01-01-2017:12-31:2019

7. **Helmsley Fellows in Restorative Medicine**,
   "Automated Quantification of Muscle and Fat from MR Images for SCI population"
   PI: Dr. Ahmed Shalaby ($50K)
   Mentors: Drs. Susan Harkema, Enrico Rejc, and **Ayman El-Baz**

8. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase II** *"Impartial Automated Diagnosis of Retinal Diseases using a Novel OCT Calibration System,"*
   PI: Dr. El-Baz & Dr. Schaal. ($100K)
   07/01/2016-06/30/2017

9. **National Institute of Health: R01 Award**
   "Non-invasive detection of tumor extracellular pH using multispectral optoacoustic tomography"
   PI: Dr. McNally; $1,913,500
   Co-I: Dr. El-Baz
   RO1 Application: 09/01/2016 - 08/31/2021

10. **National Science Foundation & The National Academies of Sciences, Engineering and Medicine (U.S. - Egypt Science and Technology Joint Fund)**
    "Integrated Probabilistic and Computational Framework for Analyzing 3D/4D Contrast-Enhanced Medical

Images"
PIs: Dr. El-Baz and Dr. El-Melegy; $302,170
07/01/2016-06/30/2019

11. **Expediting Commercialization, Innovation, Translational & Entrepreneurship (ExCITE an NIH Hub)**
"SpheraHance, a Cancer-Targeted Contrast Agent for MRI and CT Imaging"
PIs: Dr. Malik, and Dr. O'Toole; $200K
Co-I: Dr. El-Baz
10/01/2015-09/30/2017

12. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase II**
"A Noninvasive CAD System for Early Detection of Acute Renal Rejection"
PI: Dr. El-Baz; $123K
07/01/2015-06/30/2017

13. **Kentucky Lung Cancer Research Program Cycle 13**
"Early Assessment of Small Lung Nodules"
PI: Dr. El-Baz; $150K
07/01/2014-06/30/2016.

14. **Wallace H. Coulter Foundation: Early Career Translational Research Award in Biomedical Engineering, Phase II**
"Novel Image Analysis Framework for Early Diagnosis of Lung Cancer: Shape Analysis"
PI: Dr. El-Baz; $260K
08/01/2009-07/30/2018

Completed Research Support

1. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase I**
"A Noninvasive CAD System for Early Detection of Acute Renal Rejection"
PI: Dr. El-Baz; $100K
07/01/2014-06/30/2015

2. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase I**
"Impartial Automated Diagnosis of Retinal Diseases using a Novel OCT Calibration System,"
PI: Dr. El-Baz; $111K
07/01/2015-06/30/2016

3. **American Cancer Society (Research Scholar Grant, Supplement award)**
"A Novel Image-Based Diagnostic System for Early Diagnosis of Lung Cancer: Shape and Appearance Analysis"
PI: Dr. El-Baz; $30,000.00
08/01/2015-07/30/2016
Award ID: 120556-RSG-11-266-01-CCE

4. **American Cancer Society (Research Scholar Grant)**
"A Novel Image-Based Diagnostic System for Early Diagnosis of Lung Cancer: Shape and Appearance Analysis"
PI: Dr. El-Baz; $600,000.00
08/01/2011-07/30/2016

Award ID: 120556-RSG-11-266-01-CCE

5. **National Institute of Health, Eureka R01 award (R01 MH086784)**
   "Building selective cortical inhibition in autism: an rTMS study"
   PI: Dr. Casanova; $1,332,000.00
   Co-PI: El-Baz (10% effort)
   Grant Number: R01 MH086784
   RO1 Application: 06/30/2009 - 05/31/2013

6. **National Institute of Child Health and Human Development: R01**
   "Gross Morphological Correlates to the Minicolumnopathy of Autism"
   PI: Dr. Casanova; $819,831.00
   Co-PI: El-Baz (20% effort)
   Grant Number: 1R01HD065279-01
   RO1 Application: 09/30/2009 - 08/31/2011.

7. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase II**
   "A Novel Image-Based Diagnostic System for Accurate Diagnosis of Autism"
   PI: Dr. El-Baz; $100K
   07/01/2013-06/30/2014

8. **Wallace H. Coulter Foundation: Translational Research Award in Biomedical Engineering, Phase I**
   "A Novel Image-Based Diagnostic System for Accurate Diagnosis of Autism"
   PI: Dr. El-Baz; $120K
   08/01/2012-07/30/2013

9. **Kentucky Commercialization Fund Program**
   "A Novel Image-Based Diagnostic System for Early Diagnosis of Autism"
   PI: Dr. El-Baz; $100K
   Grant Number: COMMFUND-1384-RFP-014
   01/01/2013-01/31/2014

10. **University of Louisville Intramural Research Incentive Grant (IRIG)**
    "Analysis and Visualization Software Too-kit for Multi-Modal Imaging"
    PI: Dr. El-Baz; $5K
    01/01/2013-12/31/2013

11. **Wallace H. Coulter Foundation: Early Career Translational Research Award in Biomedical Engineering Phase I**
    "Novel Image Analysis Framework for Early Diagnosis of Lung Cancer: Growth Rate Measure"
    PI: Dr. El-Baz; $240K
    08/01/2007-07/30/2009.

12. **Kentucky Science and Engineering Foundation (KSEF) R&D Excellence Program**
    "A Novel Image-Based Diagnostic System for Early Diagnosis of Lung Cancer: Nodules Segmentation"
    PI: Dr. El-Baz; $100K
    Grant Number: KSEF-1645-RDE-011
    7/1/2008 - 6/30/2010.

13. **University of Louisville Research Incentive Grant (POCG)**
    "Novel Image Analysis Framework for Early Diagnosis of Lung Cancer: Appearance Analysis"
    PI: Dr. El-Baz; $30K
    08/01/2009-07/30/2010

14. **University of Louisville Research Incentive Grant (MRG)**
    "Macroscopic Correlates of Minicolumnar Pathology in the Brains of Autistic Patients"
    PI: Dr. El-Baz; $10K
    01/01/2008-12/31/2008

15. **University of Louisville Undergraduate Research Grant (URG)**
    "A Novel Image-Based Diagnostic System for Accurate Diagnosis of Autism"
    PI: Dr. El-Baz; $3K
    Student: Patrick McClure
    01/01/2012-12/31/2012

16. **University of Louisville Undergraduate Research Grant (URG)**
    "A Novel Approach for Accurate Estimation of the Growth Rate of the Detected Lung Nodules"
    PI: Dr. El-Baz; $3K
    Student: Samantha Manning
    05/01/2011-4/30/2012

17. **University of Louisville Undergraduate Research Grant (URG)**
    "Method of Assessment of Psychophysiological Reactivity to Emotional Stimuli in Children with Autism
    and in Children with attention-Deficit/Hyperactivity Disorder (ADHD)"
    PI: Dr. El-Baz; $3K
    Student: Guela Sokhadze
    05/2001/10-4/30/2011

18. **University of Louisville Undergraduate Research Grant (URG)**
    "A Novel Image-Based Diagnostic System for Early Diagnosis of Autism"
    PI: Dr. El-Baz; $3K
    Student: David Heredia
    05/01/2009-30/4/2010

19. **AAPB Committee for Research and Education grant for graduate student**
    "Development of EEG gamma indices of cue reactivity to assess functional outcomes of neurofeedback
    training in substance use disorder and PTSD"
    PI: Dr. El-Baz; $1000
    Student: **Tim Horrell**
    2009-2010, $1000.

Pending Research Support

1. **National Institute of Health, R15 award**
   "A Novel Image-Based Diagnostic System for Early Assessment of Acute Renal Rejection"
   PI: Dr. El-Baz; $431,864.00.

2. **Expediting Commercialization, Innovation, Translational & Entrepreneurship (ExCITE an NIH Hub)**
   "SpheraHance, a Cancer-Targeted Contrast Agent for MRI and CT Imaging"

      PIs: Dr. Malik, and Dr. O'Toole; $200K
      Co-I: Dr. El-Baz
      10/01/2015-09/30/2017

3. **National Institute of Health, R01 award**
   "A Novel Image-Based Diagnostic System for Early Assessment of Malignant Lung Nodules"
   PI: Dr. El-Baz; $1,424,517.00

4. **National Institute of Health, R01 award**
   "Big Data in autism"
   PI: Dr. El-Baz and Dr. Barnes; $1,396,915.00

Post-Doctor Research Fellows at BioImaging Lab (Advisor: Dr. El-Baz):

1	**Dr. Ahmed Soliman**	Ph.D.	Spring 2017 to Present
2	**Dr. Ali Mahmoud**	Ph.D.	Spring 2017 to Present
3.	**Dr. Ahmed Shalaby**	Ph.D.	Fall 2015 to Present
4.	**Dr. Mohamed Elmogy**	Ph.D.	Summer 2016 to Present
5.	**Dr. Ali Aslantas**	Ph.D.	Summer 2016 to Present
6.	**Dr. Fatma Taher**	Ph.D.	Summer 2016 to Present
7.	**Dr. Fahmi Khalifa**	Ph.D.	Summer 2014 to Present
8.	**Dr. Ahmed Elnakib**	Ph.D.	Spring 2014 to Spring 2015
9.	**Dr. Ali Taki Eldeen**	Ph.D.	Spring 2015 to Fall 2015

Thesis advisor of Ph.D. Graduate Students (*manuscript(s) published, main advisor):

1.	***Ms. Samineh Mesbah**	E.C.E Ph.D.	recruited in Fall 2014
2.	***Mr. Islam Reda**	C.E.C.S Ph.D. (Mansoura University, Egypt)	recruited in Spring 2015
3.	***Mr. Ahmed Hazem**	Math Ph.D. (Mansoura University, Egypt)	recruited in Spring 2015
4.	***Mr. Ahmed Shaffie**	Math Ph.D. (Alexandria University, Egypt)	recruited in Fall 2015
5.	***Ms. Nabila H. Eladawi**	C.E.C.S Ph.D. (Mansoura University, Egypt)	recruited in Summer 2016
6.	***Ms. Fatmaelzahraa A. Elgamal**	C.E.C.S Ph.D. (Mansoura University, Egypt)	recruited in Summer 2016
7.	***Ms. Heba Kandil**	C.E.C.S Ph.D	recruited in Summer 2016
8.	***Mr. Mohamed Shehata**	C.E.C.S Ph.D	recruited in Summer 2016
9.	***Mr. Omer Emad**	C.E.C.S Ph.D	recruited in Fall 2016
10.	**Mr. Hisham Abdeltawab**	BE. PhD	recruited in Fall 2017

11.	**Mr. Ahmed Abdullah**	C.E.C.S Ph.D	recruited in Fall 2017
12	**Mr. Yasser Elnakib**	BE PhD	recruited in Spring 2018
13	**Mr. Mohammed Ali**	BE PhD	recruited in Spring 2018
14	**Mr. Ahmed Naglah**	BE PhD	recruited in Summer 2018

Graduated students (*manuscript(s) published, main advisor):

1.	*Mr. Timothy Horrell	BE. M.Eng.	Thesis option, Summer 2010
2.	*Mr. Matthew Nitzken	BE. M.Eng.	Thesis option, Summer 2010
3.	*Mr. Ahmad Firgani	C.E.C.S Ph.D.	Fall 2011
4.	*Eric Gross	BE. M.Eng.	Thesis option, Spring 2012
5.	*Brent Hilard	BE. M.Eng.	Thesis option, Spring 2012
6.	*Nihit Bajaj	BE. M.Eng.	Thesis option, Summer 2012
7.	*Zac Clemans	BE. M.Eng.	Thesis option, Fall 2013
8.	*Mr. Ahmed Elnakib	E.C.E Ph.D.	Fall 2013 (Recipient of John M. Houchens Prize for Best Dissertation)
9.	*Mr. Fahmi Khalifa	E.C.E Ph.D.	Spring 2014 (Recipient of John M. Houchens Prize for Best Dissertation)
10.	*Mr. Hisham Sliman	C.E.C.S Ph.D.	Spring 2014
11.	*Mr. Mahmoud Mostapha	E.C.E M.S.	Summer 2014
12.	* Mr. Amir Al Ansary	E.C.E M.S.	Summer 2014
13.	*Mr. Patrick McClure	C.E.C.S M.S.	Summer 2014 (Recipient of Cambridge International Scholarship, $230,000)
14.	*Ms. Marie Hensley	BE. M.Eng.	Summer 2014
15.	*Mr. Matthew Nitzken	E.C.E Ph.D.	Spring 2015
16.	*Mr. Mohamed Shehata	E.C.E M.S.	Summer 2016
17	* Mr. Ahmed Soliman	E.C.E Ph.D.	Fall 2016
18	* Mrs. Marwa Ismail	E.C.E Ph.D.	Fall 2016
19	*Mr. Ehsan Hosseiniasl	E.C.E Ph.D.	Spring 2016 (Recipient of John M. Houchens Prize for Best Dissertation)
20.	*Mr. Yitzhak Gebru	BE. M.Eng.	recruited in Summer 2015

Medical, Undergraduate, and High School Students Advised (*manuscript(s) published, main advisor):

1. Marcus Flewellen (high School student) "Kidney segmentation," Summer 2013.

2. *Rasha Khodar (high School student), **"Analysis of 3D MR images,"** Fall 2012-present.

3. *Patrick McClure (bioengineering undergraduate student), "3D Kidney Segmentation from CT Images using Level Set Approach Guided by a Novel Stochastic Speed Function," Spring 2011-present.

4. Shweta Kamat (medical student), "Analysis of microscopic images of autistic subjects," Summer 2011-present.

5. Katherine Webb (undergraduate student, Berea College), **"**Analysis of 3D shape of lung nodules**,"** Summer 2012.

6. *Samantha Manning (bioengineering undergraduate student), "Shape Analysis of Lung Nodules," Summer 2011-present.

7. *Marie Hensley (bioengineering undergraduate student), "Development of Method for the Analysis of EEG Gamma Coherence in Children with Autism Enrolled in TMS Treatment," Spring 2011-present.

8. Michael Hogg, (undergraduate student, Bellarmine University), "Appearance analysis of lung nodules," Summer 2011.

9. Guela Sokhadze (arts and science undergraduate student), "Autonomic nervous system dysfunctions in children with autism," 2009- present.

10. *****David Heredia (ECE undergraduate student), "A Novel 3D Joint Markov-Gibbs Model for Extracting Blood Vessels from PC-MRA," 2007- present.

11. *****Eric V. Bogaert (medical student), "An MRI-Based Diagnostic Framework for Early Diagnosis of Dyslexia," Summer 2007.

12. Desha Jordan (biology undergraduate student), "Segmentation of Corpus Callosum from MRI," Summer 2007.

13. Axel Belliard (international undergraduate student, France), "Segmentation of Blood Vessels from MRI," Fall 2007.

14. *Teresa Shaffer (biology and mathematics undergraduate student, University of the Cumberlands in Williamsburg), "Automatic Segmentation of Lung Region from CT Images," Summer 2008.

15. *Russ McCracken (medical student), "Dyslexia Diagnostics by 3D Texture Analysis of Cerebral White Matter Gyrifications," Summer 2008.

16. *****Trevor Holland (medical student), "A Framework for Unsupervised Segmentation of Lung Tissues from Low Dose Computed Tomography Images," Summer 2008.

17. Vivek Raj **(**high School student), "Early Diagnosis of Acute Renal Rejection,' Summer 2009-present.

18. Faris Atef (high School student) "Lung segmentation," Summer 2007-Summer 2008.

19. *Sabrina Rainey (medical student), **"**Toward Early Diagnosis of Lung Cancer," Summer 2009.

20. *Vedant Kumar (high School student), **"**A Novel 3D Joint Markov-Gibbs Model for Extracting Blood Vessels from ToF-MRA**,"** Summer 2008-present.

Dissertation and Thesis Committees:

1. A. Fadeev, "Semantic Indexing and Retrieval of Multimedia Data," University of Louisville, CECS Ph.D. Dissertation, February 2007.

2. M. Ben Ismail, "Image Annotation and Retrieval on Multi-Modal Feature Clustering and Similarity Propagation," University of Louisville, CECS Ph.D. Dissertation, May 2011.

3. A. Ben Abdallah, "Generic Framework for Context-Dependent Fusion with Application to Landmine Detection," University of Louisville, CECS Ph.D. Dissertation, November 2010.

4. L. Zhang, "Context-Dependent Fusion for with Application to Landmine," University of Louisville, CECS

Ph.D. Dissertation, August 2009.

5. C. Rojas, "Pattern Discovery from Evolving Transactional Data Streams," University of Louisville, CECS Ph.D. Dissertation, October 2009.

6. N. Miles, "Architecture Analysis of Unstructured Peer-to-Peer Networks ," University of Louisville, CECS M.Eng. Thesis, August 2010.

7. B. Hawwash, "Stream-Dashboard: A Framework For Mining, Tracking and Validating Data Stream Clusters," University of Louisville, CECS Ph.D. Dissertation, June 2010.

8. D. Reese, "Dynamic Probe Positioning Within Peer-To-Peer Networks For Mining Contraband File Exchanges," University of Louisville, CECS M.Eng. Thesis, Nov. 2010.

9. N. Durak, "Coronal Loop Detection from Solar Images and Extraction of Salient Contour Groups from Cluttered Images," University of Louisville, CECS Ph.D. Dissertation, August 2011.

10. B. Abdollahi, "Stereoscopic Vision in Vehicle Navigation," University of Louisville, CECS M.Sci. Thesis, August 2011.

TEACHING AND SCHOLARSHIP OF TEACHING

Courses Developed and Taught:

Undergraduate Level Courses:

1. Computational Methodologies in Bioengineering (BE 340, **developed and taught**)

2. Biosystems & Signals (BE 420, **developed and taught**)

3. Introduction to Bioengineering (BE 101, Guest Lectures)

4. Biomeasurements Laboratory (BE 423, Guest Lectures)

Graduate Level Courses:

1. Medical Images Analysis (BE 640, **developed and taught**)
2. Machine Learning in Medicine (BE 500, **developed and taught**)
3. BE Doctoral Seminar (BE 601)

Yearly summary of overall effectiveness rating of student course evaluations:

Year	'06-'07	'07-'08		'08-'09			'09-'10		'10-'11		
Class	BE 340	BE 340	BE 420	BE 340	BE 420	BE 600	BE 340	BE 420	BE 420	BE 340	BE 640	
Evaluation	4.55/5.0	4.57/5.0	4.71/5.0	4.87/5.0	4.9/5.0	4.58/5.0	4.98/5.0	4.92/5.0	4.35/5.0	4.22/5.0	4.91/5.0	
Year	'11-'12			12-13				14-15		15-16		
Class	BE 420	BE 340	BE 640	BE 420	BE 340	BE 640	BE 621	BE 420	BE 340	BE 640	BE 420	BE 340
Evaluation	4.51/5.0	3.96/5.0	4.94/5.0	4.4/5.0	4.28/5.0	4.71/5.0	4.44/5.0	4.41/5.0	3.85/5.0	4.67/5.0	3.81/5.0	3.25/5.0
Year	16-17			17-18								
	BE 640	CECS 641	BE 420	BE 340	BE 640	BE 601	CECS 641					
	4.0/5.0	5.0/5.0	3.85/5.0	3.87/5.0	4.13/5.0	4.0/5.0	4.0/5.0					

Average	4.4/5.0

Independent Studies

1. ECE 693-04(4155): Independent Study in ECE, Summer 2015

2. BE 693-02(9384): Independent Study in BE, Spring 2015

3. BE 693-03(9606): Independent Study in BE, Spring 2015

4. ECE 693-02(9262): Independent Study in ECE, Spring 2015

5. ECE 693-04(9464): Independent Study in ECE, Spring 2015

6. ECE 693-07(9620): Independent Study in ECE, Spring 2015

7. ECE-693-03(4138): Independent Study in ECE, Fall 2013

8. ECE-693-04(4138): Independent Study in ECE, Fall 2013

9. CECS-693-04(4135): Independent Study in CECS, Summer 2013

10. ECE-693-05(4135): Independent Study in ECE, Summer 2013

11. ECE-693-06(4135): Independent Study in ECE, Summer 2013

12. ECE-693-07(4135): Independent Study in ECE, Summer 2013

13. ECE-693-03(3201): Independent Study in ECE, Summer 2012

14. ECE-693-12(9241): Independent Study in ECE, Spring 2012

15. BE-693-03(9244): Independent Study in BE, Spring 2012

16. ECE-693-02(9470): Independent Study in ECE, Fall 2011

17. BE-593-02(3139): Independent Study in BE, Summer 2011

18. BE-593-03(3189): Independent Study in BE, Summer 2011

19. BE-693-02(14797): Independent Study in BE, Spring 2011

20. ECE-693-04(15764): Independent Study in ECE, Fall 2010

21. ECE-693-03(4687): Independent Study in ECE, Summer 2010

22. ECE-693-02(14002): Independent Study in ECE, Spring 2010

23. ECE-593-02(14230): Independent Study in ECE, Spring 2009

24. ECE-693-02(14488): Independent Study in ECE, Spring 2009

25. ECE-593-02(15297): Independent Study in ECE, Fall 2008

26. ECE-593-04(15989): Independent Study in ECE, Fall 2008

Professional and University of Louisville Service

International

- ABET Program Evaluator

College:

- Academic Technology Committee (ATC)
- Academic Integrity Committee (AIC)

Departmental:

- Department Assessment Committee
- Department Graduate Committee
- Department Chair Evaluation Committee
- Department ABET Committee
- Department Hiring Search Committee
- Department Tenure and Promotion Committee

Review Panels:

- National Alliance for Life and Health Sciences (AVIESAN) jointly with the French National Cancer Institute (INCa), 2015. (International Panel).
- Al Jalila Foundation, Dubai, United Arab Emirates, 2015. (International Panel).
- Al Jalila Foundation, Dubai, United Arab Emirates, 2014. (International Panel).
- Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Science, Dubai, United Arab Emirates, 2014. (International Panel).
- The King's Health Partners R&D Challenge Fund, King's College London, 2014. (International Panel).
- NSF GRFP 2015 - Bioengineering Panel.
- NSF GRFP 2014 - Bioengineering Panel.
- NSF GRFP 2013 - Bioengineering Panel.
- NSF GRFP 2012 - Bioengineering Panel.
- DOD ASEE 2012: National Defense Science and Engineering Graduate (NDSEG) Fellowship evaluation meeting on the Computer and Computational Sciences.
- NSF GRFP 2011 - Bioengineering Panel.
- DOD ASEE 2010: National Defense Science and Engineering Graduate (NDSEG) Fellowship evaluation meeting on the Computer and Computational Sciences.
- The Michael J. Fox Foundation - Rapid Response Innovation Awards Program.

Consulting:

- **2011-Present**   Biomedical Technologies, Inc., Roseville, CA, 95661 USA.
- **2009-Present**   PulmoCADx, Inc., St. Louis, MO 63108, USA.

Editor-in-Chief/Associate Editor of Journals:

- **2016-present** Guest Editor, Special issue on "Machine Learning Application in Medical Image Analysis"
- **2013-present** Editorial Board Member, Edorium Journal of Image Analysis.
- **2013-present** Editorial Board Member, International Journal of Diagnostic Imaging (IJDI).
- **2013-present** Editorial Board Member, Austin Journal of Biomedical Engineering.
- **2011-present** Guest Editor, Special issue on "Lung Imaging Data Analysis"
- **2011-present** Editorial Board Member, Autism-Open Access Journal.
- **2011-present** Editorial Board Member, American Journal of Science and Engineering.
- **2010-present** Editorial Board Member, Journal of Medical Imaging and Health Informatics.

Reviewer:

Journals

- IEEE Transactions on Image Processing,
- IEEE Transactions on Medical Imaging,
- IEEE Transaction on Biomedical Engineering,
- IEEE Transactions on Information Technology in Biomedicine,
- IEEE Transactions on Fuzzy Systems,
- IEEE Journal of Selected Topics in Signal Processing,
- Journal of Medical Image Analysis,
- Journal of Pattern Analysis & Applications,
- Journal of Medical & Biological Engineering & Computing, and
- Journal BMC Medical Imaging.

Conferences

- Medical Image Computing and Computer Assisted Intervention (MICCAI),
- IEEE International Symposium on Biomedical Imaging (ISBI),
- IEEE International Conference on Image Processing (ICIP),
- IAPR International Conference on Pattern Recognition (ICPR),
- IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP),
- IEEE Symposium on Signal Processing and Information Technology (ISSPIT),
- International Conference on Computer Vision Theory and Applications (VISAPP), and

- International Symposium on Visual Computing (ISVC).

Program Chair in Peer-Reviewed Conferences

- Biomedical Image Processing and Analysis Track, 8TH Cairo International Biomedical Engineering Conference (CIBEC 2016),

- Multimedia, Computer Vision and Image Processing Track, 13th ACS/IEEE International Conference on Computer Systems and Applications AICCSA 2016, and

- Image Processing for BIO-Application Track, IEEE 59th Midwest Symposium on Circuits and Systems, (MWSCAS'16).

Session Chair in Peer-Reviewed Conferences

- ICIP' 2016 (Session: **Medical Imaging**)

- ICIP' 2015 (Session: **Supervised and Dictionary-Based Approaches**)

- ICIP' 2010 (Session: **Computer Assisted Screening and Diagnosis**)

- ICIP' 2011 (Session: **Partial Differential Equations**).

- ISBI'2011 (Session: **Image Segmentation**).

References

Robert S. Keynton, Ph.D.

Vice President of Research

Office of the Executive Vice President for Research & Innovation

Professor and Lutz Endowed Chair of Biomechanical Devices

Department of Bioengineering (A Wallace H. Coulter Foundation Partner)

University of Louisville

Fellow – American Institute of Medical & Biological Engineering (AIMBE)

Fellow – National Academy of Inventors (NAI)

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