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→ Google Scholar
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EDUCATION

Ph.D. Computer Science, University of Central Florida, Orlando FL, US 2004
M.S. Computer Science, University of Central Florida, Orlando FL, US 2001
B.Sc. Computer Science, Technical University of Cluj-Napoca, Cluj-Napoca, Romania 1999

PROFESIONAL CERTIFICATIONS

Online Teaching Expert – Georgia Southern University – Quality Matters 2019
Financial Management Certification – Georgia School Boards Association 2018
Online & Hybrid Teaching Certification – Online & Blended Learning 2014
Online Learning Certification – North Georgia College and State University 2010
Java Developer Certification – Sun Microsystems 2001

ACADEMIC APPOINTMENTS

Professor *(tenured)* 2018 - present
Computer Science, Georgia Southern University, Statesboro, GA

Visiting Professor *(Fulbright Fellow - Sabbatical)* 2015 - 2016
Computer Science, Bangkok University, Bangkok, Thailand

Associate Professor *(tenured)* 2011 - 2018
Computer Science, Armstrong State University, Savannah, GA

Assistant Professor *(tenure track)* 2006 - 2011
Computer Science, Armstrong State University, Savannah, GA

Visiting Assistant Professor 2005 - 2006
Computer Science, Indiana University of Pennsylvania, PA

Visiting Assistant Professor 2004 - 2005
Computer Science, University of Central Florida (UCF), Orlando, FL

Research Associate 2000-2004
Computer Science joint Optics & Photonics Center, UCF, Orlando, FL

Research/Teaching Assistant 1996 - 2000
Computer Science, Technical University of Cluj-Napoca, Romania

RESEARCH INTERESTS

Field	Focus
Human Computer Interaction	Multimodal (Haptics&Web3D), BCIs, Human Cognition
Distributed Systems/Apps	Distributed Ledger, IOT Sensors, Computer Security
Data Science	Machine Learning & Data Vis, Human Data Interaction

AWARDS & HONORS

Outstanding Advisor	2020	Georgia Southern University, GA
Erasmus+	2018-2020	Transylvania University of Brasov, Romania
Research Fellow	2018	Transylvania University of Brasov, Romania [3 m]
Fulbright Fellow	2015-2016	Bangkok University, Thailand [6 m]
Fulbright Specialist	2013	Bangkok University, Thailand [1 m]
Outstanding Mentor	2012	Teaching Excellence Award, Armstrong State University
Research Excellence	2010	Research Excellence Award, Armstrong State University
Fulbright-Hayes	2009	Univ. of Prague, Prague, Czech Republic [1 m]
		Corvinus Univ. of Budapest, Budapest, Hungary [1 m]
Service Award	2009	Mentoring Students in Science, Savannah
1st Entrepreneur	2008	Creative Coast Alliance and Ariel Savannah Angel Partners
Impact	2007	MD Anderson Cancer Foundation, Research Award
Distinguished Service	2005	Mentoring Students in Science, Orlando, FL
Link Fellow	2003-2004	Link Foundation Fellowship, Simulation & Training
Hillman Award	2003	Distinguished Doctoral Research, UCF, Orlando, FL

ADMINISTRATIVE & INDUSTRIAL EXPERIENCE

Advisory Board	Oglethorpe Charter School, Savannah, Georgia, US	2018 - 2022
Director	NEWS Research Laboratory Strategic vision and leadership Georgia Southern University	2006 - now
Chief Technology Officer	Tirrion Technologies LLC, Orlando, FL Leadership for technology incubator startup	2004 - 2006
Associate Director	ODA-Spectrum Laboratory - Research Fellow Rochester University, Rochester, NY.	2002 - 2004
Project Lead	NIVIS LLC - Sensor Systems Security R&D Atlanta, GA	2000 - 2001
Project Manager	Data Management Services and Encryption LLC Portal Data Security, Paris, France	1996 - 2000

SELECTED RESEARCH PROJECTS

Medical Simulation: Radiation/Proton Therapy for Cancer Treatment

Background External beam radiation therapy is the careful use of radiation from external sources, where X-Rays *(X-Ray Therapy, XRT)*, or Protons *(Proton Therapy, PT)* are administered to the tumors. 75% of cancer patient receive one of those treatment methods.

Contribution I directed the development of a 3D real-time simulation environment that would accurately *(mm accuracy)* replicate the treatment conditions in the hospital and compensate for the shortfalls of the existing systems. We proposed computationally efficient methods to extract patient-specific boundary-representations in embed them within the treatment system 3D geometry to provide a comprehensive simulation of the XRT/PT treatment room. Partners: *MD Anderson Cancer Center, Memorial Hospital*

Training: Minimally Invasive Surgery & Laparoscopy

Background Laparoscopy is a surgical diagnostic procedure used to examine the organs inside the abdomen. It is a low-risk, minimally invasive surgical procedure since only small incisions are made in the patient's body.

Contribution During the summers of 2010-2013 I directed the development of a simulation prototype for minimally invasive surgical training (laparoscopy), specifically a haptic-based liver palpation simulator that is useful in teaching the cholecystectomy procedure. Partners: *Ovidius University, Regional Constanta Hospital*.

Haptics for Teaching Enhancement & Intelligent Dialogue

felixlup.net/projects/feel/

Background Multimodal environments where visual, auditory, and haptic stimuli are present convey information more efficiently since the learner manipulates and experiences the environment through multiple sensory channels. Generation Y and Z had wide exposure to vast arrays of technology, and are greatly more adept than their predecessors at applying these technologies in learning environments. Partners: *Web3D Consortium, Sense Graphics LLC*, *NeuroSky LLC*.

Contribution The Framework for Electronic Enhancement of Laboratories project explores the opportunities for a broad adoption of haptic-enabled interfaces in physics and engineering courses aiming to draw students into the learning process, generating a new and deeper level of engagement while improving their level of retention. We are currently implementing Intelligent Dialogue agents- using ML techniques to generate self-adaptive tutoring agents for learner guidance in the knowledge discovery process. The learning efficiency and other factors are assessed using Brain Computer Interfaces.

Engineering Simulation and Sensor Networks felixlup.net/projects/thermal/

Background Urban planning is a technical & political process regarding the development and use of land, protection and use of the environment, the design of the urban environment and infrastructure passing into & out of urban areas such as transportation, communications, and distribution networks. Urban planning often raises complex issues that are difficult to visualize and challenging to communicate.

Contribution We explore web enabled X3D visualization and simulation system coupled with a cost-effective set of IOT security sensors to provide valuable insights into building design, materials and construction that can lead to significant energy savings, and an improved thermal comfort for residents. Partners: *Transylvania University of Brasov*.

PUBLICATIONS

JOURNALS

1. Tong W., Limperis J., **Hamza-Lup F.G.**, Y. Xu, Li L. (2023) "Robust and effective Transformer-based model for Spatiotemporal PM2:5 prediction in California" submitted to IEEE Journal Transactions on Big Data.

2. **Hamza-Lup, F.G.** and Goldbach I.R (2020) "Haptic Games for Abstract Concepts Understanding - Grabbing Charged Particles". In *Journal of Multimodal User Interfaces (Springer), https://link.springer.com/article/10.1007%2Fs12193-020-00327-x.*

3. Borza P. N., Machedon-Pisu, M., and **Hamza-Lup, F.G.** (2019) "Design of Wireless Sensors for IoT with Energy Storage and Communication Channel Heterogeneity," *MDPI Sensors Journal - Special Issue: Smart Cities*, Vol. 19(15), pp.3364, *https://doi.org/10.3390/s19153364*.

4. Rasheed, A.A., Mahapatra, R.N., **Hamza-Lup, F.G.** (2019) "Adaptive Group-based Zero Knowledge Proof-Authentication Protocol (AGZKP-AP) in Vehicular Ad Hoc Networks". In *IEEE Transactions of Intelligent Transportation Systems*, pp.1-15, *https://doi.org/10.1109/TITS.2019.2899321*.

5. **Hamza-Lup, F.G.** (2018) "Kinesthetic Learning - Haptic User Interfaces for Gyroscopic Precession Simulation". In *Romanian Journal of Human Computer Interaction, Vol.11 (3),* pp. 185-204*. https://arxiv.org/abs/1908.09082*.

6. **Hamza-Lup**, **F.G.,** Maghiar, M. (2016) "Web3D Graphics Enabled through Sensor Networks for Cost-Effective Assessment and Management of Energy Efficiency in Buildings". In *Graphical Models Journal*, Vol.88, pp. 66-74. ISSN: 1524-0703, *https://doi.org/10.1016/j.gmod.2016.03.005*.

7. **Hamza-Lup, F.G.,** White, S. (2015) "Design and Assessment for Hybrid Courses: Insights and Overviews". In the *International Journal of Advances in Life Sciences,* Vol.7 (3&4), pp.122-131. ISSN: 1942-2660.

8. **Hamza-Lup, F.G.**, Farrar, S., and Leon, E. (2015) "Interactive X-Ray and Proton Therapy Training and Simulation". In the *International Journal of Computer Assisted Radiology and Surgery*, Vol.10 (10), pp. 1675-1683. Publisher Springer Berlin Heidelberg. Print ISSN: 1861-6410. Online ISSN: 1861-6429, *https://doi.org/10.1007/s11548-015-1229-7*.

9. **Hamza-Lup, F.G.,** Popovici, D.M., and Bogdan, C.M. (2013) "Haptic Feedback Systems in Medical Education". In the *Journal of Advanced Distributed Learning Technology*, Vol.1 (2), pp.7-16, Pub. Advanced Distributed Learning Partnership, *https://arxiv.org/abs/1811.07473*.

10. Goeser, P.T., Johnson, W.M, **Hamza-Lup, F.G.**, and Schaefer, D. (2011) "VIEW - A Virtual Interactive Web-based Learning Environment for Engineering". In *IEEE Advances in Engineering Education Journal, Special Issue on Research on e-Learning in Engineering Education*, Vol 2(3), pp.1-24. ISSN: 1941-1766.

11. **Hamza-Lup, F.G.**, Murrell, E., LaPlant, J., Baird, W., and Popovici, D.M. (2010) "Simulator Visuo-Haptic pentru Reprezentarea Conceptelor de Frecare Statica si Dinamica". In *Romanian Journal of Human-Computer Interaction*, Vol. 3 (1), pp.1-16. ISSN 1843-4460, *http://rochi.utcluj.ro/rrioc/articole/RRIOC-2010-1-Hamza-Lup.pdf*.

12. **Hamza-Lup, F.G.**, Stanescu, I.A. (2010) "The Haptic Paradigm in Education: Challenges and Case Studies". *Internet and Higher Ed. Journal, Special Issue on the Community of Inquiry Framework: Ten Years Later*, Vol. 13 (1-2), pp. 78-81. ISSN: 1096-7516, *https://doi.org/10.1016/j.iheduc.2009.12.004*.

13. Popovici, D.M., Gerval, J-P., **Hamza-Lup, F.G.**, Querrec, R., Polceanu, M., Popovici, N., and Zagan, R. (2009) "3D Virtual Spaces Supporting Engineering Learning Activities". In the *International Journal of Computers, Communications and Control*, Vol. 4 (4), pp. 401-414. ISSN: 1841-9836, *https://doi.org/10.15837/ijccc.2009.4.2456*.

14. **Hamza-Lup, F.G.**, Sopin, I. and Zeidan, O. (2008) "Online External Beam Radiation Treatment Simulator". In the *International Journal of Computer Assisted Radiology and Surgery*, Vol. 3(3/4), pp.275-281. ISSN: 1861-6410/6429, *https://doi.org/10.1007/s11548-008-0232-7*.

15. Hippalgaonkar, N., Sider, A., **Hamza-Lup, F.G**., Santhanam, A., Jagannathan, B., Imielinska, C. and Rolland, J.P. (2008) "Generating Classes of 3D Virtual Mandible Models for AR-Based Medical Simulation". In the *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare*, Vol. 3 (2), pp. 103-110. ISSN: 1559-713X, *https://doi.org/10.1097/SIH.0b013e31816b5d54*.

16. Rolland, J.P., Cakmakci, O., Covelli, J., Fidopiastis, C., Fournier, F., Martins, R., **Hamza-Lup, F.G.** and Nicholson, D. (2007) "Beyond the Desktop: Emerging Technologies for Supporting 3D Collaborative Teams". In the *International Journal on Interactive Design and Manufacturing*, Vol. 4 (1), pp.239-241. ISSN: 1955-2513/2505, *https://doi.org/10.1007/s12008-007-0027-z*.

17. Santhanam, A., **Hamza-Lup, F.G.** and Rolland, J.P. (2007) "Simulating 3D Lung Dynamics using a Programmable Graphics Processing Unit". In the *IEEE Transactions on Information Technology in Biomedicine*, Vol. 11(5), pp. 497-506. ISSN: 1089-7771, https://doi.org/10.1109/TITB.2006.889679.

18. **Hamza-Lup, F.G.,** Santhanam, A., Imielinska, C., Meeks, S. and Rolland, J.P. (2007) "Distributed Augmented Reality with 3D Lung Dynamics - A Planning Tool Concept". In the *IEEE Transactions on Information Technology in Biomedicine*, Vol. 11(1), pp. 40-46. ISSN: 1089-7771, https://doi.org/10.1109/TITB.2006.880552.

19. **Hamza-Lup, F.G.,** Hughes, C. and Rolland, J.P. (2006) "Sensors in Distributed Mixed Reality Environments". In the *Journal of Systems, Cybernetics and Informatics*, Vol. 3 (2), pp. 96-101. ISSN: 1690-4524.

20. **Hamza-Lup, F.G.,** Davis, L., Meeks, S. and Zeidan, O. (2006) "A 3D Collision Avoidance Tool for External Beam Radiation Therapy Treatment Planning". In the *International Journal of Medical Physics Research and Practice*, Vol. 33 (6), pp. 2175, https://doi.org/10.1118/1.2241469.

21. Rolland, J.P., Biocca, F., **Hamza-Lup, F.G.,** Ha, Y. and Martins, R. (2005) "Development of Head-Mounted Projection Displays for Distributed, Collaborative, Augmented Reality Applications". In the *PRESENCE: Teleoperators and Virtual Environments. Special issue on Immersive projection technology*, Vol. 14 (5), pp. 528-549. MIT Press. ISSN: 1054-7460, https://doi.org/10.1162/105474605774918741.

22. **Hamza-Lup, F.G.,** Rolland, J.P. and Hughes, C. (2004) "A Distributed Augmented Reality System for Medical Training and Simulation". In *Energy, Simulation-Training, Ocean Engineering and Instrumentation: Research Papers of the Link Foundation Fellows*, Vol. 4, pp.213-235, Rochester Press, ISBN: 1-58046-124-7.

23. **Hamza-Lup, F.G.** and Rolland, J.P. (2004) "Scene Synchronization for Real-Time Interaction in Distributed Mixed Reality and Virtual Reality Environments". In the *PRESENCE: Teleoperators and Virtual Environments. Special Issue: Collaborative Virtual Environments*, Vol.13 (3), pp.315-327. MIT Press. ISSN: 1054-7460, https://doi.org/10.1162/1054746041422343

24. Davis, L., Rolland, J.P., **Hamza-Lup, F.G.,** Ha, Y., Norfleet, J. and Imielinska, C. (2003) "Enabling a Continuum of Virtual Environment Experiences". In the *IEEE Journal of Computer Graphics and Applications*, Vol. 23 (2), pp. 10-12, ISSN: 0272-1716, https://doi.org/10.1109/MCG.2003.1185574.

PROFESSIONAL MAGAZINES

25. **Hamza-Lup, F.G.** 2022. "Imagine an eLearning Decentralized Autonomous Organization" *E-Learning Industry*. Online: https://elearningindustry.com/imagine-an-elearning-dao.

26. **Hamza-Lup, F.G.** 2019. "Intelligent Tutoring Systems and Augmented Reality" *E-Learning Industry*. *Online:* *https://elearningindustry.com/intelligent-tutoring-systems-augmented-reality*.

27. **Hamza-Lup, F.G.** 2019. "Learning Assessment Using Brain-Computer Interfaces: Are You Paying Attention?" *E-Learning Industry*. *Online:* *https://elearningindustry.com/brain-computer-interfaces-paying-attention-learning-assessment.*

28. **Hamza-Lup, F.G.** 2019. "How Machine Learning, Intelligent Dialogue, and e-Mentoring Impact eLearning". *E-Learning Industry*. *Online:* *https://elearningindustry.com/machine-learning-intelligent-dialogue-ementoring-impact-elearning.*

29. **Hamza-Lup, F.G.** 2018. "Haptic Technology and eLearning". *E-Learning Industry. Online:* *https://elearningindustry.com/haptic-technology-and-elearning*.

30. **Hamza-Lup, F.G.** and Popovici, D.M. 2013. "HapticMed - Interfete cu Retur Haptic in Aplicatii Medicale - HapticMed System Validation". In the *Computer World Magazine*, Romania, May/June 2013, No. 3(369), pp. 12-13.

31. **Hamza-Lup, F.G.**, Popovici, D.M. 2013. "HapticMed - Interfeţe cu Retur Haptic in Aplicaţii Medicale - Primul Prototip de Palpare Virtuală din România in Funcţiune in Constanţa". In the *Computer World Magazine*, Romania, Jan/Feb. 2013, No. 1(367), pp. 6-8.

32. **Hamza-Lup**, **F.G.**, Sopin, I. and Zeidan, O. 2007. "Towards 3D Web-Based Simulation and Training Systems for Radiation Oncology". In the *ADVANCE Magazine for Imaging and Oncology Administrators*, Vol.17 (7), pp.64-79.

33. **Hamza-Lup, F.G.,** Davis, L., Hughes, C. and Rolland, J.P. 2003. "Where Digital Meets Physical - Distributed Augmented Reality Environments". In the *ACM Crossroads Magazine*, Vol.9 (3), *http://xrds.acm.org/article.cfm?aid=1809145*, *https://doi.org/10.1145/904073.1809145*.

BOOKS & BOOK CHAPTERS

34. **Hamza-Lup F.G.,** Polys N.F., Malamos, A.G. and John, N.W. (2020) "Chapter 12: Medical 3D Graphics With eXtensible 3D". In the book: *Recent Advances in 3D Imaging, Modeling, and Reconstruction*, ed. I. G. I. Global, *https://doi.org/10.4018/978-1-5225-5294-9.ch012*

35. Flotynski, J, Malamos, A.G., Brutzman D., **Hamza-Lup F.G.,** Polys, N.F., Sikos, L.F, and Walczak K. (2020) "Chapter 2: Recent Advances in Web3D Semantic Modeling". In the book: *Recent Advances in 3D Imaging, Modeling, and Reconstruction*, ed. I. G. I. Global, *https://doi.org/10.4018/978-1-5225-5294-9.ch002*.

36. **Hamza-Lup, F.G.** (2019) "Designing Knowledge Sharing Interfaces with Improved Interaction: Haptics and Web3D". In the book: *Design Education Today - Technical Contexts, Programs and Best Practices*, D. Schaefer, et al. Springer Publishing, *https://doi.org/10.1007/978-3-030-17134-6_8*.

37. **Hamza-Lup, F.G.**, and Sopin, I. (2009) "Web-Based 3D and Haptic Interactive Environments for e-Learning, Simulation, and Training". In the book: *Web Information Systems and Technologies*, pp. 349-360, Cordeiro, J. et al. (Eds.) Springer Berlin Heidelberg. ISBN 978-3-642-01343-0, *https://doi.org/10.1007/978-3-642-01344-7_26*.

38. Salomie, I., **Hamza-Lup, F.G.**, Bot, R., Dinsoreanu, M. and Suciu, A.D. (2000) "Design Decisions of the Virtual University in the Framework of CONED Tempus Project". In the book: *Web-Based Educational Technology,* pp. 223-234, Salomie, I. et al. (Eds), Cluj-Napoca, Romania, ISBN 973-686-066-3.

CONFERENCE PROCEEDINGS

39. Muresan, A.O., **Hamza-Lup F.G.**, Iacob I.E. (**2022**) "Artificial Intelligence Driven Conversational Virtual Humans: A Review". Submitted to the ACM Southeast Conference, April 12th -14th, 2023.

40. Limperis J., **Hamza-Lup F.G.,** and Tong W. (**2022**) "Web-based 3D Smog Visualization for Air Pollution Analysis". In the Proceedings of the International Conference on Computational Science and Computational Intelligence, December 14th-16th, Las Vegas, NV.

41. Hossain M.S, Pandya D., Allen A., and **Hamza-Lup F.G**. (**2022**) "Learner Attention Quantification Using Eye Tracking and EEG Signals". In the Arai, K. (eds) Proceedings of the Future Technologies Conference, Volume 2. Lecture Notes in Networks and Systems, Vol. 560. Springer, Cham. https://doi.org/10.1007/978-3-031-18458-1_57

42. Muresan A. O., **Hamza-Lup, F.G**. (**2022**) "Attention and Meditation Quantification using Neural Networks". In the Proceedings of the 14th International Conference on Mobile, Hybrid, and Online Learning, June 26th-30th, Porto, Portugal. Best Paper Award.

43. Feijóo-García, P.G., Zalake, M., Gomes de Siqueira, A., Lok, B., and **Hamza-Lup, F.G.** (**2021**)" Effects of Virtual Humans' Gender and Spoken Accent on Users' Perceptions of Expertise in Mental Wellness Conversations". In the Proceedings of the 21st ACM International Conference on Intelligent Virtual Agents, September 14th-17th, Kyoto, Japan. https://doi.org/10.1145/3472306.3478367.

44. **Hamza-Lup, F.G**., Iacob, I.E., and Orgeron, J. (**2021**). "Finding approximate analytical solutions of differential equations using Neural Networks with self-adaptive training sets". In the Proceedings of the 13th International Conference on Electronics, Computers and Artificial Intelligence, pp. 1-6, https://doi.org/10.1109/ECAI52376.2021.9515092.

45. Borza, P.N., Machedon, M, Vlase, S., **Hamza-Lup, F.G**. (**2021**) "Electric hybrid storage systems and their applications". In the Proceedings of the 4th International Conference on "Alternative Energy Sources, Materials & Technologies, June 14th -15th, Ruse, Bulgaria.

46. MacLean, E., **Hamza-Lup, F.G.,** Garrity, A., Keck, C., and Smith M. (**2021**) "Web-based 3D Visualization System for Anatomy Online Instruction". In the Proceedings of the ACM Southeast Conference (Virtual Event), pp.194-198, April 15th-17th. https://doi.org/10.1145/3409334.3452080

47. Zalake, M., Gomez de Sequeira, A., **Hamza-Lup, F.G.,** Vaddiparti, K., Pavlo, A and Lok B. (**2020**) "Towards Rapid Development of Conversational Virtual Humans using Web3D Technologies". In the Proceedings of the ACM International Conference on Web3D, November 9th–13th, Seoul, South Korea. https://doi.org/10.1145/3424616.3424727.

48. Goldbach, I.R., **Hamza-Lup, F.G.** (2020) "Intelligent Tutoring Systems for Generation Z's Addiction". In the Proceedings of the 12th International Conference on Mobile, Hybrid, and Online Learning, November 21st -25th, Valencia, Spain. ISBN: 978-1-61208-764-1. (online)

49. **Hamza-Lup, F.G.**, Suri, A., Iacob, I.E., Goldbach I.R, Rasheed, L., and Borza P. N. (2020) "Attention Patterns Detection using Brain Computer Interfaces". In the Proceedings of the ACM Southeast Conference, April 2nd-4th, Tampa, FL. https://doi.org/10.1145/3374135.3385322.

50. Flotynski, J., Brutzman, D., **Hamza-Lup, F.G.**, Malamos, A., Polys, N., Sikosk, L.F., Walczak, K. (2019) "The Semantic Web3D: Towards Comprehensive Representation of 3D Content on the Semantic Web", International Conference on 3D Immersion (IC3D), December 11th -14th , Brussels, Belgium. https://doi.org/10.1109/IC3D48390.2019.8975906.

51. **Hamza-Lup, F.G.,** Iacob, I.E., and Khan, S. (2019) "Web-enabled Intelligent System for Real-time, Continuous Sensor Data Processing and Visualization". In the Proceedings of the ACM Web3D conference, pp.1-7, July 26th -28th, Los Angeles, CA. https://doi.org/10.1145/3329714.3338127.

52. **Hamza-Lup, F.G.,** Bergeron, K. and Newton, D. (2019) "Haptic Systems in User Interfaces: State of Art Survey". In the Proceedings of the ACM Southeast Conference, pp.141-148, April 18th - 20th, Kennesaw, GA. https://doi.org/10.1145/3299815.3314445.

53. Stanescu, I., Stefan, A., Goldbach, I.R. and **Hamza-Lup, F.G.** (2019) "Exploring the Use of Gamified Systems in Training and Work Environments". In the Proceedings of the eLearning and Software for Education Conference, pp.11-19, April 11th-12th, Bucharest, Romania. https://doi.org/10.12753/2066-026X-19-001.

54. **Hamza-Lup, F.G.**, Su, H. and Wissing, C. (2019) "Web-enabled Software for Real-time Autonomous Wireless Sensors Data Visualization". In the Proceedings of the ACM Conference on Industrial Control Network and System Engineering Research, pp.70-74, March 15th -16th , Shenyang, China. https://doi.org/ 10.1145/3333581.3333594.

55. **Hamza-Lup, F.G.** and Goldbach, I.R. (2019) "Survey on Intelligent Dialogue in e-Learning Systems". In the Proceedings of the 11th International Conference on Mobile, Hybrid, and Online Learning, pp. 49-52, February 24th-28th, Athens, Greece. ISBN: 8-1-61208-689-7, https://thinkmind.org/index.php?view=article&articleid=elml_2019_3_10_50033.

56. **Hamza-Lup, F.G.** and Goldbach, I.R. (2017) "Hybrid Courses and Associated Distributed Learning Paradigms". In the Proceedings of the International Symposium on Computer Science and Intelligent Controls, pp. 164-166, October 20th-22nd, Budapest, Hungary. ISBN: 978-1-5386-2941-3. https://doi.org/10.1109/ISCSIC.2017.12.

57. Goldbach, I.R. and **Hamza-Lup, F.G.** (2017) "Survey on e-Learning Implementation in Eastern-Europe, Spotlight on Romania". In the Proceedings of the 9th International Conference on Mobile, Hybrid, and Online Learning, pp. 5-12, March 19th-23rd, Nice, France. ISBN: 978-1-61208-541-8, https://www.thinkmind.org/index.php?view=article&articleid=elml_2017_1_30_50056.

58. **Hamza-Lup, F.G.**, Farrar, S. and Leon, E. (2015) "Interactive X-Ray and Proton Therapy Training and Simulation". Proceedings of the Computer Assisted Radiology and Surgery International Congress and Exhibition, June 24th-27th Barcelona, Spain. https://doi.org/10.1007/s11548-015-1213-2.

59. **Hamza-Lup, F.G.**, Borza, P., Dragut, D. and Maghiar, M. (**2015**) "X3D Sensor-based Thermal Maps for Residential and Commercial Buildings". In the Proceedings of the International Conference on 3D Web Technology, pp. 49-54, June 18th-21st, Heraklion, Crete, Greece. ISBN: 978-1-4503-3647-5. https://doi.org/10.1145/2775292.2775300.

60. **Hamza-Lup**, **F.G.**, Farrar, S. and Leon, E. (**2015**) "Patient Specific 3D Surfaces for Interactive Medical Planning and Training". In the Proceedings of the International Conference on 3D Web Technology, pp. 107-113, June 18th-21st, Heraklion, Crete, Greece. ISBN: 978-1-4503-3647-5, https://doi.org/10.1145/2775292.2775294.

61. **Hamza-Lup, F.G.** and White, S. (**2015**) "Hybrid Course Delivery: Impact on Learning and Assessment". In the Proceedings of the 7th International Conference on Mobile, Hybrid, and Online Learning, pp. 48-54, February 22nd-27th, Lisbon, Portugal. IARIA Press, ISBN: 978-1-61208-385-8. ISSN: 2308-4367.

62. Popovici, D.M., **Hamza-Lup, F.G.**, Bogdan, C., Bautu, E. and Corleanca, C.A. (**2014**) "Use of Haptic Feedback in Medical Procedure Simulation". In the Proceedings of the Romanian National Human-Computer Interaction Conference, pp.75-80, September 4th -5th, Constanta, Romania. ACM RO SIGCHI. ISSN: 2501-9422, http://rochi.utcluj.ro/articole/2/RoCHI-2014-Popovici.pdf.

63. Popovici, D.M., **Hamza-Lup, F.G.**, Bogdan, C. (**2013**). "Haptic Feedback Systems in Education". In the Proceedings of the 9th International Conference on eLearning and Software for Education, pp .509-514, April 25th-26th, Bucharest, Romania. https://doi.org/ 10.12753/2066-026X-19-082.

64. Kocadag, F-A. L. and **Hamza-Lup, F.G**. (**2013**). "X3D in Urban Planning - Savannah in 3D". In the Proceedings of the 51st Association for Computing Machinery Southeast Conference, April 4th-6th, Savannah, GA. ISBN: 978-1-4503-1901-0, https://arxiv.org/abs/1902.02906.

65. **Hamza-Lup, F.G.** and Kocadag, F-A. L. (**2013**). "Simulating Forces: Learning Through Touch, Virtual Laboratories". In the Proceedings of the 5th International Conference on Mobile, Hybrid, and online Learning, pp.55-58, February 24th-Mar.1st, Nice, France. ISBN: 978-1-61208-253-0. ISSN: 2308-4367.

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68. **Hamza-Lup, F.G.** and Page, B. (**2012**). "Haptics-Augmented Physics Simulation: Coriolis Effect". In the Proceedings of the 7th International Conference on Virtual Learning, pp. 34-38, November 2nd-3rd, Brasov, Romania. Bucharest University Press. ISSN: 1844-8933.

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71. **Hamza-Lup**, **F.G.**, Bogdan, C.M. and Seitan, A. (**2012**) "Haptic Simulator for Liver Diagnostics through Palpation". In the Proceedings of Medicine Meets Virtual Reality 19, James D. Westwood, et.al (Eds.), pp. 156-160, February 9th-11th, Newport Beach, CA. IOS Press. ISBN: 978-1-61499-022-2. https://doi.org/10.3233/978-1-61499-022-2-156.

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77. Stanescu, I.A., Stefan, A., Roceanu, I., Stefan, V., and **Hamza-Lup, F.G.** (**2009**) "Mobile Knowledge Management Toolkit". The 8th European Conference on e-Learning, pp. 558-565, October 29th-30th, Bari, Italy. University of Bari Press. Book ISBN: 978-1-906638-22-1. CD ISBN: 978-1-906638-23-8.

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91. **Hamza-Lup, F.G.** and Stefan, V. (2007) "Web 3D and Virtual Reality - Based Applications for Simulation and e-Learning". In the Proceedings of the International Conference on Virtual Learning, pp. 71-80, October 26th-28th, Constanta, Romania. Bucharest University Press. ISSN: 1844-8934.

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93. **Hamza-Lup, F.G.**, Sopin, I., Lipsa, D. and Zeidan, O. (2007) "X3D in Radiation Therapy Procedure Planning". In the Proceedings of the 3rd International Conference on Web Information Systems and Technologies-Volume 2: WEBIST, pp. 359-364, March 3rd-6th, Barcelona, Spain. ISBN: 978-972-8865-78-8. https://doi.org/10.5220/0001292003590364.

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100. **Hamza-Lup,** F.G., Hughes, C. and Rolland, J.P. (2004) "Distributed Consistency Maintenance Scheme for Interactive Mixed Reality Environments". In the Proceedings of the International Conference on Cybernetics and Information Technologies, Systems and Applications, Vol. 4, pp. 7-12, July 21st-26th, Orlando, Florida. ISBN: 980-6560-19-1.

101. Davis, L., **Hamza-Lup, F.G.** and Rolland, J.P. (2004) "A Method for Designing Marker-Based Tracking Probes". In the Proceedings of the 3rd IEEE and ACM International Symposium on Mixed and Augmented Reality, pp. 120-129, November 2nd-5th, Arlington, VA. ISBN: 0-7695-2191-6. https://doi.org/10.1109/ISMAR.2004.5.

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105. **Hamza-Lup, F.G.**, Davis, L., Hughes, C. and Rolland, J. P. (2002) "Marker Mapping Techniques for Augmented Reality Visualization". The 17th International Symposium on Computer and Information Sciences, pp. 152-156, October 28th -30th, Orlando, Florida. CRC Press. ISBN 0-8493-1490-9.

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Displays VII, pp. 395-399, April 1st -5th, Orlando, Florida, Rash, C.E. et al. (Eds.). https://doi.org/10.1117/12.478889.

108. Davis, L., **Hamza-Lup, F.G.,** Daly, J., Ha, Y., Frolich, S., Meyer, C., Martin, G., Norfleet, J., Lin, K. and Rolland, J.P. (**2002**) "Application of Augmented Reality to Visualizing Anatomical Airways," In the Proceedings of AeroSense 2002, SPIE 4711, Helmet- and Head-Mounted Displays VII, pp. 400-405, April 1st -5th, Orlando, Florida, Rash, C.E. et al. (Eds.). https://doi.org/10.1117/12.478890.

109. Rolland, J.P., Meyer, C., Davis, L., **Hamza-Lup, F.G.,** Norfleet, J., Imielinska, C. and Kerner, K.F. (**2002**) "Merging Augmented Reality and Anatomically Correct 3D Models in the Development of a Training Tool for Endotracheal Intubation". In the Proceedings of IEEE International Symposium on Biomedical Imaging, pp. 895-898, July 7th-10th, Washington DC. https://doi.org/10.1109/ISBI.2002.1029405.

110. Salomie, I., **Hamza-Lup, F.G.** and Bot, R. (**2000**) "Design Decision of a Virtual University on Web-Based Educational Technology". In the Proceedings of the International Symposium on Tele-Medicine and Tele-Education in Practice, March 22nd -24th, Kosice, Slovakia.

111. **Hamza-Lup, F.G.,** Bot, R. and Salomie, I. (**1999**) "Virtual University of Cluj-Napoca - A Web-Based Educational Framework". In the Proceedings of the PRO Absolvent (PRO-ABS) Symposium, June 4th-7th, Technical University of Cluj-Napoca, Romania.

TECHNICAL REPORTS

112. Lambeth, B.M. and **Hamza-Lup, F.G.** (**2009**). "Network Infrastructure factors and their effect on distributed haptic systems". Computer Science Department, College of Science and Technology, Armstrong Atlantic State University, Savannah, GA.

113. **Hamza-Lup, F.G.** (**2004**). "A Less Intrusive Security System Monitoring Scheme for Distributed Virtual Environments". Computer Science Department, School of Computer Science and Electrical Engineering, University of Central Florida, Orlando, FL. CS-TR-04-08.

GRADUATE STUDENTS – RECENT MASTER THESIS

Shane Kruse (2022)	"Blockchain Technology for Digital Credential Management" *(in progress)*
Jordan Limperis (2022)	"A Novel Transformer Based Model for Spatio-Temporal PM 2.5 Prediction".
James A. Orgeron (2022)	"EEG Signals Classification Using LSTM-Based Models and Majority Logic".
Lorena Bano (2021)	"LSTM Model for Human Brain Decisions using EEG Signal Analysis".
Lateef Rasheed (2020)	"Decision Patter Detection from Brain Response to Marketing".
Sushmita Khan (2020)	"Mining Hidden Markov Models in Seq. of Chars. using Recurrent Neural Networks".
Mohammad Anwar (2020)	"Reduced Dataset Neural Network Model for Manuscript Character Recognition".
Anca O. Muresan (2020)	"Machine Learning-based Assessment of Brain Computer Interfaces".

INNOVATION PROJECTS

Real-time Sensor Data Mapping (X3D)	2019	Computer Science, Georgia Southern, GA
Haptic Liver - Laparoscopic Simulator	2015	Computer Science, Ovidius Univ., RO
Haptic Gyroscope	2011	Armstrong State University, GA
Haptic Friction Simulator	2010	Armstrong State University, GA
Neuro-Pathways - Interactive e-Learning	2009	Mercer Medical School, GA
HaptEK16 - Haptics for e-Learning	2008	Higher Ed. Web, Rochester, NY
Web 3DRTT - Proton Therapy Simulator	2007	Memorial Hospital, Savannah, GA
3DRTT - 3D Planning System	2006	MD Anderson Cancer Ctr., Orlando, FL
3D Face Model for Videoconferencing	2004	NASA Johnson Space Center, Huston, TX
Distributed Artificial Reality Center	2003	IROS/RCV, NSF, Las Vegas, NV
Artificial Reality Center with Tracking	2002	I/ITSEC, Orlando, FL
Massive, Curved, Retro-Reflective Display	2002	OSA 2002, Orlando, FL
The ARC Display, Data Visualization	2002	ART, ISMAR 2002, Darmstadt, Germany
Web-Based Virtual University	1999	PROABS, Cluj-Napoca, Romania

PATENTS

1. Hamza-Lup, F.G. and Popovici, D. M. (2016) - Patent (provisional) - "Methods for Real-Time Visualization of Surface Forces during Interaction with Haptic Devices". No. 2016 00824. Romanian State Patent Office.
2. Hamza-Lup, F.G. and Popovici, D.M. (2013) - Patent (provisional) - "Random Structure Generation in 3D Deformable Objects". No. 2016 00422. Romanian State Patent Office.
3. Hamza-Lup, F.G. and O. Zeidan (2007) - Patent - "Simulation and Training System for Radiation Therapy and Associated Methods," #90354, J.E. Hartt with Allen, Dyer, Doppelt, Milbrath and Gilchrist, P.A.

INDUSTRIAL PROFICIENCY

- Project Management: Any platform (with 6 Sigma QoS).
- E-Learning Learning Management Systems for Large Scale Deployment (Moodle, Folio, etc.)
- System Analysis and Design: UML, RUP (IBM Rational Unified Process).
- UI Interface Analysis & Design: Task Analysis, Decomposition. Usability, Efficiency Analysis
- 3D Visualization, Mixed Reality: AR/MR/VR R&D, Motion tracking.
- Fluent in: Java, J2EE, C/C++, Pyton, Go
- Web Programming: PHP, JSP, JavaScript, ASP, XML, CSS, X3D.
- Databases Analysis, Design, and Implementation: PL/SQL, ODBC, JDBC, MySQL, IBM DB2.
- Networking: TCP/UDP, Cellular Networks, Parallel Systems, Linux.

SELECTED TALKS & PRESENTATIONS

2022

→ [Oct.10] "Visuo-Haptic Technology for Complex Concepts Presentation". At the New Media Pedagogy Conference - research trends, methodological challenges, and successful implementations (NMP 2022), Krakow, Poland. (online)

→ [Oct.10] "Neural Networks based Analysis of Brain Computer Interface Data for Attention Quantification". At the New Media Pedagogy Conference - research trends, methodological challenges, and successful implementations (NMP 2022), Krakow, Poland. (online)

→ [Jun.27] "Attention and Meditation Quantification using Neural Networks". Online presentation at the International Conference on Mobile, Hybrid, and Online Learning, Porto, Portugal.

2021

→ [Nov.16] "The benefits of engaging in international collaborations Erasmus+". Presentation at the International Employee Resource Group (IERG) Georgia Southern University. (online)

→ [Sep.15] "Effects of Virtual Humans' Gender and Spoken Accent on Users' Perceptions of Expertise in Mental Wellness Conversations". Online presentation at the ACM International Conference on Intelligent Virtual Agents, Kyoto, Japan.

→ [Jul.2] "Finding approximate analytical solutions of differential equations using Neural Networks with self-adaptive training sets". At the 13th IEEE Intl. Conference on Electronics, Computers and Artificial Intelligence, Pitesti, Romania.

2020

→ [Dec.12] "The Semantic Web3D: Towards Comprehensive Representation of 3D Content on the Semantic Web". Online presentation at the International Conference on 3D Immersion (IC3D), Brussels, Belgium.

→ [Nov.21] "Intelligent Tutoring Systems for Generation Z's Addiction". At the 12th International Conference on Mobile, Hybrid, and On-line Learning, Valencia, Spain.

→ [Apr.2] "Attention Patterns Detection using Brain Computer Interfaces". At the Annual ACM Southeast Conference, Tampa, Florida, US.

2019

→ [Nov.28] "AI Infrastructure for 3D Content on the Web: X3D Semantics". At the Erasmus+ meeting, Transylvania University of Brasov, Brasov, Romania.

→ [Sept.13] "Touching the Unreal: Exploring our Tactile Senses using Haptics". At the Robert I. Strozier Faculty Lecture Series, Armstrong Campus, Savannah, Georgia, US.

→ [May.15] "Web-enabled Software for Real-time Autonomous Wireless Sensors Data Visualization". Online presentation at the ACM Conference on Industrial Control Network and System Engineering Research, Shenyang, China.

→ [Apr.19] "Haptic Systems in User Interfaces-State of the Art Survey". Tutorial at the ACM-SE Conference, Kennesaw, Georgia, US.

→ [Feb.25] "Survey on Intelligent Dialogue in e-Learning Systems". At the 11th International Conference on Mobile, Hybrid, and On-line Learning, Athens, Greece.

→ [Jan.31] "The benefits of engaging in international collaborations: Fulbright and Erasmus+". At Bring the World to Your Work series, Center for Teaching Excellence & Office for International Programs and Services, Savannah, GA, US.

2018

→ [Nov.5] "Electric Energy Storage Systems: Super Capacitors". At Erasmus+ framework (with prof. Paul Borza), Georgia Southern University (Statesboro & Armstrong campuses). (online)

→ [Oct.3] "Travel the World in 80 Minutes". At the Georgia Southern University Office of International Engagement. (Statesboro & Armstrong campuses.) (online)

→ [Jun.11] "Visual and Haptic Simulation—Prototypes". Research presentation at Transylvania University of Brasov, Brasov, Romania.

→ [May.15-29] "HCI paradigms and 3D Web-based User Interfaces". 5 research presentations at Transylvania University of Brasov, Brasov, Romania.

→ [Mar.22] "Web-based 3D User Interfaces", at the Computer Science and Electrical Engineering Faculty, Transylvania University in Brasov, Brasov, Romania.

→ [Mar.21] "Introduction to X3D - Paradigms, Static and Dynamic Scenes", at the Computer Science and Electrical Engineering Faculty, Transylvania University in Brasov, Romania

→ [Mar.19] "Georgia Southern University's Master Programs in CS and IT and the Engineering Programs" at the Transylvania University of Brasov, Brasov, Romania.

2017

→ [Nov.17] "Discover Romania". Presentation for international collaboration enhancement. International Education Office at Armstrong State University, Savannah, GA US.

→ [Nov.10] "Renewable Energy Sources, Energy Conservation and Applications". Research presentation at the Armstrong International Office, Savannah, GA, US.

→ [Oct.6] "Advanced Interaction Through Touch", Presentation at the Technology Association of Georgia, Savannah – Tech Talk.

2016

→ [Apr.11] "The Fulbright Award, an International Experience". Talk at the International Office, Armstrong State University, Savannah, GA, US.

→ [Mar.9] "Advanced Academic Leave and the Fulbright Award". Talk at the College of Science and Technology, Armstrong State University, Savannah, GA, US.

2015

→ [Dec.15] "Haptic User Interfaces: Paradigms and Applications". Fulbright International Seminar, National Dong Hwa University, in Hualien, Taiwan.

→ [Dec.10] "Novel User Interfaces using Web3D Technology". Fulbright International Seminar, National Yilan University in Yilan, Taiwan.

→ [Nov.20] “Human Tactile System - Novel User Interfaces and Haptic Technology”. Fulbright International Seminar, Tongji University, Shanghai, China.

→ [Oct.14] “Haptic User Interfaces: Paradigms and Applications”. Fulbright International Seminar, Chiang Mai University, Chiang Mai, Thailand.

→ [Sep.29] “Development of Visuo-Haptic User Interfaces”. Fulbright International Seminar, Bangkok University, Bangkok, Thailand.

→ [Jul. 8] “3D User Interfaces Design”. International Research Seminar, Transilvania University of Brasov, Brasov, Romania.

→ [Jun.19] “X3D Sensor-based Thermal Maps for Residential and Commercial Buildings”. Web3D International Research Meeting, Heraklion, Crete, Greece.

→ [Jun.18] “Patient Specific 3D Surfaces for Interactive Medical Planning and Training”. Web3D International Research Meeting, Heraklion, Crete, Greece.

→ [Feb.25] “Hybrid Course Delivery: Impact on Learning and Assessment”. 7th International Conference on Mobile, Hybrid, and On-line Learning, Lisbon, Portugal.

2014

→ [Nov. 7] “Haptic Simulation of Electromagnetic Field Forces”. Research seminar at Computer Science, Georgia Institute of Technology (GaTech), Atlanta, GA, US.

→ [Sep. 4] “Haptic Systems in Medical Applications”. *(translation “Utilizarea Returului Haptic in Actul Medical.”)* Keynote Speech, presented at ROCHI 2014, Constanta, Romania.

→ [Jul.14] “Visual/Haptic User Interface Design”. International research seminar, Transilvania University of Brasov, Brasov, Romania.

→ [Jul. 1-7] “Simulation for Photovoltaic Systems and Renewable Energy”. Research seminar at Technological Educational Institute (TEI) of Patras, Patras, Greece.

→ [Feb.19] “Extending Extensible 3D: From Haptic-Based Medical Training to Clinical Applications”. At the Medicine Meets Virtual Reality conference, Manhattan Beach, California, Special session organizer and presenter.

2013

→ [Dec.04] “Stimulating the Human Tactile Sense - a Finite Automata Approach”. Fulbright Specialist Research Seminar at Computer Science, Chiang Mai University, Chiang Mai, Thailand.

→ [Nov.12] “Multimodal Interfaces for Needle Insertion”. Fulbright Specialist Research Seminar at the Nursing School at Thammasat University, Bangkok, Thailand.

→ [Nov. 5] “Noninvasive Brain Computer Interfaces”. Fulbright Specialist presentation. Bangkok International University, Bangkok, Thailand.

→ [Oct.30] “Multimodal Human-Machine Interaction”. Fulbright Specialist research seminar. Computer Science, Bangkok University at Rangsit campus, Thailand.

→ [Sep.15] “Haptic Applications for Kinesthetic Learners”. Faculty Research and Scholarship Symposium, Armstrong State University, Savannah, GA, US.

→ [Apr. 4] “X3D in Urban Planning. Savannah city in 3D”. Presentation at the 51st ACM Southeast Conference, Savannah, GA, US.

→ [Feb.27] “Simulating Forces. Learning Through Touch, Virtual Laboratories”. International Conference on Mobile, Hybrid, and On-line Learning, Nice, France.

→ [Feb.21] “Liver Pathology Simulation: Algorithm for Haptic Rendering and Force Maps for Palpation Assessment”. Medicine Meets Virtual Reality 20, San Diego, California, US.

→ [Jun.14] “Feel the Static and Kinetic Friction”. International Conference on EuroHaptics, Tampere, Finland.

2012

→ [Nov. 1] “Perceptual Issues and the Role of Tactile Presence in Laparoscopy”. Invited keynote speech at the Intl. Conference on VR Learning, Cluj-Napoca, Romania.

→ [Jun.14] “Feel the Static and Kinetic Friction”. International Conference on EuroHaptics, Tampere, Finland.

→ [May.30] “HapticMed: Force-feedback in laparoscopic surgical training”. Seminar at the Mathematics and Computer Science Faculty Seminar, Ovidius University, Constanta, Romania.

→ [Feb.21] “Haptic Simulator for Liver Diagnostics through Palpation”. Presentation at the Medicine Meets Virtual Reality (MMVR) Conference, Costa Mesa, California, US.

For data prior to 2012 please see: https://felixlup.net/publications/

FUNDING

only awarded/pending grants are listed

EXTERNAL Grants [Role] Funding Venue, Title, Timeframe	Amount	[Effort] Status
[PI] National Science Foundation (NSF Program Solicitation 22-631, "Multimodal Interfaces for Concepts Exploration (MICE)", co-PI Dr. William Baird, Physics, 2023-2026.	$ 591,000	[95%] Pending
[PI] National Science Foundation (NSF Program Solicitation 21-616, "Collaborative Research: HCC: Medium: Right Message, Right Messenger, Right Moment: Using Virtual Humans to Support Online Students Mental Health" - Collaboration with University of Florida, 2022-2026.	$ 1,200,000	[50%] Pending Resubmit
[PI] Erasmus+ KA107 Mobility Grant: New International cooperation between Georgia Southern University and Waterford Institute of Technology (WIT), Waterford, Ireland. (Collaborator prof. Dr. Alan Davy) Awarded € 40,000 [duration 1 year]. Postponed due COVID-19, 2020-2021.	€ 40,000	[50%] Delayed Covid-19
[PI] Erasmus+ International Collaboration European Union, "Research and Teaching Experiences" with Faculty of Electrical Engineering and Computer Science, Transylvania University of Brasov, Romania, 2017-2021.	€ 40,000	[100%] Completed
[PI] **Fulbright Fellowship**, US Department of State, "Human Computer Interaction - Haptic and Web3D Technology, Research", at the Multimedia Intelligent Technology Bangkok University (MIT-BU), Bangkok, Thailand, 2015-2016.	$ 40,000	[100%] Completed
[PI] **Fulbright Specialist**, US Department of State, "Virtual and Augmented Reality Research" at the Bangkok University Center of Research in Optoelectronics, Communications and Computational Systems, 2013.	$ 10,000	[100%] Completed
[PI] European Union Research – Operational Program for Research Competitive Growth, "HapticMed: Haptic Interfaces in Medical Applications" with Co-PI Dr. Popovici D.M., 2010-2013.	€ 350,000	[70%] Completed
[Mentor] National Science Foundation (NSF Research Experience and Mentoring REM) "Visuo-Haptic Simulator for Angular Motion", NSF-STEP Student Mentoring, 2009.	$ 26,000	[40%] Completed
[PI] Mercer Medical School Research Fund, "Neuro Pathways" in collaboration with Prof. Dr. Tina Thompson, 2008.	$ 20,000	[80%] Completed

[PI] MD Anderson Cancer Foundation, *"*Radiation Therapy Visual 3D Simulation System" with Dr. Zeidan O. Chief, Proton Therapy Physics at Orlando Health Cancer Institute, 2007.	$ 100,000	[100%] Completed
[co-PI] Radiological Society of North America, research grant, *"*Towards a Comprehensive and Accurate 3D Visual Simulation Tool for External Beam Radiation Therapy planning*"* with PI Dr. Zeidan O. Chief, Proton Therapy Physics at Orlando Health Cancer Institute, 2007.	$ 30,000	[70%] Completed
[**PI**] Philips Medical instrumentation grant**,** *"*A 3D Collision Avoidance Tool for External Beam Radiation Therapy Treatment Planning*"*, Accelerator computing system with CT Scan image processing and planning module, to M.D. Anderson Cancer Center, Orlando, 2007.	$ 200,000	[80%] Completed
[PI] Konica-Minolta research fund, "Hi-Res 3D reverse engineering through LASER scanning of a Linear Particle Accelerator", 2007.	$ 15,000	[100%] Completed
[PI] Faro Technologies (www.faro.com) research fund, "Hi-Res 3D Point Cloud data Filtering", Research and Development Unit, 2007.	$ 6,000	[100%] Completed
TOTAL approx.**:**	**$ 2,668,000**	

INTERNAL Grants [Role] Funding Venue, Title, Timeframe	Amount	[Effort] Status
[PI] Wexford Support Development Project, "SABR 5090 – Green IT Course Development", May-July 2020.	$6,200	[100%] Completed
[PI] WebBSIT Summer Faculty Fellowship, "Haptic Applications for Online Learning", May-July 2013.	2,500	[100%] Completed
[PI] NSF-STEP program Summer Research Session (SRS) grant, "Visuo-Haptic Simulator for Angular Motion - Precession", May-July 2010.	$ 5,000	[100%] Completed
[co-PI] Armstrong Research Foundation, "A VIEW on Mechanical Dissection for Freshmen Engineering", Interdisciplinary research with Goeser P.T. and Johnson W.,2009.	$ 5,000	[80%] Completed
[PI] Armstrong STEM Grant "Haptic Interface for Student Attention Stimulation", Interdisciplinary research with Dr. Baird W., 2009.	$ 5,000	[80%] Completed
[co-PI] Armstrong Research Foundation, "Introducing Web-based Virtual Labs in Introduction to Engineering Materials", Interdisciplinary research with Goeser P.T. and Johnson W. [VIEW], 2008.	$ 5,000	[50%] Completed

[PI] Armstrong Research Grant "3D Library for Radiation Therapy Planning and Training", 2007.	$ 4,000	[100%] Completed
[co-PI] Armstrong Research Grant "Effects of Haptic Delay on Task Performance", Collaboration with Sturz B.R., Psychology. [BACH], 2007.	$ 4,000	[50%] Completed
	TOTAL: $ 36,700	

Tirrion Technologies LLC (2003-2004)

[Role] Funding Venue, Title, Timeframe	Amount	[Effort] Status
[**co-PI**] Small Business Technology Transfer (STTR) Proposal# A05-T002, "Distributed Heterogeneous Large Data Visualization of Physics Based Simulations", Tirrion Technologies LLC and L3 Communications, 2005.	$ 350,000	[60%] Completed
[**co-PI**] Small Business Innovative Research (SBIR) to BAA N61339-01-R-0023, "A Scheme for Presenting 3D Audio", Tirrion Technologies LLC in Collaboration with Boeing, 2004.	$ 450,000	[35%] Completed
[**co-PI**] Small Business Innovative Research (SBIR) Topic#: A04-188, Proposal#: A04-188-0684, "A Bio-Mathematical Model for Predicting the Effects of Fatigue on an Individual's Performance in Contextualized Environments", Tirrion Technologies LLC ,2004.	$ 355,000	[45%] Completed
[**PI**] Small Business Innovative Research (SBIR) Topic# A04-193, Proposal# A043-193-0603, "PC-based Simulated Open Surgery Training Systems (SOSTS)", Tirrion Technologies LLC, 2004.	$ 248,000	[80%] Completed
	TOTAL: $ 1,403,000	

Adastra Laboratories LLC (2001-2003)

[Role] [Role] Funding Venue, Title, Timeframe	Amount	[Effort] Status
[**co-PI**] Small Business Innovative Research (SBIR) – Phase 1, "**Deployable Virtual Teleconferencing Center**", with Adastra Labs LLC at Johnson Space Center, Huston, TX (NASA), 2003.	$ 70.000	[60%] Completed
	TOTAL: $ 70.000	

TEACHING

25+ years of teaching in Computer Science & Information Technology, F2F, Online and Hybrid.

List of courses taught

Georgia Southern University		**2017 - Present**	**Credits [Teach Style]**
CS	3230 - Data Structures		3 [Online]
*	4235 - Human-Computer Interaction		3 [F2F]
	5090 - Distributed Systems Security		3 [F2F]
*	5436 - Distributed Web Systems Design		3 [F2F]
	5332 - Data Communication and Networks		3 [F2F]
*	5431 - Computer Security		3 [F3F]
	7132 - Advanced Database Systems Design		3 [F2F]
*	7090 - Special Topics in HCI		3 [F2F]
IT	5235 - Advanced Web Apps Development		3 [F2F]
*	3133 - E-Commerce		3 [F2F/Online]
Armstrong State University		**2006 - 2017**	
CSCI	1150 - Fundamentals of the Internet and WWW		3 [F2F & Hybrid]
	1301 - Intro. to Object Oriented Programming		3 [F2F]
	1302 - Advanced Programming Principles		3 [F2F]
*	2990 - ST: Intro. to Human Computer Interaction		3 [F2F]
	3202 - Computers Organization and Architecture II		3 [F2F]
*	3301 - UNIX and Secure Web Development		3 [F2F & Hybrid]
*	3370 - Human Computer Interaction		3 [F2F]
	5220 (U/G) - Networks and Data Encryption		3 [F2F]
*	5370 (U/G) - Hand-held and Ubiquitous Computing		3 [F2F]
	6100 (Graduate only) - Technical Writing		3 [F2F]
WBIT	1100 - Introduction to Information Technology		3 [Online]
*	4120 - Human Computer Interaction		3 [Online]
ITEC	3800 - Data Assurance and Computer Networks		3 [F2F]
*	4830 - Web Graphics (Web3D)		3 [F2F & Hybrid]
Indiana Univ. of Pennsylvania		**2005 - 2006**	
CS	COP 253 - Principles of OO Programming		3 [F2F]
	COP 422 - Human Computer Interfaces		3 [F2F]
	COP 431 - Cybersecurity		3 [F2F]
University of Central Florida		**2001 - 2005**	
CS	COP 2253 - Principles of OO Programming		3 [F2F]
	CSG 2545 - Database Concepts		3 [F2F]
	COP 3330 - Advanced OO Programming		3 [F2F]
	CDA 4150 - Computer Architecture		3 [F2F]
Technical Univ. of Cluj-Napoca		**1999 - 2000**	
CS	UTCN 235 - Data Structures and Algorithms		3 [F2F]
	UTCN 434 - Graphical User Interfaces		3 [F2F]

** Newly developed courses | [F2F] face-to-face | Hybrid = 50% online*

SERVICE

Service to University

Georgia Southern University		
Department Level	Faculty Search Committee	2019 – Now
	Outreach Coordinator CS	2018 – Now
	ABET Committee Member (CS&IT)	2018 – Now
	Department Curriculum Committee	2018 – Now
	External Industrial Advisory Board Member	2017 – 2018
College Level	Senator for CEC College	2020 – Now
	Senator Alternate	2018 – 2020
	College Curriculum Committee	2017 – 2019
	"Scholars Day" Armstrong CEC Representative	2018 – 2021
	First Year Experience Armstrong CEC Representative	2019 – 2021
	Judge and Poster Reviewer (Research, Industry Expo)	2018 – 2022
University Level	Intl. Employee Resource Group (Steering Committee)	2021 – Now
	International Ad-Hoc Committee	2019 – Now
	Wexford International Committee	2019 – Now
	University Academic Standards Committee	2019 – 2022
	Graduate Curriculum Committee	2019 – 2022
	Undergraduate Curriculum Committee	2018 – 2021
Armstrong State University		
Department Level	Faculty Search Committee Chair	2010 – 2017
	ABET Accreditation Committee	2010 – 2016
	External Industrial Advisory Board Member	2015 – 2017
	Curriculum Committee Chair	2009 – 2012
	ACM Programming Contest Coach Member	2008 – 2012
College Level	Undergraduate Curriculum Committee Member	2010 – 2017
	Computing Research Colloquium Coordinator	2008 – 2015
	Graduate Curriculum Committee Member	2007 – 2015
University Level	Curriculum Committee Member	2010 – 2015
	International Ed. & Affairs Council Member	2010 – 2015
Student Advising		
Graduate	Advised: 35+ graduate students (Master of Science)	2006 – Now
Undergraduate	Advised: 125+ undergraduate students	2006 – Now

Journals ***(****reviewer, editor)*	
Elsevier Graphical Models Journal (GMOD) *Guest editor 2017-2018*	editor, reviewer
Elsevier Computer Graphics Journal (CG)	reviewer
IEEE Computer Graphics and Applications Journal (CG&A)	reviewer
IEEE Computer	reviewer
IEEE Transactions on Visualization (TVCG)	reviewer
Intl. Journal of Virtual Technology and Multimedia (IJVTM)	reviewer
Intl. Journal of User-System Interaction *(rochi.utcluj.ro/ijusi/)*	reviewer
IEEE Transactions on Haptics	reviewer
Virtual Reality (Springer) Journal	reviewer
MDPI Sensors Journal	reviewer
MDPI Special Issue - Future of the Internet 2021	reviewer
Reviewer IEEE/OSA Journal of Display Technology	reviewer

Conferences *(International/National)*	
Co-Chair ACM International Conference on 3D Web Technology Web 3D	2015, 2019
Co-Chair ACM International Symposium on Mixed and Augmented Reality	2009, 2018
Reviewer, ACM South-East Conference	2013 – Now
Reviewer, Computer Human Interaction - Romanian Chapter	2012 – Now
Reviewer, ACM International Conference on 3D Web Technology Web 3D	2011 – Now
Reviewer & Program Committee, Int. Symposium on Visual Computing	2007 – Now
Reviewer, Prg. Comm. & Tutorial Org., Intl. Conf. on Mob., Hybrid & E-Learning	2008 – Now
Reviewer, Intl. Conf. on Knowledge Discovery, Eng. and Management (KMIS)	2007 – Now
Reviewer, IEEE Virtual Reality (IEEEVR) conference	2008 – 2022
Reviewer & Program Committee, Intl. Symp. on Mixed and Augmented Reality	2004 – 2021
Reviewer, British Computer Society Conf. on Human Computer Interaction	2003 – 2012

Savannah, Georgia

- → External Advisory Board Member for Oglethorpe Charter School, Savannah, GA. 2018 - 2022
- → Savannah Economic Development Authority (SEDA) - Innovation Analyses 2007 - 2017
- → Science Fair Judge at the STEM Academy Science Fair, Bartlett School in Savannah, GA. 2014 - 2018
- → Woodville Tompkins High-School - Applications of VR/AR and Gaming for positive reinforcement of science and engineering careers, Savannah, GA. 2009 - 2016
- → Learning for Life Service Award (2008-2009). Mentoring students in science. Support provided by the Costal Empire Council-Boy Scouts of America, Savannah, GA 2006 - 2012

Orlando, Florida

- → Advisory Board Lake Highland High-School 2003-2005
- → Advisory Board - City of Orlando, Board of Education 2002-2005

Professional Memberships and Associations

Fellow	US. *Fulbright* Program
Professional Member	Association of Computing Machinery (*ACM*)
Professional Member	*IEEE* & *Computer Society*
Professional Member	Intl. Honor Society for Computing & Information Disciplines (*UPE*)
Member	IEEE Technical Committee on Haptics (*IEEE Haptics TC/TF*)
Member	International Society for Optical Engineering (*SPIE*)
Alumni	Pittsburgh Java Users Group (*PITTJUG*)
Alumni	Distributed Sys Group - Technical University of Cluj-Napoca (*UTCN*)

Identifiers and E-Presence

Website	http://felixlup.net
Linked In	https://www.linkedin.com/in/fhl/
Bepress Sel. Works	https://works.bepress.com/felix-hamza-lup/
PlumX Profile	https://plu.mx/georgiasouthern/u/sw-felix-hamza-lup
Google Scholar Profile	http://scholar.google.com/citations?user=yeC8rdkAAAAJ&hl=en
Research Gate Profile	https://www.researchgate.net/profile/Felix_Hamza_Lup
Academia Profile	https://georgiasouthern.academia.edu/FelixHamzaLup
Mendelay Profile	https://www.mendeley.com/profiles/felix-hamza-lup/

References available upon request.