



SITI KHADIJAH BINTI ALI

Senior Lecturer

Department of Multimedia

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BIOGRAPHY

Ts. Dr. Siti Khadijah Ali, her higher studies in Doctor of Philosophy (PhD) at the department of Automatic Control and System Engineering, University of Sheffield from 2014 – 2017. She serves at the Department of Multimedia, Faculty of Computer Science and Information Technology, Universiti Putra Malaysia as a Senior Lecturer. Her research area then was on the development of the control system for the upper-limb exoskeleton to augment human capability. With a small research grant provided by the Ministry of Higher Education Malaysia, she is now working on the modeling the synergy-muscle fatigue model with an intelligent control approach for character animation. She has published in more than ten research papers in Computer Graphics and Rehabilitation and Assistive Robotics.

AREAS OF INTEREST

1. Computer Aided Graphic Design (CAGD)
2. Computer Graphics
3. Rehabilitation and Assistive Robotics
4. Simulation-Animation

EDUCATION

1. Ph.D (Automatic Control and System Engineering), 2017, University of Sheffield
2. M.Sc (Computer Graphics), 2012, Universiti Putra Malaysia
3. BSc. (Computer Modeling), 2008, Universiti Sains Malaysia

RECOGNITION

National

Affiliate Member of Young Scientist Network – Academy of Sciences Malaysia (YSN-ASM)

Finalist – Anugerah Fellowship Naib Canselor (Kategori Pengajaran) 2021

Visiting Researcher – University of Newcastle, United Kingdom (2023-2024)

PROFESSIONAL MEMBERSHIP

1. Professional Technologist – Ts. (Lembaga Teknologi Malaysia - PT21020083)
 2. IEEE Professional Member - 98310315
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AWARDS

Awards	Year	Awards	Year
Scholarship (SLAB)	2013-2016	Excellent Service Award	2019
Scholarship (SLAI)	2009-2011		
Dean List Award	Semester 2 (2007-2008)		
Dean List Award	Semester 2 (2006-2007)		

RESEARCH ACTIVITIES

No	Title	Role (Main/Co-researcher)	Sponsor	Period (Year)	Status (Completed / Ongoing)	Amount (RM)
1	PEMBANGUNAN KEMAHIRAN KEUSAHAWANAN DAN DIGITAL UNTUK REMAJA TERSISIH DI RUMAH PAKATs BAGI MENINGKATKAN EKONOMI DAN KEMASLAHATAN	Main	University Community Transformation Center (UCTC) Universiti Putra Malaysia	Dec 2022- Dec 2023	On-going	10000
2	EMG-based Control with Multimodal Fusion Algorithms for Continuous Hand Motion Predictions of Wearable Healthcare Devices	Co-researcher	Fundamental Research Grant Scheme (FRGS)	2022 - 2024	On-going	119400
3	Back to Work Better	Co-researcher	National Science and Technology Development Agency (NSTDA) Thailand	June 2021 – March 2022	On-going	8000

4	IT Skills Programs for Orphan and Vulnerable Children (OVC) in Malaysia	Co-researcher	Malaysian Communications and Multimedia Commission (MCMC)	Oct 2020 – March 2021	Completed	9966
5	Synergy-Muscle Fatigue Model based Intelligent Control to Signify Realism of Character Animation.	Main	Fundamental Research Grant Scheme (FRGS)	1/9/2019 – 1/5/2022	Completed	75400
6	Active Vibration Control of Thin Shell Structures Based on Swarm Intelligence Algorithm	Co-researcher	Fundamental Research Grant Scheme (FRGS)	1/9/2019 – 1/3/2022	Completed	53440
7	Modeling and control of de-weighting Upper-limb exoskeleton using intelligent control approach	Main	Putra	15/12/2018 – 1/3/2021	Completed	42500
8	Memperkasakan Bakat dan Meligatkan Ekosistem Penyelidikan dan Inovasi di UPM	Main (Leader Sub-project)	Putra – Current Issue in UPM	February 2019 – May 2019	Completed	30000
9	Development of a communication skills training mobile application for undergraduate medical students in Universiti Putra Malaysia	Co-researcher	Insentif Penyelidikan Pengajaran dan Pembelajaran (GIPP)	15/11/2018 until 14/11/2020	Completed	25000
10	EVERYONE CAN SULAM: Development of Web Based SULAM UPM Course Development System	Co-researcher	Insentif Penyelidikan Pengajaran dan Pembelajaran (GIPP)	01/08/2021 until 31/07/2023	Ongoing	20000
11	Cloud-based Educational Learning System (CELS) with Mobile Holographic Display (MHD) for Interactive and Integrated Learning	Co-researcher	Insentif Penyelidikan Pengajaran dan Pembelajaran (GIPP)	16/03/2020 until 14/07/2023	Ongoing	25000
12	Development of online educational tool for tertiary education	Co-researcher	Malaysia Palm Oil Council (MPOC) Grant	01/12/2020 until 30/04/2021	Completed	59862

PUBLICATIONS

Publications

- 1 **Siti Khadijah Ali**, Mohamad Faisal Fadzilan , Aida Nur Syafiqah Shaari , Muhamad Sukri Hadi , Rickey Ting Pek Eek , Intan Zaurah Mat Darus. (2021). Modelling of Flexible Beam Based on Ant Colony Optimization and Cuckoo Search Algorithms. *Journal of Vibroengineering*. <https://doi.org/10.21595/jve.2020.21730>
 - 2 Yap, Shook Chin, Rahmat, Rahmita Wirza O.K, and **Ali, Siti Khadijah** (2021). Mobile augmented reality application in medical education in the 2010s. *Asia-Pacisif Journal Information Technology Multimedia* 10(2), 51-61.
 - 3 Haninah Masduki, Siti Noor Aisyah Nazarrudin and **Siti Khadijah Ali** (2021). Augmented Reality mobile application for Malay Heritage Museum. *Asia-Pacific Journal of Information Technology Multimedia*.
 - 4 **Ali, S. K.**, Masnida, M. Sukri, H & Tokhi, M. O. (2020). Modeling of extended de-weight fuzzy control for an upper-limb exoskeleton. *Journal of Vibroengineering*. <https://doi.org/10.21595/jve.2020.21481>
 - 5 **Ali, S. K.**, & Tokhi, M. O. (2019). Control Design of a De-weighting Upper-Limb Exoskeleton: Extended-based fuzzy. *Indonesian Journal of Electrical Engineering and Informatics (IJEI)*.
 - 6 **Siti Khadijah Ali** and Nur Syafiqah Azmi (2019). Augmented Reality in learning Malay language. 2019 2nd International Conference on Applied Engineering (2019).
 - 7 **Ali, S. K.**, & Tokhi, M. O. (2018, October). Control Design of a De-Weighting Upper Limb Exoskeleton. In *2018 International Conference on Applied Engineering (ICAE) (pp. 1-6)*. IEEE.
 - 8 **Ali, S. K.**, & Tokhi, M. O. (2017, August). Upper-limb exoskeleton for human muscle fatigue. In *Human-centric Robotics-Proceedings Of The 20th International Conference Clawar 2017 (p. 56)*. World Scientific.
 - 9 Ishak, A. J., Tokhi, M. O., Al-Quraishi, M. S., Linares, D. M., & **Ali, S. K.** (2017). Modelling and control of standing up and sitting down maneuver. *Pertanika Journal of Science and Technology*, 25, 243-250.
 - 10 **Ali, S. K.**, Firdaus, A. R., Tokhi, M. O., & Al-Rezage, G. (2016, August). Tracking human upper-limb movements with sliding mode control type-II fuzzy logic. In *Methods and Models in Automation and Robotics (MMAR), 2016 21st International Conference on (pp. 426-431)*. IEEE.
 - 11 Al Rezage, G., Kasdirin, H. A., **Ali, S. K.**, & Tokhi, M. O. (2016, August). Invasive weed optimization algorithm optimized fuzzy logic scaling parameters in controlling a lower limb exoskeleton. In *Methods and Models in Automation and Robotics (MMAR), 2016 21st International Conference on (pp. 1116-1121)*. IEEE.
 - 12 **Ali, S. K.**, Tokhi, M., Ishak, A. J., & Al Rezage, Ghasaq (2016). PID and Adaptive Spiral Dynamic Algorithm in Controlling Human Arm Movements. In *Assistive Robotics: Proceedings of the 18th International Conference on CLAWAR 2015 (pp. 87-94)*.
 - 13 AL REZAGE, G. H. A. S. A. Q., TOKHI, M., & **ALI, S. K.** (2016). Design and control of exoskeleton for elderly mobility. In *ASSISTIVE ROBOTICS: Proceedings of the 18th International Conference on CLAWAR 2015 (pp. 67-74)*.
 - 14 **Ali, S. K.**, Rahmat, R. O., Khalid, F., & Khalil, H. H. (2014). Rational equation for simplifying complex surfaces. *Arabian Journal for Science and Engineering*, 39(6), 4617-4636.
 - 15 **Siti Khadijah Ali**, Rahmita Wirza OK Rahmat, Fatimah Khalid, Seng Beng Ng (2011). Mesh Simplification-A New Approach. *Jurnal Teknologi*, 56 (1), 65-82.
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Intellectual Property

Copyrights	1.	Ali, S.K. , Shuib, M. S., Rahmat, R.W.O.K., 2019. CLASS@Fsktm . Source Code (SD2020021201)
	2.	Ali,S.K. , Shuib, M. S., Rahmat, R.W.O.K., 2019. CLASS@Fsktm . Video (SD2020021202)
	3.	Ali, S.K. , Shuib, M. S., Kamaruddin, A. I., Madzin, H., Rahmat, R.W.O.K., 2019. VowelRehabs (Approved)
	4.	Ali, S.K. , Rahmita Wirza. O.K Rahmat. 2021. Advanced Shuttle Leg Press Machine-Manual. Literacy Work (LY2021W06038)
	5.	Ali, S.K. , Rahmita Wirza. O.K Rahmat. 2021. Advanced Shuttle Leg Press Machine-Source Code. Software (LY2021W06028)
	6.	Ali, S.K. , Rahmita Wirza. O.K Rahmat. 2021. Body Weight Exercise Mobile AR Application-Manual. Literacy Work (LY2021W06058)
	7.	Ali, S.K. , Rahmita Wirza. O.K Rahmat. 2021. Body Weight Exercise Mobile AR Application-Source Code. Software (LY2021W06063)
	8.	Ali, S.K. , Ng Seng Beng, Madzin, H., Rahmat, R.W.O.K., M. Hanafi, Azman, Azreen Z.F., Khalid, Fatimah, Sulaiman, Puteri Suhaiza. (2022). EMSI Mobile Application : Literacy Work .(LY2022W05513)

AWARDS – CAREER/ PUBLICATIONS/ INTELLECTUAL PROPERTY

	TYPES OF AWARD	AWARD
1	Excellent Service Award 2019	University
2	Best Innovation Award “E-Neuro for Patients” CASHVic2020 - Conference on Computer Assisted System in Health, Education and Sustainable Development Virtual Innovation Competition 2020	International
3	Gold Medal “E-Neuro for Patients”, CASH 2020 - Conference on Computer Assisted System in Health, Education and Sustainable Development 2020	International
4	Ali, S. K. , & Tokhi, M. O. (2018, October). Control Design of a De-Weighting Upper Limb Exoskeleton. In <i>2018 International Conference on Applied Engineering (ICAE) (pp. 1-6). IEEE.</i>	International

MANAGEMENT EXPERIENCE(S)

Role	Society / Conference	Level	Year
Publicity Committee	FCSiT Social Club	Faculty	2018-2020
Technical Committee	11th International Conference on Information and Multimedia Technology	International	2019
Publicity Committee	Symposium of Control Signal and Signal Processing UPM 2019	University	2019
Publicity Committee	Climbing and Walking Robots and Support	International	2019

SUPERVISION

Bachelor		Postgraduate	
Main	23	Main	
		PhD	2
Co	-	Co-Supervisor	
		PhD	1
		MSc	1

REFERENCES

- 1. PROF. DR. M. OSMAN TOKHI**
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- 2. ASSOC. PROF. DR. MAS RINA MUSTAFFA**
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- 3. PROF. DR. RAHMITA WIRZA O.K RAHMAT**
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