

CURRICULUM VITAE



Dr. Ahmad Salahuddin Mohd Harithuddin

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Education

1. PhD in Aerospace Engineering, 2015, RMIT University, Melbourne
Title: "*Derivative kinematics in relatively rotating coordinate frames: Investigation on the Razi acceleration*"
2. MSE in Aerospace Engineering, 2009, University of Michigan, Ann Arbor, USA
3. BSE in Aerospace Engineering, 2006, University of Michigan, Ann Arbor, USA

Areas of Interest

1. **Dynamics and Control:** Vehicle Control and Dynamics, Spacecraft Dynamics.
2. **Lighter-than-Air Vehicle/Platform:** High-Altitude Balloon, Airship, Unmanned Aerial Vehicle.
3. **Engineering Education and Workforce Development:** Industry-Academia Collaboration, Skills Framework Development (Aerospace), Higher Education Policy.

Professional Membership/ Affiliation

1. Board of Engineer Malaysia (BEM)
2. Secretary, Malaysian National Committee on Space Research (COSPAR)
3. Chief of Learning Content, CASS-Micro Learning, IEEE Circuits and Systems Society
4. Member, Aerospace Society Malaysia (AEROS)
5. Co-Founder, Malaysia Space Initiative (MiSI)
6. Member, Society of Engineering Education Malaysia (SEEM)
7. Chairman, Engineering Education Interest Group (E²IG)

Appointments

Professional Position

Duration

- | | |
|---|--------------------|
| 1. Deputy Director (Strategic Management) , Center for Strategy and Corporate Relations, Universiti Putra Malaysia | Jul 2025 - current |
| 2. Senior Lecturer , Universiti Putra Malaysia | Jan 2016 - current |
| 3. Tutor , Universiti Putra Malaysia | Aug 2007-Dec 2014 |
| 4. Teaching Assistant , RMIT University | Jan 2011-May 2013 |

Current Role (2025)

Duration

- | | |
|---|--------------------|
| 1. Deputy Director (Strategic Management) , Center for Strategy and Corporate Relations, Universiti Putra Malaysia | Jul 2025 - current |
| 2. Academic Programme Coordinator , Bachelor of Aerospace Engineering UPM | Apr 2024 - current |
| 3. Engineering Seminar Coordinator , Faculty of | Sep 2021 - current |

Engineering		
4. Head of Space Systems Laboratory , Dept. of Aerospace Engineering UPM	Jan 2018 - current	
5. AJK Kerja Pembangunan Modul Latihan Transformasi Kecemerlangan Kepimpinan Akademik	May 2025 - current	
6. Pakar Teknikal MOOC dan Micro-Credentials	Aug 2024 - current	

Journals & Conference Proceedings

1. **Harithuddin, A. S. M.**, & Basri, A. A. (2025). Contextual Teaching of Engineering Mathematics to Improve Levels of Accuracy and Confidence in COVID-19 Knowledge. *International Journal of Advanced Research in Future Ready Learning and Education*.
2. Ibrahim, H. S., Harmin, M. Y., Romli, F. I., & **Harithuddin, A. S. M.** (2025). Investigation of Equivalent Reduced Order Models for Flutter Analysis of Various Wing Plate Configurations. *Journal of Aeronautics, Astronautics and Aviation*, 57(3S), 801-814.
3. Sedan, M. F., **Harithuddin, A. S. M.**, & Gires, E. (2024). Sizing for Battery Powered, Non-Rigid, Finless Airship for Low Altitude Application. *Journal of Aeronautics, Astronautics and Aviation*, 56(1S), 447-459.
4. Sivapalan, J., Rafie, A. S. M., Gires, E., Basri, A. A., Romli, F. I., **Harithuddin, A. S. M.**, et al. (2023). The Aerodynamic Lift Performance Analysis of Channel-Wing Design for STOL Aircraft. *Journal of Aeronautics, Astronautics and Aviation*, 55(3S), 415-423.
5. Yahya, N. A., Varatharajoo, R., **Harithuddin, A. S. M.**, & Razoumny, Y. (2023). Corrigendum to "Delta-V and ground metric investigations for responsive satellite formation flying"[Acta Astronaut. 193 (April 2022) 20–34]. *Acta Astronautica*, 203, 544.
6. Kamal, N. A. A., & **Harithuddin, A. S. M.** (2022). Computational Analysis on Aerodynamics of a Boxfish-Inspired Airship. *International Seminar on Aeronautics and Energy*, 47-59.
7. Abdullah, A. F., Chak, Y. C., Varatharajoo, R., Dachwald, B., Hiraki, K., & **Harithuddin, A. S. M.** (2022). Optimal Evolutionary Neurocontrol for a Solar Sail-based Mercury Rendezvous. 44th COSPAR Scientific Assembly. Held 16-24 July, 44, 3403.
8. Yahya, N. A., Varatharajoo, R., **Harithuddin, A. S. M.**, & Razoumny, Y. (2022). Delta-V and ground metric investigations for responsive satellite formation flying. *Acta Astronautica*, 193, 20-34.
9. Dawood, S. D. S., Harmin, M. Y., **Harithuddin, A. S. M.**, Ciang, C. C., & Rafie, A. S. M. (2021). Computational Study of Mass Reduction of a Conceptual Microsatellite Structural Subassembly Utilizing Metal Perforations. *J. Aeronaut. Astronaut. Aviat*, 53, 57-66.
10. Fiqri Abdullah, A., Dachwald, B., Varatharajoo, R., Hiraki, K., Chak, Y. C., **Harithuddin, A. S. M.**, & Barros, L. (2022). Optimal Evolutionary Neurocontrol for a Solar Sail-based Mercury Rendezvous. 44th COSPAR Scientific Assembly. Held 16-24 July, 44, 3403.
11. Mokhtar, M., Adnan, W. A. W., Harithuddin, A. S. M., Jamaludin, D., Zan, Z., & Ahmad, F. A. (2022). Students' and Lecturers' Perception on the Use of Introductory Engineering Mathematics PutraMOOC. *Asean Journal of Engineering Education*, 6(2), 11-17.
12. Dawood, S. D. S., **Harithuddin, A. S. M.**, & Harmin, M. Y. (2022). Modal Analysis of Conceptual Microsatellite Design Employing Perforated Structural Components for Mass Reduction. *Aerospace*, 9(1), 23.

13. **Harithuddin, A. S. M.** (2021). A First Experience of Using Failure Report as a Reflective Tool in Engineering Education. *International Journal of Emerging Technologies in Learning (IJET)*, 16(18), pp. 23–37. <https://doi.org/10.3991/ijet.v16i18.24271>
14. Sedan, M. F., & **Harithuddin, A. S. M.** (2021). Black-Box Identification and Attitude Control of a Battery Powered Unmanned, Fless Airship. *Journal of Aeronautics, Astronautics and Aviation*, 53(2), 321-331.
15. Raihan, M. S. M., & **Harithuddin, A. S. M.** (2021). Feasibility Study for Exploiting Aerodynamic Drag in Very Low Earth Orbit with Different Flat Plates Configurations. *Journal of Aeronautics, Astronautics and Aviation*, 53(2), 303-312.
16. Hasni, M. Z., Zikri, M., Gires, E., & **Harithuddin, A. S. M.** (2020). Range and Endurance Analysis of a Conceptual Lighter-than-air All-electric Unmanned Aerial Vehicle. *Journal of Aeronautics, Astronautics and Aviation*, 52(1), 1-13.
17. Yahya, N. A., Varatharajoo, R., & **Harithuddin, A. S. M.** (2020). Satellite Formation Flying Relative Geodesic and Latitudinal Error Measures. *Journal of Aeronautics, Astronautics and Aviation*, 52(1), 83-93.
18. **Harithuddin, A. S. M.**, Sedan, M. F., Ali, S. A. M., Mansor, S., Jifroudi, H. R., Adam, S. N., & Khuzaimah, Z. (2019, February). LIGHTER-THAN-AIR (LTA) UNMANNED AERIAL SYSTEM (UAS) CARRIER CONCEPT FOR SURVEILLANCE AND DISASTER MANAGEMENT. In Seminar Nasional Geomatika (Vol. 3, pp. 1255-1264).
19. Z. Zaludin and **A. S. M. Harithuddin**, "Challenges and Trends of Changing from Hover to Forward Flight for a Converted Hybrid Fixed Wing VTOL UAS from Automatic Flight Control System Perspective," 2019 IEEE 9th International Conference on System Engineering and Technology (ICSET), 2019, pp. 247-252, doi: 10.1109/ICSEngT.2019.8906483
20. Ramdhaney Mohd Saiah, H., Shakrine Mohd Rafie, A., Izzuddin Romli, F., & **Salahuddin Mohd Harithuddin, A.** (2018). Semi-infinite solid heat transfer limitation. *International Journal of Engineering & Technology*, 7(4.13), 146-150. doi:<http://dx.doi.org/10.14419/ijet.v7i4.13.21347>
21. NA Yahya, R Varatharajoo, **ASM Harithuddin**, Performance measure of satellite flying in coplanar & non-coplanar formation, 2018. International Journal of Engineering and Technology (ISSN: 2227-524X) (accepted)
22. A Malek, MF Sedan, **ASM Harithuddin**, Development of Attitude Control System for Hybrid Airship Vehicle, 2018. International Journal of Engineering and Technology (ISSN: 2227-524X) (accepted)
23. WT Ng, MF Sedan, EJ Abdullah, S Azrad, **A.S.M. Harithuddin**, Shape memory alloy resistance behaviour at high altitude for feedback control, 2017. IOP Conference Series: Materials Science and Engineering, Vol. 270. No. 1, pp. 012030
24. Hamid, M. A., Gires, E., **Harithuddin, A. S. M.**, Talib, A. A., Rafie, A. S. M., Romli, F. I., & Harmin, M. Y. (2017, December). Coandă configured aircraft: A preliminary analytical assessment. In *IOP Conference Series: Materials Science and Engineering* (Vol. 270, No. 1, p. 012004). IOP Publishing.
25. **Harithuddin A.S.M.**, Quasi-satellite system for leader-follower spacecraft formation, 2016. IOP Conference Series: Materials Science and Engineering. Vol. 152. No. 1.
26. A. Amiruddin, Sedan, F., **Harithuddin A.S.M.**, and Azrad, S., 2016. Low-cost Near-infrared Agricultural Imaging (NIRAM) Subsystem Using High Altitude Balloon (HAB) Platform, Global Space Balloon Challenge (Technical Report)

27. Lateran, S., Sedan, F., **Harithuddin A.S.M.**, and Azrad, S., 2016. Development of unmanned aerial vehicle (UAV) based high altitude balloon (HAB) platform for active aerosol sampling. IOP Conference Series: Materials Science and Engineering. Vol. 152. No. 1.
28. **Mohd Harithuddin, A.S.**, and Trivailo, P.M. 2015. Discovering Razi Acceleration In Multiple Rotating Coordinate Frames System. ARPN Journal of Engineering and Applied Sciences, 10(21), p.10007.
29. Ahmad, M.T., Lam, **Mohd Harithuddin, A.S.**, Zhahir, A. and Ariff, O.K., 2014. Flight Data Monitoring/Tracker System for Search and Rescue Mission. Applied Mechanics & Materials, (629).
30. **Harithuddin, A.S.M**, Trivailo, P.M., and Jazar, R.N. 2014 "Light-Tracking Kinematics of Mobile Platform." Nonlinear Approaches in Engineering Applications 2. Springer New York, pp.37-64.
31. Marzbani, H., **Mohd Harithuddin, A.S**, Simic, M., Fard, M. and Nakhaie Jazar, G., 2014. Steady-state dynamic steering. In Smart Digital Futures 2014 (SDF-14) (pp. 493-504). IOS Press.
32. Marzbani, H., **Mohd Harithuddin, A.S**, Simic, M., Fard, M. and Nakhaie Jazar, G., 2014. Four wheel steering advantageous for the autodriver algorithm. In Smart Digital Futures 2014 (pp. 505-512). IOS Press.
33. **Mohd Harithuddin, A.S.**, Jazar, R.N., and Trivailo, P.M. "Vibration Analysis in Compound Rotation Using Extended Derivative Kinematics Theory", 20th International Congress on Sound and Vibration, Bangkok, Thailand, July 2013
34. **Mohd Harithuddin, A.S.**, Jazar, R.N., and Trivailo, P.M. "Qualitative Analysis of the Kinematics of a Torque-free Gyro using Multiple Coordinate Frames", 12th Australian Space Science Conference (ASSC), Melbourne, Australia, September 2012.
35. **Mohd Harithuddin, A.S.** and Djojodihardjo, H. "Parametric Study of Near-Earth Spacecraft Formation Flying for Tropical Environmental Monitoring with a view of Multi-Disciplinary Optimization" World Engineering Congress 2010, Kuching, Malaysia, August 2010.
36. Djojodihardjo, H., **Mohd Harithuddin, A.S.**, 2010. Spacecraft formation flying for tropical resources and environmental monitoring: A parametric study. Advances in the Astronautical Sciences, 138(49), p.2010.

IP (Patent & Copyright)

1. *Lighter Than Air Aircraft* PI 2019000353 , 11-01-2019 , MALAYSIA , 2019
2. *Triangular Hull for Finless Blimp Design* AR2020007047 , 2020 ,
3. *Flight Controller Board for Hybrid Airship UAV* AR2020007051 , 2020 ,

Chapter in Books

1. **Harithuddin, A.S.M.**, Trivailo, P.M. and Jazar, R.N., 2014. Light-Tracking Kinematics of Mobile Platform. In *Nonlinear Approaches in Engineering Applications 2* (pp. 37-64). Springer New York. ISBN 978-1-4614-6877-6
2. **Harithuddin, A.S.M.**, Trivailo, P.M. and Jazar, R.N., 2015. On the Razi Acceleration. In *Nonlinear Approaches in Engineering Applications* (pp. 31-58). Springer International Publishing. ISBN 978-3-319-09462-5

Conference Medal and Awards

1. Gold, IUCEL 2022, Safeguarding Against E-Cheating In Unproctored E-Examination
2. Gold, IUCEL 2022, A Guide To Investigating Suspected Contract Cheating
3. Silver, Malaysia Technology Expo, 20222, Hybrid Lighter-than-air Unmanned Aerial Vehicle
4. Silver, PiCTL 2021, Action At A Distance: Home Experiment For Remote Active Learning
5. Gold, PiCTL 2021, Virtual Storytelling Using Lightboard
6. Best Innocreative Award in ALternative Assessment, Open Resource Examinations Design As A Way To Safeguard Against E-Cheating
7. Gold, PiCTL 2021, The Calculus of Coronavirus
8. Silver, IENA Nuremberg, 2018, Hybrid Airship

Research Grants

1. Kajian Kerangka Kerja Pembangunan Bakat Industri Tersedia Masa Hadapan KPT MOHE Industry-Ready Future Talent Framework (*Principal: National Skill Framework*), 2024-2026, RM 300,000.00, TRGS
2. Development of Tesla Drone, 2024-2026, RM 40,000.00, GPF - GERAN PUTRA BERFOKUS PTJ
3. Passive and Active Coupled Attitude Actuation for Malaysian Satellite Missions, 2024-2028, RM 80,000.00, GERAN SWASTA/ ANTARABANGSA
4. The characteristic of active airflow control using a CW airflow entrainment for a greater lift to drag ratio, 2023-2025, RM 50,000.00, GP - GERAN PUTRA
5. Examining the Stability and Control of Vehicles in Drifting and Aggressive Maneuvers Beyond the Limits of Tire-Road Friction (*Principal*), 2023-2026, RM 122,000.00, FRGS - FUNDAMENTAL RESEARCH GRANT SCHEME
6. Wires and Words: Exploration of Engaging Integrated Assessment under the Intersection of Engineering and English Language Skills, 2023-2025, RM 20,000.00, GIPP - GRANT FOR RESEARCH IN TEACHING AND LEARNING
7. Enhancing Engineering and TVET Education Through Infusing Innovative Learning Approaches, 2021-2024, RM 149,000.00, LAIN-LAIN GERAN SEKTOR AWAM
8. Beyond Silos: Enhancing Transdisciplinary Engagement Among Engineering Students Through First-Year Seminar (*Principal*), 2021-2023, RM 20,000.00, GIPP - GRANT FOR RESEARCH IN TEACHING AND LEARNING
9. Microlearning Initiatives at IEEE CASS, 2020-2021, RM 120,000.00, GERAN SWASTA/ ANTARABANGSA
10. Station-Keeping Control of Unmanned, Finless Hybrid Airship for Persistent Aerial Platform Application (*Principal*), 2019-2022, RM 25,000.00, GP-IPS - GERAN PUTRA INISIATIF SISWAZAH
11. Heavy-lifting Lighter-than-air Unmanned Aerial Vehicle UAV for Precision Crop Spraying (*Principal*), 2019-2022, RM 125,000.00, PRGS - PROTOTYPE RESEARCH GRANT SCHEME

12. Environment Induced Passive and Active Coupled Attitude Actuation For Satellites, 2018-2024, RM 250,000.00, GP - GERAN PUTRA
13. Development and evaluation on the use of engineering mathematics as one of the PutraMOOC among the 1st year engineering students, 2017-2018, RM 20,000.00, GIPP - GRANT FOR RESEARCH IN TEACHING AND LEARNING
14. Development and evaluation of PutraMOOC among first year engineering students, 2017-2019, RM 20,000.00, GIPP - GRANT FOR RESEARCH IN TEACHING AND LEARNING
15. Extending Mission Capabilities Of Unmanned Aerial Vehicles UAVs Using Hybrid Airship Design (*Principal*), 2016-2018, RM 60,000.00, GP-IPM - GERAN PUTRA INISIATIF PUTRA MUDA

Awards/Recognition

No.	Name of awards	Title	Award Authority	Award Type	Year
1.	Anugerah Fellowship Naib Canselor		Universiti Putra Malaysia	University	2019
2.	Best Innocreative Alt. Assessment		PiCTL	Conference	2021
3.	Excellence Service Award		Universiti Putra Malaysia	University	2014
4.	Excellence Service Award		Universiti Putra Malaysia	University	2016
5.	Excellence in Teaching Award		Faculty of Engineering, Universiti Putra Malaysia	Faculty	2016
6.	Excellence in Teaching Award		Faculty of Engineering, Universiti Putra Malaysia	Faculty	2017

Professional Services/Consultation

No.	Year	Title	Authority/Role
1.	2023-2025	Generative AI in Teaching and Research	Trainer, Speaker
2.	2023-present	IEEE Micro-Learning Initiative for IEEE Circuits and Systems	Chief Learning Designer
3.	2017	PutraMOOC (UPM Massive Open Online Course) and UPM Micro-credential	Developer, Technical Expert
4.	2017	Space Entrepreneurship Symposium	Program Director
5.	2016-2017	BAE-Might METEOR Outreach Program	Consultant
6.	2016-2017	Global Space Balloon Challenge	Consultant, Engineer

No.	Year	Title	Authority/Role
7.	2015	Publishing in LaTeX	Trainer

Student Supervision

No	Name	Title	Year Graduate	Study Title
1	ABDUL RAOF BIN ZAHARI	PhD, Co-Supervisor	2015	Development of Regulation Guideline for Future Suborbital Flight Operation in Malaysia
2	HELMEY RAMDHANEY BIN MOHD SIAH	PhD, Co-Supervisor	2015	Development of Temperature Measurement Method for Gas Turbine Cooling Application
3	NOR AFFENDY BIN YAHYA	PhD, Co-Supervisor	2016	Spacecraft Formation Flying Responsive Mission Optimum Delta-V and Its Ground Performance Measures
4	SARMAD DAWOOD SALMAN DAWOOD	PhD, Co-Supervisor	2016	Mass Reduction of a Conceptual Small Satellite Aluminum Structure Employing Perforation Patterns
5	MOHD FAZRI BIN SEDAN	Master, Supervisor	2018	Modelling of Dynamics and Control System of Hybrid Airship UAV (HAU)-3
6	MUHAMMAD SYAFIQ BIN MOHAMAD RAIHAN	Master, Supervisor	2019	Exploiting Aerodynamic Drag for Very Low Orbit Satellite
7	AZEEM MUHAMMAD	Master, Co-Supervisor	2019	Attitude Stabilization of a Satellite Using Aerodynamic and Magnetic Torquing
8	MUHAMMAD AMIRUL FIQRI BIN ABDULLAH	PhD, Co-Supervisor	2020	Neurocontroller Trainings for Spacecraft Solar Sail Trajectories
9	SIVAKUMAR A/L SANDIRAJAH	Master, Co-Supervisor	Ongoing	UAV Collision Avoidance Motion Planner for Aircraft Inspection in Hangar
10	IBRAHIM HAWRAA SAFAA IBRAHIM	PhD, Co-Supervisor	Ongoing	Experimental Modal Analysis and Wind Tunnel Testing for Various Wing Box Planform of Variable Ribs Orientation Concept
11	MUHAMAD HAFIZ FATHULLAH BIN HAMIL	Master, Co-Supervisor	2021	Ergonomic Study of Passengers Seat Tray Table Height Design in Commercial Transport Aircraft

No	Name	Title	Year Graduate	Study Title
12	TEE JIA JIAN	PhD, Co-Supervisor	Ongoing	Fuzzy-Based Combined Attitude and Thermal Control System
13	KHAIRUNISA BINTI MOHD KADIR	PhD, Co-Supervisor	2021	Exploring Ecosystem and Technology Use in Innovative Teaching and Learning to Enhance TVET and Engineering Education Towards Developing 4IR-Ready Educators in Malaysia
14	LI TINGTING	PhD, Co-Supervisor	Ongoing	Mediation Effect of ICT Self-Efficacy on the Relationship Among Lifelong Learning, Perceived Teacher Support and Digital Competence Among Pre-Service Teachers in TVET
15	ZOLFAGHARI JAVAD	PhD, Supervisor	Ongoing	Vehicles Dynamic and Control Beyond Friction Limit
16	GUI QING	PhD, Co-Supervisor	Ongoing	Moderating Effect of TVET Teachers' Professional Development on the Relationship Between Self-Efficacy, Attitudes, Institutional Support and Digital Competencies in China
17	LI YUCAN	PhD, Co-Supervisor	Ongoing	Exploration of Artificial Intelligence in Employer Decision-Making for Hiring Fresh Graduate Employees in Guangzhou's Higher Education Sector
18	KIRANRAJ TARAZ A/L PYENGADASAMY	PhD, Co-Supervisor	Ongoing	Satellite Attitude Stabilization Technique with Aerodynamic Forces

Teaching Experience

No.	Level	Course / Subject
1.	Undergraduate	EAS 3801 Space Mechanics EAS 3802 Satellite Technology EAS 3805 Space Launch Technology EAS 4303 Automatic Flight Control System EAS 3923 Aerospace Laboratory III EAS 3713 Aerospace Vehicle Design I ECC 3001 Engineering Mathematics I (Massive Open Online Course)
2.	Postgraduate	EAS5901 Aerospace Design Laboratory EAS5805 Systems Engineering and Mission Analysis