

Curriculum Vitae

Sajal Kumar Das

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RESEARCH SKILLS

Control theory and applications.

ACADEMIC QUALIFICATION

<i>Name of the Examination</i>	<i>Pass of Year</i>	<i>Board/ University</i>	<i>University / Institution</i>	<i>Result</i>
Ph.D	2014	UNSW	University of New South Wales, Australia	Thesis submitted
B.Sc Engineering in Electrical & Electronic Engineering	2010	RUET	Rajshahi University of Engineering & Technology(RUET)	CGPA- 3.75 (Out of 4.00)
Higher Secondary Certificate (HSC)	2005	Rajshahi	New Govt. Degree College, Rajshahi	GPA- 5.00 (Out of 5.00)
Secondary School Certificate (SSC)	2003	Rajshahi	B. B. Hindu Academy Rajshahi	GPA- 4.75 (Out of 5.00)

ACADEMIC SCHOLARSHIP AWARDED

- ❖ Bangladesh Education Board Scholarship on the basis of academic result.
- ❖ Tuition Fee Scholarship, University of New South Wales, Canberra, Australia.
- ❖ Travel Grant, Multi Conference on Systems and Control, 2012.

THESIS/PROJECT

PhD thesis title: “**Robust Control for High Speed Atomic Force Microscopy**”

Under graduate thesis title: “**PLC Based Automation System**”.

RESEARCH EXPERIENCE

<i>Name of the Post</i>	<i>University / Institution</i>	<i>Period</i>
Research Engineer	National University of Singapore, Singapore	04/05/2014-now
Lab Demonstrator (Vibration Control)	University of New South Wales, Canberra, Australia	04/03/2013-14/06/2013

OTHER EXPERIENCE

1. Reviewer for IEEE Transactions on Control System Technology, IEEE Transactions on Mechatronics, IEEE Transaction on Nanotechnology, Asian Journal of Control, Mathematical Problem in Engineering,
2. Reviewer for Australian Control Conference, American Control Conference.

LANGUAGE PROFICIENCY

Bangla : Mother tongue.
English : Excellence in speaking, writing, reading and listening.

List of Publications

Referred Book Chapters

1. S. K. Das, H. R. Pota and I. R. Petersen, “**Advanced Vibration Control of Atomic Force Microscope Scanner**”, in *Advanced Intelligent Control Engineering and Automation*. IGI Global, USA.
2. S. K. Das, H. R. Pota and I. R. Petersen, “**Intelligent Tracking Control System for Fast Image Scanning of Atomic Force Microscopes**”, in *Computational Intelligence applications in Modeling and Control*. Springer-Verlag, Germany.

Referred Journal Papers

1. S. K. Das, H. R. Pota and I. R. Petersen, “**Resonant Controller Design for Piezoelectric Tube Scanner: A “Mixed” Negative-Imaginary and Small-Gain Approach**” in *IEEE Transactions on Control System Technology*, Vol. 22, No. 5, pp. 1899-1906, Sep 2014.
2. S. K. Das, H. R. Pota and I. R. Petersen, “**Damping Controller Design for Nanopositioners: A “Mixed” Passivity, Negative-Imaginary and Small-Gain Approach**” in *IEEE/ASME Transactions on Mechatronics*, Vol. 20, No.1, pp.416-426, Feb. 2015.
3. S. K. Das, H. R. Pota and I. R. Petersen, “**A Double Resonant Controller Design for Nanopositioners**”, in *IEEE Transactions on Nanotechnology*. (In Press).

Referred Conference Papers

1. S. K. Das, H. R. Pota and I. R. Petersen, “**Multi-variable Resonant Controller for Fast Atomic Force Microscopy**”, in *Proc. of the Australian Control Conference*, pp 448-453, 15-16 November 2012, Sydney, Australia.
2. S. K. Das, H. R. Pota and I. R. Petersen, “**Resonant Controller for Fast Atomic Force Microscopy**”, in *Proc. of the Conference on Decision and Control*, pp. 2471-2476, Maui, Hawaii, December 10-13, USA, 2012.

3. S. K. Das, H. R. Pota and I. R. Petersen, “**Resonant Controller for Piezoelectric Tube Scanner: A “Mixed” Negative-Imaginary and Small-Gain Approach**”, in *Proc. of the American Control Conference*, DC Washington, USA, 2013
4. S. K. Das, H. R. Pota and I. R. Petersen, "**Double Resonant Controller for Fast Atomic Force Microscopy**", in *Proc. of the Asian Control Conference*, Istanbul, Turkey, 2013.
5. S. K. Das, H. R. Pota and I. R. Petersen, "**Multi-variable Double Resonant Controller for Fast Atomic Force Microscopy**", in *Proc. of the Asian Control Conference*, Istanbul, Turkey, 2013.
6. S. K. Das, H. R. Pota and I. R. Petersen, “**Velocity Feedback Controller for Piezoelectric Tube Scanner: A “Mixed” Negative-Imaginary and Small-Gain Approach**”, in *Proc. of the Chinese Control Conference*, Xian, China, 2013.
7. S. K. Das, H. R. Pota and I. R. Petersen, “**Multi-variable Velocity Feedback Controller for Piezoelectric Tube Scanner: A “Mixed” Negative-Imaginary and Small-Gain Approach**”, in *Proc. of the Chinese Control Conference*, Xian, China, 2013.
8. S. K. Das, H. R. Pota and I. R. Petersen, “**High Bandwidth Multi-variable Combined Resonant and Integral Resonant Controller for Fast Image Scanning Atomic Force Microscope**”, in *Proc. of the IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Australia, 2013.
9. S. K. Das, H. R. Pota and I. R. Petersen, “**A Double Velocity Feedback Controller Design for High Speed Atomic Force Microscopy**”, in *Proc. of the IEEE Multi-Conferences on System and Control*, Hyderabad, India, 2013.
10. S. K. Das, H. R. Pota and I. R. Petersen, “**Stability Analysis for Interconnected Systems with “Mixed” Passivity, Negative-Imaginary and Small-Gain Properties**”, in *Proc. of the Australian Control Conference*, Perth, Australia, 2013.
11. S. K. Das, H. R. Pota and I. R. Petersen, “**A MIMO Controller Design for Damping, Tracking, and Cross Coupling Reduction of Nanopositioners**”, in *Proc. of the Australian Control Conference*, Perth, Australia, 2013.
12. S. K. Das, H. R. Pota and I. R. Petersen, “**A New Robust Damping and Tracking Controller for High Speed Nanopositioning**”, in *Proc. of the Australian Control Conference*, Perth, Australia, 2013.
13. S. K. Das, H. R. Pota and I. R. Petersen, “**Stability Analysis for Interconnected Systems with “Mixed” Negative-Imaginary and Passivity**”, in *Proc. of the Australian Control Conference*, Perth, Australia, 2013.
14. S. K. Das, H. R. Pota and I. R. Petersen, “**Passive Damping Controller Design for Nanopositioners**”, in *Proc. of the American Control Conference*, Portland, USA, 2014.

15. S. K. Das, H. R. Pota and I. R. Petersen, "**Minimax LQG Controller Design for Nanopositioners**", in *Proc. of the European Control Conference*, Strasbourg, France, 2014.
16. S. K. Das, N.Mondol and N.A.Sultana, "**Design and Implement of a State Feedback Position Output Controller for a Maxon S-Dc Motor with dSPACE**" *Proc. of the International Conference on Mechanical Engineering*, 18-20 December 2011, Dhaka, Bangladesh
17. S. K. Das, N.Mondol and M. A. Sayem, "**DESIGN, SIMULATION AND REAL TIME IMPLEMENTATION OF A MAXIMUM POWER POINT TRACKER FOR PHOTOVOLTAIC SYSTEM**" *Proc. of the International Conference on the Development in Renewable Energy Technology*, January 5-7, 2012, Dhaka, Bangladesh.
18. S. K. Das, N. Mondol, M. S. Rana and P. Das, "**Genetic Algorithm Based Optimal PI Controller for Position Control of Maxon S-DC Motor with dSPACE**", *Proc. of the IEEE/OSA/IAPR International Conference on Infonnatics, Electronics & Vision*, Page 184-189, 18-19 May, 2012, Dhaka, Bangladesh.
19. N. Mondol, S. K. Das, and M. R. I. Sheikh, "**DESIGN A HYBRID SYSTEM FOR A REMOTE AREA BY USING RENEWABLE RESOURCES IN BANGLADESH**", *Proc of the International Conference on Mechanical Engineering and Renewable Energy 2011 (ICMERE2011)*, 22- 24 December 2011, Chittagong, Bangladesh.
20. N. Mondol, S. K. Das, N.A.Sultana and M. R. I. Sheikh, "**DESIGN, PERFORMANCE AND ECONOMIC ANALYSIS OF A SOLAR HOME SYSTEM IN REMOTE AREA OF BANGLADESH**", *Proc of the International Conference on Mechanical Engineering and Renewable Energy 2011 (ICMERE2011)*, 22-24 December 2011, Chittagong, Bangladesh.
21. N. Mondol, S. K. Das, and N.A.Sultana, "**MOBILE RADIO COMMUNICATION WITH VARIOUS DIGITAL MODULATION TECHNIQUES**", *Proc of the International Conference on Mechanical Engineering and Renewable Energy 2011 (ICMERE2011)*, 22- 24 December 2011, Chittagong, Bangladesh.