LIST OF PUBLICATIONS

Faculty: Dr Tousif Khan N

Department of Electrical and Electronics Engineering

JOURNAL PUBLICATIONS

Aswini Patakamoori, Ramanjaneya Reddy Udumula, **Tousif Khan Nizami**, Kasi Ramakrishna Reddy and Sanjeevikumar Padmanaban, "Soft-switched full-bridge converter for LED lighting applications with reduced switch current", *International Journal of Circuit Theory and Application*. 2022;1–18, DOI: http://doi.org/10.1002/cta.3494.

Nizami, T.K., Chakravarty, A., Mahanta, C., Iqbal, A., Hosseinpour, A.: Enhanced dynamic performance in DC–DC converter-PMDC motor combination through an intelligent non-linear adaptive control scheme. *IET Power Electron.* 00, 1– 10 (2022).

Tousif Khan Nizami, Sasank Das Gangula, Ramanjaneya Reddy, Harsh S. Dhiman, "Legendre Neural Network based Intelligent Control of DC-DC Step Down Converter-PMDC Motor Combination", *IFAC-PapersOnLine*, Volume 55, Issue 1, 2022.

Tousif Khan Nizami, Arghya Chakravarty, Chitralekha Mahanta, "Time bound online uncertainty estimation based adaptive control design for DC–DC buck converters with experimental validation", *IFAC Journal of Systems and Control*, Volume 15, 2021.

Tousif Khan Nizami, Arghya Chakravarty, "Laguerre Neural Network Driven Adaptive Control of DC-DC Step Down Converter", *IFAC-PapersOnLine*, Volume 53, Issue 2, 2020.

Neural Network Integrated Adaptive Backstepping Control of DC-DC Boost Converter-**Tousif Khan Nizami** and Arghya Chakravarty, *IFAC-PapersOnLine*, Elsevier, 53(1), 549-554, 2020.

Erratum to Analysis and Experimental Investigation into a Finite Time Current Observer Based Adaptive Backstepping Control of Buck Converters- **Tousif Khan Nizami**, Arghya Chakravarty and Chitralekha Mahanta - *Journal of the Franklin Institute*, Elsevier, 356(7), 4190 (2019)

Analysis and Experimental Investigation into a Finite Time Current Observer Based Adaptive Backstepping Control of Buck Converters- **Tousif Khan Nizami**, Arghya Chakravarty and Chitralekha Mahanta - *Journal of the Franklin Institute*, Elsevier, 355(12), 4996-5017 (2018)

Neuro-Adaptive Backstepping Control for Cascaded Buck Converter PMDC Motor Combination- **Tousif Khan Nizami**, Arghya Chakravarty, Chitralekha Mahanta- *Control Engineering Practice*, Elsevier, 58, 78-87 (2017).

A Fast Learning Neuro Adaptive Control of Buck Converter driven PMDC Motor: Design, Analysis and Validation- **Tousif Khan Nizami**, Arghya Chakravarty, Chitralekha Mahanta- *IFAC-PapersOnLine*, Elsevier, 50(1), 37-42, (2017).

Adaptive Compensation of Actuator Failures using Multiple Models- Arghya Chakravarty, **Tousif Khan Nizami**, Indrani Kar and Chitralekha Mahanta- *IFAC-PapersOnLine*, Elsevier, 50(1), 10350-10356 (2017).

An Intelligent Adaptive Control of DC-DC Buck Converters- **Tousif Khan Nizami** and Chitralekha Mahanta- *Journal of the Franklin Institute*, Elsevier- 353(12), 2588-2613 (2016).

BOOK CHAPTERS

Aswini Patakamoori, Ramanjaneya Reddy Udumula, **Tousif Khan Nizami**, Ravi Eswar Kodumur Meesala, "Comparative Analysis of Resonant Converter Topologies for Multiple Load Light Emitting Diode Applications" *Book: Recent Advances in Power Electronics and Drives*, Springer Singapore, Vol. 973, Series ISSN: 1876-1100.

Manoj Sai, P., Nithin Sai, G., **Nizami, T.K**., Puja Manohari, B., Gopi Krishna, P. (2022). Design of Fast Battery Charging Circuit for Li-Ion Batteries. In: Kumar, R., Ahn, C.W., Sharma, T.K., Verma, O.P., Agarwal, A. (eds) Soft Computing: Theories and Applications. *Lecture Notes in Networks and Systems*, vol 425. Springer, Singapore.

Manoj Sai, P., Baji, M.D.S., Lakshmi, S., **Nizami, T.K**. (2022). Exhaustive Search Approach to Place PV in Radial Distribution Network for Power Loss Minimization. In: Kumar, R., Ahn, C.W., Sharma, T.K., Verma, O.P., Agarwal, A. (eds) Soft Computing: Theories and Applications. *Lecture Notes in Networks and Systems*, vol 425. Springer, Singapore. (Best Paper Award)

Neve, D., Joshi, S., Dhiman, H.S., **Nizami, T.K**. (2022). Global Horizontal Solar Irradiance Forecasting Based on Data-Driven and Feature Selection Techniques. In: Kumar, R., Ahn, C.W., Sharma, T.K., Verma, O.P., Agarwal, A. (eds) Soft Computing: Theories and Applications. *Lecture Notes in Networks and Systems*, vol 425. Springer, Singapore.

Hybrid Backstepping Control of DC-DC Buck Converters- **Tousif Khan N**. and C. Mahanta- Systems Thinking Approach for Social Problems, volume 327 of the series. *Lecture Notes in Electrical Engineering*, Springer, 129-141 (2015).

PROJECTS

Name of the Project: **Intelligent Disturbance Observer based Adaptive Control of DC-DC Power Converter for Nonlinear Loads**

Sponsoring Agency: Department of Science and Technology (DST)- Science and Engineering Research Board, Government of India

Granted amount: 18.30 Lakhs

Project Lead & Co-lead: **Dr Tousif Khan N** (PI), Prof. Praveen Kumar (Co-PI)

Collaborators: IIT Guwahati, India

Period of support: 3 Years

Name of the Project: **"Experimental investigations of Thermal Runaway testing of Lithium-Ion and new battery packs"**

Sponsoring Agency: Amara Raja Batteries Ltd (ARBL).

Granted amount: 27 Lakhs

Total project amount: 1.8 Crore

Project Lead & Co-lead: Dr Surfarazhussain S. Halkarni, **Dr Tousif Khan N**, Dr Sujith Kalluri, Dr Pardha Saradhi Maram, Dr Laxmi Narayana Patro, Dr P. Jayaprakash Sharma

Collaborators: Amara Raja Batteries Ltd (ARBL)

Period of support: 2 Years

PATENTS

Title: **Zero Voltage Switching Full-Bridge Converter for Multiple LED Lighting Loads with Reduced Switch Current**

Indian Patent Application Number:202241076718

Authors: Ramanjaneya Reddy, **Tousif Khan N**, Lokeshgupta Bhamidi and Aswini Patakamoori

Title: **AN APPARATUS FOR FAST-CHARGING A BATTERY**

Indian Patent Application Number: 202241046527

Authors: **Tousif Khan Nizami**, Pendem Manoj Sai, Bollu Puja Manohari, Gorrepati Nithin Sai and Papineni Gopi krishna

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INTERNATIONAL CONFERENCES

Fast Neuro-Adaptive Control of DC-DC Buck Converters: Design and Implementation- **Tousif Khan Nizami** and Chitralekha Mahanta- IEEE Power and Energy Conference at Illinois, USA, February 23-24, (2017).

A Single Layer Hermite Neural Network Based Direct Adaptive Control of DC-DC Buck Converter- **Tousif Khan Nizami** and Chitralekha Mahanta- IEEE 3rd International Conference on Soft Computing & Machine Intelligence, Dubai, November 23-25, (2016).

Real Time Implementation of an Adaptive Backstepping Control of Buck Converter PMDC Motor Combinations- Arghya Chakravarty**, Tousif Khan Nizami** and Chitralekha Mahanta- IEEE Indian Control Conference, Guwahati, India, January 4-6, (2017).

Relay Approach for Parameter Extraction of Li-ion Battery and SOC Estimation using Finite Time Observer- **Tousif Khan Nizami,** Venkata Karteek Yanumula, Arghya Chakravarty, Nawab Alam and Sisir Kumar Nayak- IEEE Indian Control Conference, Guwahati, India, January 4-6, (2017).

Single Layer Type II Chebyshev Neural Network Based Adaptive Backstepping Control of DC-DC Buck Converter- **Tousif Khan Nizami** and Chitralekha Mahanta,- IEEE Annual India Conference (INDICON), India, December 16-18, (2016).

Finite time current observer based adaptive backstepping control of buck converters- **Tousif Khan Nizami** Arghya Chakravarty and Chitralekha Mahanta- IEEE Annual India Conference (INDICON), India, December, (2015).

Voltage regulation enhancement in a Buck type DC-DC converter using queen bee evolution based Genetic Algorithm- **Tousif Khan Nizami** and K. Sundareswaran-IEEE 6th India International Conference on Power Electronics (IICPE), India (2014).

Adaptive backstepping control for DC-DC buck converters using Chebyshev neural network- **Tousif Khan Nizami** and Chitralekha Mahanta- IEEE India Conference INDICON, India, December, (2014).

Design and Development of Feedback Controller for Buck Converter using Artificial Immune System- **Tousif Khan Nizami** and K. Sundareswaran- 39th National Systems Conference, India, December, (2015).