Call for book chapter

Developing Charging Infrastructure and Technologies for Electric Vehicles

Edited by Dr. M. Saad Alam and Dr. Sheldon Williamson

To be published by IGI Global Book Publishers, USA

Greetings,

We have recently agreed to edit a book on “Developing Charging Infrastructure and Technologies for Electric Vehicles,” to be published by the IGI Global book Publishers, USA. We would like to invite you to contribute a chapter to the book. The detailed outline of the proposed structure of the book is given at the end of this email for your reference.

The book will receive international visibility through the CRC Press, and the print book will be available through well-known bookseller websites, such as Amazon, Barnes and Nobel, etc. The book will also be submitted for inclusion in Scopus and the ISI Books Citation Index.

Thank you very much for your time and consideration. We hope that you will agree to contribute to this book. Also, we will appreciate if you can forward this call for book chapter to colleagues who are working in the relevant area.

Thanks and Sincere Regards,

Editors:

1. Mohammad Saad Alam, PhD
   Associate Professor, Department of Electrical Engineering, AMU, INDIA
   Director, Center of Advanced Research in Electrified Transportation (CARET), AMU
   Visiting Research Professor, Illinois Institute of Technology, Chicago, USA
   Member, Inter-Ministry Technology Advisory Group, Government of INDIA
   Associate Editor, IEEE Transactions on Transportation Electrification, USA
   Associate Editor, Springer Journal of Modern Power and Energy, CHINA

2. Professor Sheldon Williamson, PhD
   Professor and NSERC Canada Research Chair, UOIT-
   Department of Electrical, Computer, and Software Engineering,
   Faculty of Engineering and Applied Science,
   UOIT, Oshawa, Ontario, Canada

Important Dates - Proposed

1-2 page Proposal- expression of Interest (EOI) deadline: December 31st, 2019
Notification of proposal acceptance: January 31st, 2020
Full draft chapter submission: Feb 29th, 2020
Chapter review report to authors: March 31st, 2020
Final version submission: April 30th, 2020

Manuscript Submission

Please submit your 1-2 page proposal / Expression of Interest (EoI) to igievbook@gmail.com & cc to hybridvehicle@gmail.com with subject “EV Charging Book EoI—CHAPTER NAME”!

Additional Information

Inquiries and chapter proposal submissions can be forwarded electronically by email to
Dr. Alam at saad.alam@zhcet.ac.in and cc to igievbook@gmail.com and hybridvehicle@gmail.com
Call for Book Chapters

Developing Charging Infrastructure and Technologies for Electric Vehicles

Publisher: IGI Global Book Publishers, USA

INTRODUCTION

The increase in the air pollution and vehicular emissions has led to the development of the renewable energy based generation and electrification of transportation. Further, the electrification shift requires an enormous challenge due to limited driving range, long charging time and high initial cost of deployment.

This book will examine the charging infrastructure for Electric Vehicle and will discuss the challenges and opportunities for the successful deployment of electric vehicles (EVs). Wind power and solar power can be generated by wind turbines and photovoltaics, respectively, while these are intermittent in nature. The combination of these renewable energy resources with available power generation system will make the Electric Vehicle charging sustainable and viable after the payback period. Recently, a significant discussion has focused on various EV charging types and based on power level of charging to minimize the charging time. Such as Conductive Charging, Inductive charging and Battery swapping. The conductive as well as inductive charging can be categorized in three levels, level 1, level 2 and level 3. However, the level 3 charging may reduce the battery life, but the wireless charging can also manage the hectic charging and range anxiety. Inductive charging is also known as Wireless charging. The optimum and efficient charging method of wireless charging is resonant inductive charging. The wireless charging is of three types: static wireless charging, dynamic wireless charging and quasi dynamic wireless charging. The primary purpose of this book is to capture the state-of-the-art in Electric Vehicle Charging Infrastructure deployment, their applications, architectures and relevant technologies EV.

The book also aims to identify potential research directions and technologies that will facilitate insight EV charging in various charging places such as from smart home charging, parking EV charging, and Charging Stations. We expect the book to serve as a reference for a larger audience such as power system architects, practitioners, developers, new researchers, and graduate level students, growing demand of energy in present scenario has been met with the huge exploitation of the fossil fuel which has resulted in the pollution explosion. This book will describe the problems and solutions to the state-of-the-art status of Electric Vehicles.

OBJECTIVE

The aim of this book is to review and communicate the state of the art in Electric Vehicle charging technologies, their applications, economic, environmental and social impact and Integrate with the renewable energy. Primarily the objective of the book is to identify and provide the solution to the potential problem of Electric Vehicle charging deployment. We expect the book to serve as a reference for a large audience such as power system architecture, practitioners, developers, new researchers and graduate level student, especially for developing counties.
POTENTIAL LIST OF CHAPTERS

Topics for potential chapters include, but are not limited to;

1. Overview and current trends in Electric Vehicle Charging Technologies
2. Challenges and opportunities in charging Infrastructure of Electric Vehicles.
3. Operation and deployment management of EV charging Infrastructure.
4. Block chain management of EV Charging Infrastructure
5. Big Data Analytics in EV Charging Infrastructure
6. Range anxiety solution through Vehicle to Cloud (V2C) management of EV Charging
7. Identifying locations for residential on-street electric vehicle charging infrastructure
8. Electric vehicle charging point placement optimization.
9. Plug-in Electric Vehicle Optimization and Management Charging in a Smart Parking Lot
10. Robotic Arm based Charging Infrastructure deployment for Autonomous Electric Vehicles
12. EV Charging Infrastructure for Transit Buses
13. EV Charging Infrastructure for Taxi fleet/ Cabs
15. Battery Swapping Stations for EVs
16. Electrical Energy storage technologies and their challenges for EV
17. Role of renewable energy and distributed generation in facilitating EV charging
18. Design of an EV charging station with integration of renewable energy and storage systems
21. Power Conditioning Units (PCUs) for EV Charging Systems
22. Impact of Electric Vehicle Charging Station on Power Quality issues
23. Analysis of effects on electrical vehicle charging due to power quality issues
24. Impact of electric vehicles charging on distribution network
25. Advanced Control System of Electric Vehicle Charging
27. Technology solution to mitigate electricity cost for EV charging stations
28. A Comparative study on EV Charging Standards- Existing and Emerging standards
29. Business model for the EV charging deployment Infrastructure.
30. EV Charging Infrastructure with reference to Industry 4.0
31. Case study 1-

igievbook@gmail.com