
From Founding Editor-in-Chief

It is our great pleasure to congratulate Prof. C. C. Chan, Honorary Editor-in-Chief of the Society for Science and Technology, on being named recipient of the "2018 IEEE Transportation Technologies Award", for advances in technologies.

Each year the IEEE Awards Board recommends a select group of recipients to receive IEEE's most prestigious honors.

We are proud to announce his award and we are proud to continue our activities with his commitment. The award will be delivered at the IEEE PES General Meeting in August 2018 in Oregon.

We would like to introduce his outstanding accomplishments.

Shigeyuki Minami
Founding Editor-in-Chief

Prof. C.C. Chan's outstanding accomplishments and contributions

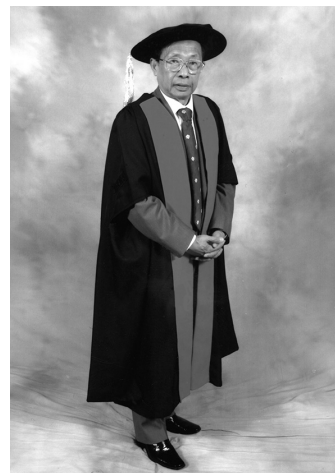
Prof. Chan's work is directly involved in the forefront of electric vehicle development, and had a significant impact on energy, environment and mobility leading to long term sustainability. His major contributions include analysis and optimization of electric machines, power electronic devices, converters, and cooling systems. He has written over 450 technical papers and 17 books including an encyclopedia. He has been granted 10 patents, which are licensed by various Japanese and Chinese industries. He is the founder of the World Electric Vehicle Association. He recently founded Academician C. C. Chan International Innovation Cooperation Center aiming to efficiently bridge innovation with evaluation, investment, production, and market to break the hurdles and increase the success rate of commercialization of green technology.

Prof. Chan's fundamental theoretical contribution lies on exploring the correlation between Energy and Information—to establish a theoretical bridge between the microscopic and macroscopic of energy systems, from device and structure to network; to develop the mechanism of energy and information transformation; to develop energy computer and energy bank; thus to optimize multi-energy system configurations, including the large scale application of electric vehicles. This has led to the foundation for the important work on interaction between vehicle energy storage system and information. His recent research in smart charging and vehicle-to-grid systems has gained attention from automakers and power utilities. Furthermore, his contribution on the algorithm of intelligent distributed energy system is instrumental in optimizing various energy sources with higher efficiency and lower emission.

Prof. Chan has made extraordinary contributions to electric vehicle science and technology, which include the design of electric vehicle machines and drives, design of power converters, development of battery charging strategies and chargers, and Multiphysics analysis of structural, electromagnetic,

and thermal fields in various electric vehicle systems. His book "Modern Electric Vehicle Technology" laid down the philosophy and fundamentals of modern electric vehicle technology, which is now widely being used as a textbook or reference book by many universities and practicing engineers all over the world. He has exhibited tireless effort, spanning over five decades, to promote worldwide development of electric vehicles.

In recognition of his eminent technical contributions, Prof. Chan was elected as Academician/Fellow of prominent engineering/science academies in the world including the Chinese Academy of Engineering (CAE), the Royal Academy of Engineering (RAE), and as a Fellow of most prestigious professional institutes in electrical engineering including the IEEE and the IET, as Fellow of the Ukraine Academy of Engineering Sciences in 1997, and as Honorary Fellow of the Hungarian Academy of Engineering in 2013. He has made significant contributions to key professional organizations of electric vehicles including the founding of World Electric Vehicle Association, and prominent international conferences. Besides international services, he was also active in serving local



Photograph of Prof. C. C. Chan

communities, as President of Hong Kong Institute of Engineers (HKIE), as Science Advisor to Macau Special Region Government.

Prof. Chan's sustained economic and societal contributions over the past five decades have resulted in profound and global impact on human welfare. He was honored as one of Asia's "Best Technology Pioneers", "Father of Asian Electric Vehicles", etc. He has received numerous awards including the "Medal of Engineering Excellence" by World Federation of Engineering Organizations (WFEO), the "Prince Philip Medal" which is the highest award of the Royal Academy of Engineering, IEEE Transportation Technology award, and the "Guanghua Engineering Science and Technology Prize" which is the highest prize of the Chinese Academy of Engineering. Apart from various international recognitions, he was the recipient of the highest award "Gold Medal" from Hong Kong Institution of Engineers.

Prof. Chan has made significant impact to the commercialization of electric vehicles worldwide. From 1989 to 1993, Prof. Chan served as Chief Technical Advisor to Unique Mobility Inc, Colorado to develop very advanced permanent magnet motor drives with high power density, high efficiency over wide speed range, and high torque at low speed, which is particularly suitable for electric vehicles operation. From 1994 to 2002, he served as Senior Technical Consultant to Honda and named as Honda Professor, advising the development of motor drives for the Honda EV. From 2000 to 2010, he served as Director of REVA Electric Car Company India, a leading EV manufacturer in India. From 2004 to 2006, he served as Senior Consultant to TNO Netherlands, advising the development of hybrid power train and Electric Variable Transmission (EVT). From 2006 to 2010, he served as Senior Consultant to TDK Japan, advising the development of DC-DC converters. From 2010 to 2012, he served as Senior Consultant to Nissan Motors China to advise the promotion of Nissan Leaf Electric vehicles. Since 2002, he served as Chief Technical Advisor to Chinese major automobiles companies including FAW, Dong Feng, Chang An, etc. The above consultant work has had significant impact to the commercialization of electric vehicles worldwide and hence significant economic impact.

Prof. Chan holds Visiting or Honorary Professorships at fifteen or so well-known universities worldwide, including MIT, UC Berkeley, Cambridge University, etc. His work has been recognized by many organizations including the Loughborough University and the Odessa Polytechnic University by the award of Honorary Degrees, the IEEE by the award of International Lecture Medal in 2000, the IEEE PELS and VTS by the award of Trophy for Outstanding Contribution in 2008, the IEEE IES by the award of IES Distinguished Speaker in 1991-2001, the IEEE IAS by the award of IAS Distinguished Lecturer in 1995-1997, and the National Institute of Environmental Studies, Japan by the award of Distinguished Fellow in 1995. He has delivered keynotes at major international conferences in over 50 countries.

Prof. Chan's long term contributions to electric vehicles and green

energy that is leading to sustainability, his outstanding inventions, accomplishments, publications, and his contributions to making the university research relevant to sustainability of the planet.

創設編集長からのご案内

科学・技術研究会名誉編集長のチャン先生の栄えある2018年度 IEEE Transportation Technologies Award受賞を心からお祝い申し上げます、チャン先生の素晴らしい業績をご案内いたします。

創設編集長 南 繁行

チャン先生はこれまで電気自動車開発の第一線で活躍され、電気機械、パワー・エレクトロニクス・デバイス、コンバータ、冷却システムの分析と最適化でも素晴らしい業績を残されました。その影響はエネルギーや環境の分野にも及びます。チャン先生は、また、世界自動車協会 (WEVA) 及び国際イノベーション・コーポレーション・センターの創設者でもあります。

スマート充電とビークル・ツー・グリッド・システムの近年の研究は自動車メーカーや電力設備会社から注目を集め、更に、インテリジェント分散型エネルギーシステムのアルゴリズムへの寄与はより高性能より低排出の各種エネルギー源最適化のきっかけとなりました。著書『Modern Electric Vehicle Technology』は、現代の電気自動車技術の哲学と基礎を築き、大学の教科書として、また、技術者の参考文献として世界中で読まれています。

中国工学会会員、英国王立工学アカデミー・IEEE・IET・ウクライナ理工学アカデミー・ハンガリー工学アカデミー特別研究員としての実績だけでなく、世界電気自動車協会など電気自動車の重要な職能団体の設立、香港大学会長及びマカオ特別行政区科学顧問として地域社会への貢献という実績もあります。

“優れたテクノロジー・パイオニア”、“アジア電気自動車の父”としても知られるチャン先生は、世界工学団体連盟 (WFEO) から Medal of Engineering Excellence、英国王立工学アカデミーから Prince Philip Medal (最優秀賞)、IEEEからは IEEE Transportation Technologies Award、中国工学会から Guanghua Engineering Science and Technology Prize (最優秀賞)、香港大学から Gold Medal (最優秀賞) など数多くの賞を授与されてきました。

また、コロラド州の UQM 会社の首席経済顧問、Honda の上級技術顧問、インド REVA Electric Car Company 理事長、TNO Netherlands・TDK 株式会社・日産 (中国) の上級顧問、中国の主要自動車会社である中国第一汽車集団公司 (FAW)、東風汽車 (Dong Feng)、長安汽車 (Chang An) などの首席技術顧問として世界の電気自動車の商業化に大きな影響を与えてきました。

さらに、MIT、カリフォルニア大学バークレー校、ケンブリッジ大学など約15大学の客員教授や名誉教授であり、ラフバラー大学やオデッサ国立工科大学から名誉学位をはじめ、IEEE などからメダル、日本の国立環境研究所からは特別研究員賞など様々な賞やメダルを授与されています。また、チャン先生が基調講演を行った国は世界50か国以上となり、過去50年余にわたる経済および社会貢献は人間の福祉にも大きな影響を与えてきました。

今後も、さらなる地球の持続可能性に関する研究のためにご尽力くださるよう期待してやみません。