Preis der Energietechnik

E11 Dr. Bernd Michael Buchholz erhält den ETG-Award 2017

VDE / Rainer Unkel

Würdigung

Dr. Bernd Buchholz war von 2003 bis 2017 stellvertretender Leiter des Fachbereiches V2 „Energieübertragung und Verteilung". Seit Übernahme dieser Aufgabe hat Dr. Buchholz in mehr als 13 Jahren bei der Neugestaltung und Weiterentwicklung der Arbeitsgebiete im Fachbereich sowohl inhaltlich als auch organisatorisch wesentliche Akzente gesetzt. Seinem Engagement ist es im hohen Maße zu verdanken, dass dem Fachbereich V2 aktuell 32 Mitglieder angehören, die sich aktiv in die Fachbereichsarbeit einbringen.

Die Weiterentwicklung des elektrischen Energieversorgungssystems unter Berücksichtigung entsprechender technologischer, ökonomischer und ökologischer Randbedingungen stand bei Dr. Buchholz immer im Mittelpunkt seiner Fachbereichsarbeit. Er hat in zahlreichen Task Forces und Arbeitskreisen mitgewirkt und hat selbst folgende ETG Task Forces geleitet:

- TF Aktive EnergieNetze
- TF Demand Side Management
- TF Smart Distribution
- TF Blackout

Zahlreiche Studien und Fachberichte sind unter seiner Federführung entstanden. Besonders ist hier die in Fachkreisen vielbeachtete Studie „Aktive Energienetze im Kontext der Energiewende" zu nennen. Drei wesentliche Herausforderungen der Energiewende, nämlich Übertragungsnetzentwicklung, Energie- und Leistungsbilanzierung sowie Ausbau, Fernsteuerung und Automatisierung der Verteilnetze wurden ausführlich dargelegt und Handlungsbedarfe und Empfehlungen ausgesprochen, wie die aufgezeigten Herausforderungen in der praktischen Umsetzung gemeistert werden können.

In vielen Veranstaltungen und Diskussionsrunden hat sich Dr. Buchholz immer wieder für die enge Verflechtung von Marktaktivitäten und Netzbetrieb zur Effizienz und Wirtschaftlichkeit bei der Meisterung der Herausforderung der Energiewende eingesetzt. Mit seinem hohen Fachwissen und seiner internationalen Erfahrung hat er die Positionen der ETG in Politik und Öffentlichkeit überzeugend dargelegt.

In zahlreichen Programmausschüssen zu Fachtagungen und ETG-Kongressen hat er mit großem Engagement mitgewirkt, ebenso hat er sich als Leiter von ETG-Fachtagungen für die ETG verdient gemacht.

Sein hoher, ehrenamtlicher Einsatz über die vielen Jahre im Fachbereich V2 und in der ETG insgesamt verdient eine besondere Anerkennung.

Biographie

Dr. Bernd Michael Buchholz (1948) diplomierte und promovierte an der Moskauer Universität für Energietechnik 1973 bzw. 1976. Ab 1975 war er Mitarbeiter am Institut für Energieversorgung Dresden (DDR). Er wurde 1982 dort Abteilungsleiter für Netzautomatisierung und ab 1987 Direktor.

Zwischen 1990 und 1999 leitete er die Entwicklung der Schutz- und Stationsleittechnik für elektrische Netze der Siemens AG, anschließend bis 2005 das Siemens-Netzconsulting-Unternehmen, nach der Übernahme der US-Firma PTI unter neuem Namen „Power Technologies International" mit global aufgestellten Kompetenzzentren für elektrische Netzplanung und Consulting.

Er war von 1995 bis 2000 erster Editor der Teile 4 und 7–4 des neuen Kommunikationsstandards IEC 61850, von 2002 – 2008 deutscher Vertreter in der CIGRE SC 6 „Netzintegration verteilter Erzeuger" und von 2004 bis 2009 war er Mitglied des Advisory Council „Smart Grids" der Europäischen Union. Zwischen 2000 und 2006 leitete er mehrere Projekte zur Netzeinbindung erneuerbarer Erzeuger.

Im Ruhestand seit 2006 ist er noch als Berater mit NTB Technoservice aktiv, lehrte im Rahmen von VDE-Seminaren, an der Universität Magdeburg sowie an den Universitäten für angewandte Wissenschaft Biberach und Salzburg. Im Rahmen der ETG war er zwischen 2003 und 2017 stellvertretender Leiter des Fachbereichs „Übertragung und Verteilung elektrischer Energie" und führte die Expertenteams für die Studien „Smart Distribution 2020" (2007) und „Aktive Energie-Netze" (2013).

Er fungierte als technischer Berater für die E-Energy-Projekte „RegModHarz" und „Harz.EE-Mobility" sowie als technischer Leiter des EU-Projektes „Web2Energy" zwischen 2010 und 2013. Von 2013 bis 2016 war er koordinierend für das Projekt des BMU „Well2Wheel" tätig.

Er ist Autor des Fachbuchs „Smart Grids – Grundlagen und Technologien der elektrischen Netze der Zukunft" (erschienen seit 2014 in Englisch, Deutsch, Russisch und Chinesisch) sowie von über 200 wissenschaftlichen Veröffentlichungen in 6 Sprachen. Für sein wissenschaftliches Engagement wurde er von CIGRE, IEEE und VDE geehrt. 2017 stellte ihn das US-Journal „PAC World" als „Guru" vor:

Mehr zur Person aus einem Interview von PAC World (Protection, Automation & Control World) Magazin mit Dr. Bernd Michael Buchholz, veröffentlicht im Juni 2017:

PAC World: *When and where were you born?*

B.M.B.: I was born on November 4th 1948 in the city of Eisenach – today the geographical middle of Germany.

PAC World: *Where did you go to school?*

B.M.B: I visited 3 schools in Eisenach – the first two years a school nearby, then a school for distinguished pupils in the city center and from the 9th to the 10th grade the "Ernst-Abbe-Gymnasium". I passed my "Abitur" examination with distinction at the "Martin-Luther-University Halle" in a class for pupils with exceptional mathematical talents in 1967.

PAC World: *Do you remember anything from your childhood indicating that you will become an engineer?*

B.M.B.: I became a winner of Math Olympics for pupils in the city of Eisenach and later of the whole District Halle. The desire was born to study "cybernetics."

PAC World: *Where did you go to university and how did you choose it?*

B.M.B.: After my Abitur in Halle, I had the opportunity to choose any university in the countries of the former COMECON. I chose the Moscow Power Engineering/Technical University, because it offered the course "Cybernetics" by Professor Venikov. His name is still worldwide known as one of the fathers of the stability theory of electric power systems.

PAC World: *Why did you decide to study electric power?*

B.M.B.: I expected to study cybernetics but it was "protection, automation & control of electric power systems." After the second year of study I became fascinated. The Russians were leading in this area during the sixties. The university provided excellent laboratories and education.

PAC World: *What was the reason to continue your education?*

B.M.B.: I had an excellent coach for scientific works beginning from the sixth semester – Professor Eduard Nikolaevich Zuev. I passed the final examinations with distinction and was honored with a certificate for the "Best diploma thesis of the university." I was asked to continue as a doctoral candidate and to develop methods of dimensioning superconducting cable systems in the context of electric and thermo-dynamic processes. I defended my PhD-thesis in June 1976. Since that time, I am still in friendly contact with my "doctor father" Professor Zuev. Furthermore – this prolongation of my stay in Moscow was a great opportunity to avoid active military services in the GDR.

PAC World: *What was your first job after graduation?*

B.M.B.: I became scientific assistant in the Institute of Energy Supply of the GDR –"IEV" in Dresden.

PAC World: *For 15 years you worked in research and development in East Germany. What were the most important projects during this period of your career?*

B.M.B.: In the first 7 years I was project manager of several network planning projects. Good opportunities to learn how the power system is operated! In 1982 I became department manager "Network automation" and the main project was the development of a digital system for combined automation, protection and control for 110-kV/MV-substations. The first implementation in practice was in March 1986 in the substation Frankenberg. We brought this system to maturity for subsequent applications followed between 1988–1990. In 1987 I became director for research and development of the institute and I was involved in coaching important projects.

PAC World: *Were there any restrictions that had an impact on your work?*

B.M.B.: The main restriction was that we had to use the hardware produced in the GDR based on 8-Bit-processors. However, the creativeness of our team could avoid a lot of difficulties, and finally we implemented many functions and progressive ideas which were not available in the substation automation systems of the western companies developed in parallel.

PAC World: *Where were you when the Wall fell in Berlin and what did you feel at the time?*

B.M.B.: I was sitting in the train from Berlin to Dresden coming from a project meeting. When I opened the door at home my wife asked laughing "Why didn't you stay in Berlin?" It was a great relief and a feeling of luck like in a dream. Now the world was open – without any restrictions for all people living in the GDR. Wonderful!

PAC World: *What happened after the fall of the wall?*

B.M.B.: I immediately received invitations to work with companies in West Germany. In February 1990 it was clear that the institute of energy supply will not have great perspectives to develop digital protection and control systems in the future economic environment. We arranged a meeting with the main managers of the "Power Automation Division" of the Siemens AG in Erlangen. They offered me the job of the development manager for digital protection and control within the division. My desire was to bring ten engineers of my team to Siemens and they agreed. I started my career with Siemens on April 1st 1990. This was like a jump from a regional league into the final game of the world cup!

PAC World: *Did you see any difference when you compared yourself with your new colleagues in the former West Germany?*

B.M.B.: I felt a good acceptance because of my scientific background and managerial qualities. My new colleagues provided great and friendly support so that I could understand the internal and external processes of the company. I learned quickly and didn't feel any differences. My transition into the new environment was very smooth, and I am immensely grateful to these friends.

PAC World: *Was there any experience from your work in a socialist society that helped you working for a large global corporation?*

B.M.B.: In the project for our digital substation I had to coordinate the component deliveries of 15 socialist enterprises. This was a good school to develop my skills for negotiations and for successful dealings with partners. Furthermore, the employees in the socialist society were not especially rewarded for excellent work and the motivations were very often low. But, the creation of team spirit and to be proud of extraordinary results of work, was the key to motivate hard work and developing of advanced solutions.

PAC World: *What do you consider the highlights of your time working for Siemens?*

B.M.B.: We had a lot of challenges and highlights in the development of advanced systems and products like SINAUT

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ETG NETWORK

dance with my definition of the three pillars of Smart Grids: Smart Generation, Smart Grid, Smart Consumption. In these projects, I continued my work in the bodies of CIGRÉ and the IEC until 2009. Furthermore, I could lead two expert groups of IEC TC 57 on the topics "Smart Distribution" and "Network Integration of renewables – Power Distribution" and "Active Energy Networks."

PACE World: *Apart from your papers and a book, what motivates you to share your knowledge and experience?*

D.R.G.: I am proud that I could share my knowledge and experience with the young people in my company and I welcomed opportunities to get in touch with many experts and to discuss their view on different subjects. That was the reason why my book "Smart Grids – Infrastructure for Sustainable Technologies" appeared in German and English in March 2014. Currently the review on the Chinese and the Russian editions of my book is in the preparation phase.

PACE World: *You have been actively involved in both IEC and CIGRÉ. Tell us your opinion about the role of these two organizations in the future.*

D.R.G.: IEC is responsible for developing the standards and CIGRÉ is responsible for the "Technical Recommendations" for the application of international standards in a basic agreement of IEC standardization solutions. In the study committees of CIGRÉ many people from all over the world solutions are considered including the application of standards and the experience with the standards are discussed. The CIGRÉ conferences build an excellent platform for presenting and discussing advanced technological and economical solutions. In international bodies you find important role like in a water chain.

PACE World: *What do you consider your most important professional achievement?*

D.R.G.: All my efforts were brought to reduce product and systems with high economic efficiency. However, my last project in the Russian Federation, the "Smart Grid" in Baltic business unit was the most challenging. With the integration of the US company PTI the new business unit Smart Grid Solutions was established. It was a great pleasure to pioneer system consulting, innovation and software for power system simulation.

PACE World: *What do you consider your most important personal achievement?*

D.R.G.: To be in friendly contact with many people of my past and present business life, including my former and present clients and professors from Siemens, my colleagues of the Dresden, Nuremberg, Berlin and Erlangen times.

PACE World: *You have received different awards. Which is the one you value the most?*

D.R.G.: I received the "Golden medal of honor" of the Technical University of Moldova. I was also awarded the title of a "double diploma" for their students. That was an initiative of my friend and co-author Professor Zbigniew Styczynski, the Dean of the Faculty of Electrical Engineering in Magdeburg. The junior students studied partly in Moldova and in Magdeburg. I had the opportunity to provide internships for students in Magdeburg and to lead the bachelor-magistral engineers with double diploma. The awarding ceremony was in a great academic tradition.

PACE World: *You have been married for many years. What is the secret and how do you mix your personal and professional life?*

D.R.G.: My wife Gabriele is also an electrical engineer and she worked with the same companies as me – with BTI Chinese and ETG Russian companies. She was also in the Smart Grid Solutions team and in Hangzhou. We met at the airport – one departing, the other arriving. When our three kids were born, she stopped her professional career and was only active in the ETG. We could coordinate in a way that one was available with the kids. When we moved to Erlangen, I was in the Siemens Power Transmission and Distribution. We could mix our professional and personal lives by sharing the duties.

PACE World: *What is your favorite form of entertainment?*

D.R.G.: Travelling to exotic countries, sightseeing at cities of cultural interests, cycle tours, opera and ballet.

PACE World: *Do you have any hobbies?*

D.R.G.: Cycle tours prepared by Paddy – we think it.

PACE World: *Do you prefer any specific kind of music?*

D.R.G.: Classical music, opera arie and choice, jazz in combination.

PACE World: *What advice do you give to the young people in your family?*

D.R.G.: Never give up, keep and extend your expertise permanently and don't try to reach a level where you are not permanently challenged.

PACE World: *When you look back, in three anything that you would have done differently?*

D.R.G.: No.

PACE World: *A three-word question that we should have asked you?*

D.R.G.: I would like to express many thanks to my wife Gabriele for 40 exciting years of love, and solving all the time, hand in hand. I am proud of my four children for their dramatic, but successful development. Nadja is a successful software development in Kaohsiung (Singapore), Michaela (student of the travel in Berlin), Larissa (professor in China), Ralf (Ph.D. in Berlin and Hangzhou) and Ralf (Ph.D. Bad Kissingen with a performing entertainment for kids).

PACE World: *Do you have a motto?*

D.R.G.: *Meet an challenges with intelligence and team spirit!*

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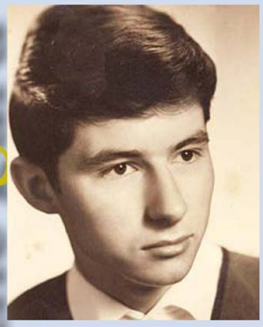
2014 Gold Medal Award

the guru



B.M.

buchholz

Mein Motto:
Begegne allen Herausforderungen intelligent und mit Teamgeist

Siemens-Integration US-Company „Power Technologies Inc.“

Mein persönlicher Wert :
Freundschaftlicher Kontakt mit Menschen aus allen Lebensperioden

1998 International Who is Who of Professionals Acknowledgement

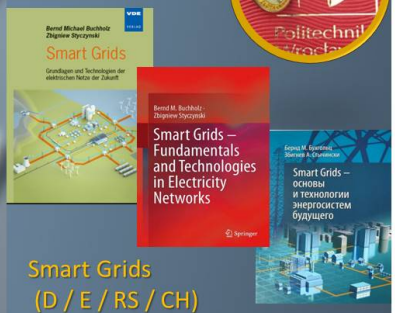
2005 CIGRE Technical Award

2005 IEEE Certificate of Appreciation

2008 CIGRE Distinguished Member

2009 VDE Ehrenurkunde

2014 TU Wroclaw Gold Medal



Smart Grids (D / E / RS / CH)
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