Panel - Demystifying Accreditation Beyond U.S. Borders

John Impagliazzo¹, Edwin C. Jones², J.T. (Tom) Cain³, Susan E. Conry⁴, and Andrew McGettrick⁵

Abstract - Program accreditation in computing, engineering, and technology has many international dimensions. Governments around the world have established agencies or commissions to monitor accreditation in these areas and in other fields of specialization. Worldwide, professional societies and agencies have undertaken the challenge of developing avenues for quality assurance in undergraduate and graduate education. This panel seeks to explore and to present first-hand information regarding the purpose, issues, and complexities surrounding international accreditation activities. The panelists will present a spectrum of diverse experiences they have encountered. Some of the highlights of the presentation include accreditation external to the United States, international agreements and arrangements, and contrasts between U.S. and non-U.S. accreditation efforts. Panel members, some of whom serve on ABET committees that address these matters, will comment on the status of such international activities. The presentation will focus on the philosophical as well as the practical aspects of accreditation activities outside the United States.

Index Terms – Accreditation, International accreditation, Accreditation criteria, international experiences.

OVERVIEW

Program accreditation in computing, engineering, and technology has many dimensions and it is experiencing many dynamics. Governments worldwide have established agencies or commissions to monitor accreditation in these areas and in other fields of specialization. Professional societies and agencies in many countries have undertaken the challenge of developing avenues for quality assurance in undergraduate and graduate education. This panel seeks to explore and to present first-hand information regarding the purpose, issues, and complexities surrounding international accreditation activities.

The panelists will present a spectrum of diverse experiences they have encountered. Some of the highlights of the presentation include computing accreditation within the United Kingdom and the status of the Washington Accord. Others include the current transitions within ABET to phase out “substantial equivalence” of international programs, contrasts between U.S. and non-U.S. accreditation efforts, accreditation activities taking place within the European Union, and other points of information relative to the topic. Panel members, some of whom serve or served on ABET committees that address these matters, will comment on the status of such international activities. They will focus on the philosophical as well as the practical aspects of accreditation activities outside the United States.

Considering the current dynamics occurring within international accreditation circles, the panel is timely and appropriate. The panelists have extensive experience with accreditation at the international level and they intend to convey their understanding of the pertinent issues on the subject. Approximately one-third of the presentation time will be devoted to audience participation through questions and open dialogue.

PANELISTS

John Impagliazzo
Professor Impagliazzo is professor of computer science at Hofstra University in New York. He had chaired for twelve years the ACM Accreditation Committee; he is currently a member of the ACM Education Board. John is also editor-in-chief of the ACM publication inroads - the SIGCSE Bulletin. He served as a principal co-author and editor of the Computer Engineering Report (CE2004). In addition, he was an active participant on the task force that produced the Computing Curricula 2005 Report (CC2005). Currently, John is an Associate Editor of the Encyclopedia of Computer Science and Engineering, under development by the John Wiley publishing company; he is chair of the International Federation for Information Processing (IFIP) Working Group 9.7 on the History of Computing and was an active member and treasurer of the IEEE History Committee.

He served and is serving as a consultant and expert for various countries regarding curricula, assessment, accreditation, and other related activities. He has served as accreditation team chair and as program evaluator for ABET and the Computer Science Accreditation Commission of CSAB and has led or participated on visiting teams for about

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fourty computing-related programs worldwide. He helped develop the accreditation process in Estonia and led the first accreditation team in computing there. He has extensive experience in accreditation, assessment, and curricula activities in Qatar, the United Arab Emirates, Chile, and New Zealand. Different universities, governmental agencies, and institutions around the world have called and continue to call upon him as a computing expert in assessment and accreditation.

Edwin C. Jones
Professor Jones served as an IEEE Education Society officer from 1970 through 1976; this service included two years as president. He served as Editor-in-Chief of the IEEE Transactions on Education from 1982-84. Dr Jones has held virtually every office in the Education Society. He is still actively involved with involved with the Education Society. Professor Jones also serves the IEEE as a member of the IEEE Committee on Engineering Accreditation Activities. Dr. Jones is University Professor and Associate Chair, emeritus, Department of Electrical and Computer Engineering, Iowa State University. Dr. Jones' honors and awards include: Fellow, Institute of Electrical and Electronics Engineers; Fellow, American Society for Engineering Education; Fellow, American Association for Advancement of Science; Fellow, Accreditation Board for Engineering and Technology; IEEE Centennial Medal, 1984; ASEE Centennial Medal, 1993.

Dr. Jones has extensive experience with international accreditation activities. He has served as a consultant and as an accreditation evaluator and team chair on numerous program visits worldwide. These include countries such as Saudi Arabia, United Arab Emirates, Qatar, and Japan. Dr. Jones will convey his decades of experience and show how these experiences may benefit the current dynamics in international accreditation activities.

J. T. (Tom) Cain
Professor Cain is a professor of electrical engineering and computer engineering at the University of Pittsburgh. His professional service includes serving as president of IEEE. He is co-founder and past president of CSAB and a past ABET program evaluator for both domestic and international programs. He has served as chair of the Accreditation Policy Council (APC) of the IEEE EAB and is the founder and past chair of the APC Committee on Global Accreditation Activities (CGAA). He has organized workshops on engineering and computer science program accreditation in South America, Central America, and Western and Eastern Europe that have resulted in the creation of several accreditation bodies. He also assisted in the creation of the National Board of Accreditation (NBA) in India. He has helped found and is presently a board member for the new accrediting body in Peru, Instituto de Calidad en Acreditación de las Carreras de Ingeniería y Tecnología (ICACIT). He is an IEEE Fellow and a CSAB Fellow. Professor Cain will discuss his experiences in the area of international accreditation.

Susan E. Conry
Professor Conry is a professor of Electrical and Computer Engineering at Clarkson University. Since 1986 she has been active in accreditation across a spectrum of disciplines. In activities related to computer science accreditation, she has served as program evaluator, as Commissioner of CSAC, as a member of the CSAC Executive Committee and as chair of CSAC prior to the integration of CSAB and ABET. During her term as President of CSAB, the memorandum of understanding leading to the integration of CSAB and ABET was signed. Professor Conry has also been active in engineering accreditation. Within IEEE, her accreditation-related activities have included service on the IEEE Committee on Accreditation Activities. She was recipient of the 2005 IEEE Educational Activities Board Meritorious Achievement Award in Accreditation Activities. Dr. Conry was appointed to the Engineering Accreditation Commission of ABET representing CSAB, and subsequently has been elected to the Executive Committee of the EAC of ABET. As a member of the EAC, she has been active on the EAC criteria committee and also in evaluator and team chair training. Several of the visiting teams she has chaired have included international observers among their membership. In addition, she has been involved in substantial equivalency evaluations of programs conducted by INTAC of ABET on three continents. Dr. Conry has been designated Fellow of the IEEE, ABET Fellow, and CSAB Fellow. She will discuss her experiences dealing with non-U.S. accreditation from the perspective of her broad experience in the area.

Andrew McGettrick
Andrew McGettrick is Professor of Computer Science at the University of Strathclyde and is the co-chair of the ACM Education Board. He has decades of experience in computing education and accreditation serving as chair of the benchmark (criteria) committee of the British Computer Society. Professor McGettrick believes that accreditation of degrees is an important part of activity in the United Kingdom where the British Computer Society engages in a range of accreditation activities in computing. Fundamentally, the BCS can accredit computing degrees for the purposes of contributing towards the attainment of the professional status of Chartered Engineer, Chartered Scientist, or Chartered IT Professional. Accredited degrees provide an appropriate preparation for entry into a profession. The criteria for accreditation include concerns about the quality of the education captured in appropriate benchmark statements. Part of this is the inclusion of appropriate transferable skills such as presentational skills, experience of teamwork, an understanding of professional, social, legal, ethical, as well as economic issues. It also includes a determination whether the needs of relevant industries have influenced the design of the program.
Additionally, it includes an understanding of risk and the management of risk, an understanding of issues to do with projects and project management, and an ability to carry out an individual substantial project that builds on and utilizes the work of the program. In mainland Europe, accreditation is often associated primarily with concerns of quality. Projects such as Euro-Inf are currently formulating standards intended for future use across Europe.