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The International Technical University of Poland—Aims, Origins and Structure*

ZENON J. PUDLOWSKI
Department of Electrical Engineering, The University of Sydney, NSW 2006, *Australia*

This paper discusses the concept and idea of establishing an International Technical University of Poland. The paper presents an overview of the discussions and actions that have been already undertaken in order to realize this important goal in the present favourable political climate in Poland. The aims, origins and a possible structure of this enterprise are discussed. The involvement of international academic, industrial, government and other organizations is believed to be necessary, and potential avenues of such collaboration are explored and discussed.

INTRODUCTION

RECENT political changes have made it possible to establish closer contacts among Western countries and those in Central and Eastern Europe. This liaison should encourage joint research and developmental projects. At this stage, however, Central and Eastern European countries require substantial assistance in many areas, such as in the enhancement of their tertiary education systems and infrastructure.

Due to the recent global failure of the communist system, several countries in Central and Eastern Europe, upon regaining political independence, have inherited inefficient economies with production methods and a labour force inadequately prepared to compete with the West's modern technology, industrial structures and relations, as well as work and production practices. However, some efforts have been made to remedy the situation. Poland, for instance, has already made significant progress in restructuring its economy, production methods and industrial infrastructure. Also, several new initiatives have emerged in the tertiary education sector, with some drastic changes to existing training programmes and the management of educational institutions.

As a result, a number of developed countries have decided to assist these countries in establishing free market economies and new educational structures. During the last two years, the European Community (EC) has established a number of important international initiatives in engineering and technology education which should assist the East in rebuilding its labour force and industrial structures. For instance, the EC has established programmes such as ERASMUS, COMMET, LINGUA and, in recent times, TEMPUS. The latter programme's objective is to promote the development of higher education systems in countries in need, with over ECU30 million per annum set aside for the project. As a result, several academic institutions and individuals in the East have already benefited from these initiatives.

In addition, UNESCO seems to be particularly interested in providing its resources and expertise for the development and modernization of national education systems in Central and Eastern Europe. Much of the effort is concentrated on environmental issues and those leading to sustainable development for the prevention of the environment. These initiatives may provide new and useful experiences for the individuals involved. Based on these experiences they may be able to devise and develop more general approaches and models for their future application in developing countries.

THE GLOBAL INDUSTRIAL PICTURE

Engineering and technology education and training relates strongly to the industrial and economic situation of a country. Highly industrialized countries have invested in education for many years. Without this investment, industries in countries such as Germany, USA, Sweden, Canada and other developed countries would have not been able to benefit from highly skilled engineering personnel who are able to demonstrate initiative, innovation, originality and the highest rate of productivity.

The reality is that modern industry now creates enormous wealth by producing goods and services, while the banks and other financial institutions do the same but only by shuffling papers. Modern and aggressive industry now is the key to success in the contemporary world. Over the last few years we have witnessed the shift of development and progress from so-called traditional centres to a new world. For example, many countries in South-East Asia have recently made enormous progress in

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restructuring their production and in attracting substantial foreign investment.

With minimal support from developed countries in the West, Central and Eastern European countries may also become a new economic arena for progress and development. It is to the benefit of the EC to help the new democracies to stand on their own feet. Recent statistics indicate that Western economies are on the brink of recession, and the picture is rather gloomy. By helping the Central and Eastern European countries in their striving to create their industrial base and hence prosperity in this region of Europe, Western economies would help their own industry to retain its production levels in order to satisfy the new demand for high-technology goods and services in the East.

It is apparent that the economic and industrial base of Central and Eastern European countries is far behind those in the West, and this trend will continue to prevail. High-technology industries will remain in the West for many years to come due to the lack of investment in the East and the apparent policy of protection of technology transfer. The reality is that Central and Eastern European economies are forced to accept the development of such industries, which in principle would complement high-technology industries in the West. There is also the problem of exploitation of the labour force in the East, which at this stage is extremely cheap. The natural resources and the environment of the East have, and still are, under severe pressure. The economic help provided by the West is extremely limited and by no means without conditions which favour the West. We must realize that there is no charity in business, and that the East will pay for this help in the future, more than expected at this stage.

The integration of Europe requires a visionary approach to doing business with the East. The entire concept of a united Europe will be severely hampered, or even entirely undetermined, by creating a part of Europe with secondary and highly dependent economies and infrastructures. Therefore, for the sake of the future of Europe, more resources must be diverted to the advancement and development of the East. This would help discharge the already existing political and social tension—Tensions that may otherwise undermine the peace and stability of the entire continent.

It is a truism to say that education is going to be the key factor in the development of a new Europe. The West is obviously not free of problems relating to its education systems, but these look rather trivial when compared to the problems that Central and Eastern countries experience at this stage. After many years of arrogant government and national neglect, the East must find the resources and personnel to modernize, and in many cases completely restructure, its educational base. The potential is mostly there, but the expertise and professional knowhow required for such work must come from the West. In addition, financial resources are indispensable for this endeavour.

The challenge which the East now experiences with the modernization of its education in general, and of its technology and engineering education in particular, relates mainly to the establishment of a higher education system able to supply a large volume of highly educated and skilled personnel for modern industry. New and highly specialized and efficient education organizations are necessary to satisfy this demand. Such institutions must be able to deliver relevant teaching programmes facilitated by laboratories equipped with advanced technology. Also, it seems appropriate that the teaching programmes include intensive training in foreign languages, essential for future international collaboration. The most important issue, though, is the academic personnel required for such an initiative. It is highly desirable that such education institutions mainly rely on their existing, highly skilled academic personnel. However, many professors from the West must be injected into the system to allow the transfer of ideas and leadership in this venture.

THE POLISH EXPERIENCE

Up to the 1800s Poland was mostly producing food and basic commodities with little commitment to the production of goods. With the availability of a vast and fertile territory, it was easier and better business for landowners to export crops, timber, meat, etc. to the West, and to import manufactured goods. The loss of independence in 1795 hindered even further the process of development. The three invaders—Austria, Prussia and Russia—deliberately neglected their occupied Polish territories and used them as a supplier of cheap labour and material. The second half of the 19th century saw the move by patriotic Poles to establish a network of Polish-owned industrial enterprises.

When Poland regained its independence in 1918, it was a heroic task to establish a national infrastruture. Needless to say, the former occupants built roads, railways and communication systems from the middle of Poland, which was formerly partitioned, to their respective capitals. It was a daunting task to stitch three neglected provinces into one organism. However, the 20 years of independence, between World War I and World War II, were by far the most successful years of national development. The outbreak of World War II, and the subsequent partition of Poland by Nazi Germany and communist Russia, abruptly ended the time of progress and national development.

The five-year occupation of Poland by Germany ended in 1945, with the total destruction of national industry and infrastructure. The nation lost more than six million people, including almost 90% of its intelligentsia, who were deliberately and methodically exterminated by the two occupants. The so-called 'liberation' of Poland by the Soviet Union in 1945 imposed a political system that

Poles neither fought for nor willingly accepted. With its resources and strategic position in Central Europe, Poland was indispensable to the communists in their attempt to conquer the world. Therefore, during the Cold War, the communist regime in Warsaw strictly followed orders from Moscow to develop heavy industry in Poland, with emphasis on steel, coal, chemicals and heavy machinery. This demand was to serve only military purposes with no apparent regard for the Polish people and their needs. In order to develop heavy industry, other industrial sectors, such as light and manufacturing industry, were totally neglected.

Factories and industrial sites mushroomed at that time with disregard for people and the environment. Mostly outdated technologies were used in this race, which were either given or sold to the Soviets by the Americans during the 1930s and World War II.

At the peak of the so-called 'national success' in the 1970s, when the nation was compelled to take part in a disastrous scheme of taking loans, buying outdated licences, importing basic commodities, etc., the gross national product (GNP) of close to US$80 billion was still extremely low. According to statistics produced at that time, the GNP per capita was slightly over US$2000, if one is to trust the statistics produced by the communists [1].

However, there was an attempt by engineers and scientists, who then occupied middle management positions, to develop modern industries in areas such as electronics, computing, radio and television equipment, tool-making, etc. Under the full control of the Communist Party and its centralized planning and management, these ventures did not stand a chance of competing with the West. The products were exported mostly to developing countries and those of the Communist Bloc.

Such 'national progress', irrespective of cost and poorly managed, has ended in a total national disaster. A national debt of over US$40 billion, a collapsed economy, a damaged environment, a demoralized population, etc. have been the outcome of 45 years of communist rule.

Since September 1989, Poland has made significant progress on the road to democracy and national development. A free-market economy has been introduced with fully exchangeable currency. In addition, privatization of national resources, including the introduction of incentives for foreign investment, has followed the political change.

Any drastic change of a political and economic system requires considerable resources and highly trained personnel. At this moment, Poland lacks both. Hence, the expectation that the West should provide the assistance necessary to continue the process of change and restructuring. But developed countries are now experiencing economic difficulties due to the recent recession. The West wants to help, and will continue to do so, but the available resources are scarce and they must be used in the most efficient way. So the new democracies must rely mostly on themselves and their own initiative. One of the most urgent actions should be to modernize and restructure the tertiary education system. In particular, the engineering education system requires new approaches and programmes relevant to the needs of society and industrial requirements in an era of rapidly changing technology and manufacturing processes.

THE IDEA OF UNDERGRADUATE DEGREE PROGRAMMES

The idea of training Central and Eastern European professional engineers with English as the main medium of instruction was suggested by Dr Zenon J. Pudlowski to the Rector of the Technical University of Lodz, Poland, Professor Jan Krysinski, when they met at the Second International Symposium for Deans and Industry Leaders at the UNESCO Headquarters in Paris in July 1991. Professor J. Krysinski expressed a strong interest in introducing such programmes in his university. The matter was discussed further when Professor J. Krysinski and Professor Janusz Turowski, Pro-Rector of the Technical University of Lodz, attended the East–West Congress on Engineering Education in Cracow, Poland, in September 1991.

Subsequently, Dr Z. J. Pudlowski was invited to visit the Technical University of Lodz at the end of September, where he discussed this idea with a number of key academics, including the Deans of both the Faculty of Electrical Engineering and the Faculty of Mechanical Engineering.

The Technical University of Lodz is one of the newest technical universities in Poland (established in 1945). It is undoubtedly one of the country's leading tertiary engineering education institutions. It has excellent teaching and recreational facilities as well as world-class research and academic staff. The university collaborates with a number of renowned academic institutions worldwide, including the University of Strathclyde (Scotland) and the University of Pavia (Italy) [2].

Many leading European scientists, academics and engineers are graduates of this university, and some of these are currently on its academic staff. Members of the Senate and principal officers of the university are among the most dynamic and entrepreneurial leaders and animators of the recent Polish political drive, as well as of the current economic and industrial development.

Throughout the ages, Poland has always been a multicultural and multi-religious country with a tradition of tolerance and openness toward others, so international students would find it extremely easy to adapt, especially in the academic environment. Poland has experienced its ups and downs, but its education system has always been strong. It should be noted that during the European Enlightenment, Poland established in 1772 the first National Ministry of Education in the world, the so-called National Committee for Education.

Due to its strategic position in Europe, Poland has always been regarded as the gateway to the East and this role is now of tremendous importance for national and international development. Over the last 40 years many young people from all over the world have come to Poland for knowledge. But the problem was that they needed to spend at least one semester learning the Polish language. With the establishment of an undergraduate course in English, this difficulty is overcome.

INTERNATIONAL FACULTY OF ENGINEERING

As a consequence of all these meetings, the Technical University of Lodz has recently established an International Faculty of Engineering. Dr Zenon J. Pudlowski of the Department of Electrical Engineering at the University of Sydney has been invited to become the Foundation Dean and Professor of this new Faculty.

The long-term objective of this new enterprise is to train professional engineers in areas most relevant to the needs of the region with particular emphasis on a sound preparation for more international involvement. It has also been decided that the new Faculty will endeavour primarily to introduce an undergraduate degree programme (B.Eng.) in electromechanical engineering, specializing in industrial automation and control, with possibly other programmes to follow.

The idea of educating students in English has stimulated the establishment of a formal collaborative programme between the Technical University of Lodz and the Faculty of Engineering at the University of Sydney. Other education institutions in Australia and abroad have already expressed their desire to be involved in this international project. The international B.Eng. programme involves outstanding professors representing many higher education institutions in the UK, USA, Australia, Canada, Germany, Italy, France and the Republic of South Africa, some of whom have already contributed heavily to the establishment of this Faculty and the development of this undergraduate programme. They advise the Faculty Board and the Dean on academic, research and administrative matters through an International Advisory Committee.

The academic merit of the degree, as well as its subject matter, had been assessed by a team of respected international academics [3]. They agreed that the programme is very well structured and will form the foundation for this particular engineering speciality, and agreed that this course should gain recognition by international professional associations. It is anticipated that the Faculty will assist its graduates who seek the recognition of their qualifications in other countries.

In addition, future graduates will have the opportunity to enrol in the Faculty's postgraduate courses, leading to the award of the degrees of Master of Engineering and Doctor of Philosophy by research.

AUSTRALIAN INVOLVEMENT

Although nominally a member of the G24 structure (12 EEC and other developed countries), Australia has not yet given credence to some of the benefits that may emerge from a strong international involvement in the process of modernization of the emerging democracies in Eastern and Central Europe. However, it is encouraging to see that the Australian business community has made significant progress in investigating business and investment opportunities in that part of the world. Long-term goals have encouraged several entrepreneurs to invest in those countries, and to help them modernize their industries.

In addition to industrial involvement and investment opportunities, good international business requires establishing trusting relationships. These may involve the development of non-industrial programmes such as cultural and educational activities sometimes loosely associated with a particular business venture. It is therefore desirable that Australia considers more active involvement in the process of restructuring Central and Eastern Europe engineering education systems which relate strongly to industry and industrial activities.

Not long ago, political and lobby groups considered it somewhat unacceptable and shameful to be involved in the marketing and sale of education abroad. Australia has already shown an enormous potential in providing developing countries with an expertise in education and, in particular, in engineering education. Thus, several engineering faculties in Australia have gradually sought potential markets for their educational services. Overall, education has become a notable industry, yielding over A$1000 million in revenue last year, which is an excellent result for a small country such as Australia. The results of such ventures are probably much better in countries such as the UK, the USA and Canada. Many governments see this as an excellent opportunity to raise revenue and improve their balance of payments.

Considering the Australian case, more financial support from the Federal Government and a more stable visionary policy, as well as a more aggressive entrepreneural approach toward education, would even further increase this figure. There is the possibility of Australian involvement in establishing joint ventures with Central and Eastern European countries.

The advantages from this involvement are twofold. On the one hand more engineering personnel would be prepared for more advanced industrial endeavours, and on the other hand the local educational system would benefit strongly from the generated revenue by building new and more modern teaching and research laboratories, which would serve both international and local students.

In such an effort, particular attention should be given to establishing training programmes for modern and advanced technology and specialities which would revitalize local industry which has become outdated over the last few years, and in particular local manufacturing industry.

It is therefore imperative that tertiary education in Central and Eastern Europe establish educational programmes for training future professional engineers in areas particularly relevant to modern technology, as well as to the new needs of each country. It seems that as a matter of urgency, study programmes must be developed and introduced in that part of the world, in areas such as information and technology, communications, electronics, materials engineering, industrial technology and industrial automation, chemical and process engineering and environmental engineering, each with a strong emphasis on engineering management and commerce.

The Faculty enjoys the patronage and support of the Australian Ambassador to the Republic of Poland, His Excellency Anthony C. Kevin, the Institution of Engineers, Australia and several academics from the Department of Electrical Engineering at the University of Sydney.

Substantial grants have been received from the Australian Federal Government to support the Faculty and its operations. The first was a grant of A$25,000 for the establishment of an Information Resource Centre, consisting of a specialized library, a computer centre and an English language centre. The Centre will incorporate significant Australian input, particularly through the involvement of Australian academics. This amount is funded from the small discretionary fund available to Heads of Mission under the Australian Programme of Training for Eastern Europe (APTEE).

The second grant of US$300,000 (Polish zloty equivalent) was received from the Australian Counterpart Fund. The Australian nature of this contribution is highlighted through Australian staff input to the project, English language courses, and the establishment of a Polish–Australian Information Centre (PAIC) which is to be located in the Faculty building. The idea of the PAIC is to promulgate information on Australian business, industrial, science and academic achievement in Central and Eastern Europe, through individual or joint fairs and exhibitions arranged by Australian organizations.

INTERNATIONAL TECHNICAL UNIVERSITY OF POLAND

Polish technical universities now experience many problems as they endeavour to reorganize and modernize their academic activities and organizational structures. It is apparent that they urgently require substantial financial and intellectual assistance from international organizations and agencies. Despite all the difficulties in running the day-to-day operations, several staff members venture beyond the current limitations, developing concepts and ideas concerning the future of Polish higher education institutions.

The idea of establishing undergraduate engineering degree programmes taught in English in Poland has attracted a considerable interest amongst Polish engineering educators. Based on the experience in establishing the International Faculty of Engineering, discussions have been held at different levels with other respected technical universities in Poland to establish similar faculties within their university structures, with two or three engineering degree courses being offered initially. The following universities are interested in pursuing this idea:

- The Academy of Mining and Metallurgy, Cracow.
- The Technical University of Gdansk, Gdansk.
- The Technical University of Silesia, Gliwice.
- The Technical University of Warsaw, Warsaw.
- The Technical University of Wroclaw, Wroclaw.

In addition, the discussions indicated the willingness of other universities to join the Technical University of Lodz in establishing an International Technical University of Poland, the idea being that their respective international faculties of engineering would form the academic structure of this new university.

Discussions with the Dean of the Faculty of Electrical Engineering, at the Technical University of Warsaw, Professor Stanislaw Bolkowski, and other university representatives indicate their strong desire to establish an undergraduate engineering degree programme in general electrical engineering. They hope that the course would commence in October 1993. They have not, as yet, committed themselves to the idea of a joint national university programme.

The Technical University of Gdansk seems to be most advanced in their effort to establish a degree programme taught in English. During the discussions held with the top university officers in June 1992, it was suggested that the university first organize a degree programme in telecommunications, based on their reputation in this engineering speciality. However, particular interest has emerged in developing a degree course in environmental engineering. An undergraduate curriculum programme for a degree of Bachelor of Environmental Protection has been recently developed with the objective of starting this programme in October 1994. Vice-Rector of the university Professor Aleksander Kolodziejczyk, coordinates the overall development of this programme. The Technical University of Gdansk is very much committed to the idea of a joint academic enterprise.

An interesting engineering degree programme has been proposed for development at the Technical University of Silesia. The Dean of Electrical Engineering, Professor Tadeusz Glinka, and his

Deputy, Professor Krzysztof Kluszczynski, in conjunction with other academics, have recogized the importance of electrical power generation and power systems management for the preservation of the ravaged environment of the extremely industrialized Upper Silesia region. Work has commenced on the development of an undergraduate engineering programme in power energy systems management with such important issues being addressed as energy generation, energy management and control, and protection of the environment.

It should be mentioned at this point that, in recent years, a trend has been observed that universities worldwide have downgraded their interest towards electrical power engineering, mostly by closing down their electrical power engineering courses and reducing funds for research and development in this area. The initiative by academics of the Technical University of Silesia deserves particular praise as it will address issues relating to the most difficult problems of energy crucial for the future development of the world. UNESCO has expressed its desire to contribute to this area of research and development. A recent UNESCO study entitled *Strategic Issues of Energy Systems Reforms in Central and Eastern Europe* will help in formulating basic topics and themes for this engineeering curriculum [4].

The Technical University of Silesia is considering joining other Polish technical universities to contribute to the establishment of the International Technical University of Poland.

Discussions have also been held with the Academy of Mining and Metallurgy in Cracow under the leadership of the Vice-Rector, Professor Stanislaw Mitkowski, in September 1992. Two faculties are particularly interested in the idea of developing undergraduate courses in English. The Faculty of Geology and the Faculty of Geophysics have proposed an interesting undergraduate engineering education programme, addressing modern and advanced methods for the exploration and exploitation of minerals, and the management of resources. This university has established its reputation throughout Europe and the world as a leading education and research institution in mining, and it has enjoyed a long-standing collaboration with similar institutions in Europe and the US.

The Academy also vigorously supports the idea of forming the International Technical University of Poland.

The Technical University of Wroclaw is well-known in Poland and Europe, mostly for its work in informatics and computer science. Since the 1960s it has been involved in the research and development of computer hardware and communication and automatic systems. During the discussion with the Director of the Institute of Engineering Cybernetics, Professor Wojciech Zamojski, the suggestion was made to establish a degree programme in this particular area. Several academic staff members are interested in their possible involvement in this project, but no further progress can be reported at this stage.

There is an interest in Poland towards other foreign languages. In particular, French language and culture has a long tradition and appreciation in Poland. Poland has been a traditional academic and trade partner of a number of French-speaking Arabic countries, and those contacts are of particular importance to the Polish economy and national development. Therefore, it is envisaged that when the undergraduate engineering programmes are developed they will be adapted to the needs of French engineering practices and norms, and offered to the French-speaking population.

Also, a cross-cultural approach to teaching engineering at the International Technical University of Poland is contemplated. That is, engineering courses may be taught in several languages giving local and overseas students the opportunity of mastering other languages and learning about different cultures. However, this approach will require a considerable involvement of international academics and support from international agencies and organizations.

Such a university would have a tremendous impact on the community in Central and Eastern Europe. Isolated and underdeveloped for many centuries, this part of Europe deserves a fair go. With the population of over 300 million, Central and Eastern Europe may be the future driving force in a new Europe, providing unlimited human and other resources for the benefit of the entire continent. It is hoped that this work will eventually result in the creation of an International Technical University of Poland. Many would like to see it as a Central European Technical University, which seems quite logical. Such a higher education institution would definitely serve the Central and Eastern European community in educating future world engineering leaders for peace, collaboration and the preservation of the environment.

It is believed that UNESCO has a particular role to play in this endeavour, As a world organization, UNESCO has developed a strong reputation in this part of the world. Committed to providing support and assistance to the underdeveloped world, UNESCO may help develop this idea further. In particular, UNESCO may consider the establishment of a UNESCO scholarship scheme allowing students from developing countries to study engineering at this university. It is desirable that UNESCO establishes a UNESCO Chair in Engineering Education in conjunction with this enterprise for a minimum of two years. Such a chair would contribute to the work in the development of engineering courses in this university and provide assistance to Polish academics in their struggle to modernize and restructure their engineering courses.

It is envisaged that postgraduate and continuing engineering education courses of special importance for Polish industry and environment will also

be established under this scheme. Particular interest is shown in establishing courses in such areas as engineering management, industrial automation and control, renewable energies for a clean environment, management of energy sector, etc. Again, UNESCO through its Science Sector would provide a great deal of assistance and expertise in the development of such courses.

CONCLUSIONS

There are many issues and concepts that need to be addressed in conjunction with such an important national development. However, only the most important and urgent ideas are discussed in this paper with the objective of providing readers with a general overview concerning the establishment and development of an International Technical University of Poland, stressing the need for international involvement and support from world agencies and organizations.

This involvement of Australian academics, and in particular of those from the Department of Electrical Engineering at the University of Sydney, in helping Polish academics to restructure and modernize their engineering courses is presented and discussed [5]. The financial support provided by the Australian Embassy for the development of the Information Resource Centre and the Polish–Australian Information Centre is mentioned to demonstrate the possible way in which foreign involvement and contribution to this development can be made. Other potential opportunities are indicated to encourage international agencies and organizations to support the project and participate in its development.

REFERENCES

1. *The Hamlyn Illustrated Encyclopedia*, Hamlyn, London, p. 467 (1988).
2. *Technical University of Lodz—Guidebook*, Wydawnictwo Politechniki Lodzkiej (1991).
3. Z. J. Pudlowski, An undergraduate engineering degree program in electromechanics, *EEE Res. Dev.*, **1** (1992).
4. B. Berkovski and P. Bauby (eds), *Strategic Issues of Energy System Reforms in Central and Eastern Europe*, UNESCO–EDF, Paris (1992).
5. W. N. Roebuck, Australians help Polish technical universities establish new engineering courses. *AAEE Newsletter*, **4**, 3/4, 8–9 (1992).

Zenon Jan Pudlowski graduated with a Master's degree in Electrical Engineering from the Academy of Mining and Metallurgy (Cracow, Poland), and a Doctor of Philosophy from Jagiellonian University (Cracow), in 1968 and 1979, respectively. He has been working in the Department of Electrical Engineering at the University of Sydney since 1981, where presently he is a Senior Lecturer. Only recently, he has been instrumental in establishing an International Faculty of Engineering at the Technical University of Lodz, Poland, of which he is the Foundation Dean and Professor. His research interests include circuit analysis, electrical machines and apparatus, implementation of computer technology in electrical engineering, software engineering, methodology of engineering education and industrial training, educational psychology and measurement, as well as human aspects of communication in engineering. Dr Pudlowski is a Fellow of the Institution of Engineers, Australia. He is a member of the editorial advisory board of the *International Journal of Engineering Education*, the *International Journal of Electrical Engineering Education* and the *European Journal of Engineering Education*. He is the Foundation Vice-President and Executive Director of the Australasian Association for Engineering Education and the Editor-in-Chief of the *Australasian Journal of Engineering Education*. He is the Foundation Secretary of the International Liaison Group on Engineering Education. Dr Pudlowski is a member of the UNESCO Steering Committee on Human Resources Development for Technical Industry Stimulation. He has chaired and organized several international conferences and meetings. He was the Academic Convener of the 2nd World Conference on Engineering Education and the General Chairman and Programme Committee Chairman of the East–West Congress on Engineering Education. He received the inaugural AAEE Medal for Distinguished Contributions to Engineering Education (Australasia) in 1991. Dr Pudlowski has been recently appointed Associate Professor, Associate Dean (Engineering Education) and Director of the UNESCO Supported International Centre for Engineering Education in the Faculty of Engineering at Monash University, Clayton, Melbourne, Australia.