

**PROFESSOR JERZY JAZWINSKI'S CONTRIBUTION FOR SCIENCE AND
TECHNOLOGY ON RELIABILITY, SAFETY AND TRANSPORT IN THE
NEW CENTURY
(PROF. JERZY JAZWINSKI FESTSCHRIFT)**

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Abstract

Prof. Jerzy Jaźwiński is a creator of the Polish School of the Reliability and Safety which an idea was the joint treatment of these problems. Prof. Jerzy Jaźwiński sat in on the organization of Winter-Schools of Reliability which determine the centre for the scientific promotion of many workers occupying with the reliability, diagnostics, and exploitation. As the worker of the AFIT, in the first term he was assigned to the Committee of Machine Construction of Polish Academy of Sciences. As the worker of the AFIT he sat in on works of the Scientific Boards of the Air Force Institute of Technology, Military Institute of Information Technology, Electromechanical Faculty of Military University of Technology, Military Institute of Armoured and Automotive Technology. Since establishment of the quarterly of the Problem of the Exploitation of Machines of Polish Academy of Sciences (ZEM), he is a Sub-Editor of the Reliability. Professor worked out the novel model stepped system of the safety, connected with period of the terrorism and natural disasters. Other problem is worked out by him the model of the system with assumptive structure redundant, ensuing from turbulent development of mechatronics, artificial intelligences, and the utilization of processors in transport control particularly in aeronautics.

Prof. Jerzy Jaźwiński is an author of several hundred scientific publications and analyses which were inculcated to the practice. He is laureate of numerous prizes for scientific achievements.

Prof. Jerzy Jaźwiński actively participates in domestic and international symposia, conferences and Congresses not only as an author and chairman, but also as a discussion participant Polish Academy of Sciences, as well as an attraction explorer of the culture and art of remote countries. Prof. Jerzy Jaźwiński has a great scientific authority, he is a member of many organizations and Scientific Societies Superlative is an election of Prof. Jerzy Jaźwiński to the State Committee for Scientific Research as a Member (2 times). The scientific activity of Prof. Jerzy Jaźwiński mainly concentrates in Polish Academy of Sciences, and Air Force Institute of Technology. The prof. Jerzy Jaźwiński has also successes as the author of the lyrical poetry.

Prof. Jerzy Jaźwiński, son of Mieczysław Jaźwiński and Maria Jaźwińska nee Kroze was born 13 November 1927 in Torczyn on Volhynia. His father was a native Torczyn inhabitant, mother was born in Belorussian Minsk, however in consequence of the storm The First World War she was came with the family on the ground of Volhynia, in Torczyn.

He began education at elementary school in Torczyn. During the German occupation, to avoid removal to a job in Germany, he took up different works: he was a schoolboy of the organist and blacksmith, a helper of the truck driver, he worked also in dairy and brick factory.

Professor described his life in Torczyn in a volume poem "Torczyn" (Ed. AFIT, Warsaw 2002). Into the poetical way he expressed in it his own relation to different events, and also causes and connected things with the family-country town, describing also their influence on his personality.

In April 1944 Jerzy Jaźwiński reported as the volunteer to Polish Army.

After long-lasting train journey he reached to a military group in Zhitomir, where he got allocation to The First Independent Regiment of the Unity Headquarters of the First Army Troops.

With this regiment, as telephonist, he spent battle track from Bug River to Elbe. In spring 1945 he finished course of bodo telegraphists. In ipso facto of the year he undertook learning at School of Pilots in Radom. After the closing of the school-flight, he was a particiPolish Academy of Sciencest preparatory class for the Technical Air-School in Boernerow near Warsaw. In January 1946 he began learning at School Officer Cadets (TSL) which finished in 1947 obtaining the diploma of the air-mechanic of the speciality of electrical engineering and the degree of sergeant of Officer Cadet. Jerzy Jaźwiński received the allocation to the Central Store of Air-Armies in Andrzejów under Lodz, where he met the beautiful girl Iwona Zontak - actual wife.

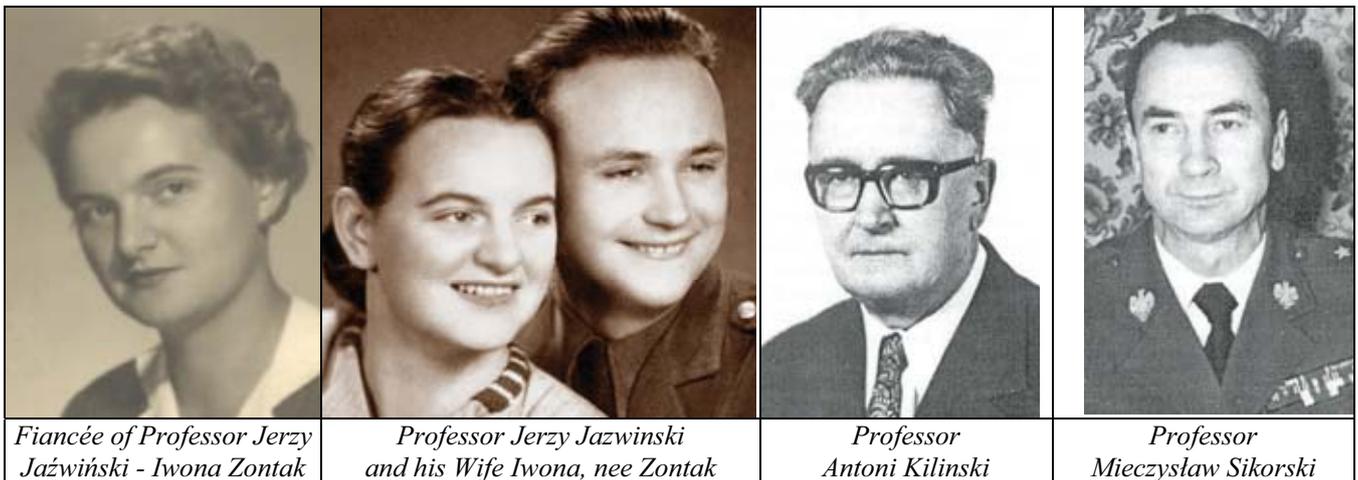


Fig. 1 Prof J. Jaźwiński's wife and his superiors: Prof. A. Kiliński and Prof. M. Sikorski



Fig. 2. School-girl Iwona Zontak - the later wife of Prof. Jerzy Jaźwiński

In 1948 he came back to TSL on class of technicians of the accessories, and after it finishing, he worked as the parachute-technician in the Branch the Central Store of Technical Materials in Dęblin. In 1950 he took duties technician of accessories in The 11. Regiment of the Hunting-Aviation in Ławica near Poznań, where a commander was Col. Pilot Zygmunt Ostrowski. The next year he was allocated to Technical School of Air-Armies in Zamość, fulfilling there duties

lecturer of electrotechnics in the accessories. At the same time he attended also Zamość Academy, where he obtained the secondary education diploma.

On 13 April 1953 in Zamość Town Hall he got married state with Iwona. Iwona, beauty girl charmed him with her own loveliness, and their married relationship is lasted by up to the present.



Figs. 3. Colleagues from the high school (from right Yvonne Zontak - the later wife the Prof. Jerzy Jaźwiński). In the middle prof. Jerzy Jaźwiński



Fig. 4. Professor Stefan Ziemia (on the right) – tutor of the habilitation work of Jerzy Jaźwiński

Soon he began studies on the Aeronautical-Faculty of Military University of Technology, and next on Faculty of Radio Engineering. Higher education he finished in 1958, obtaining the diploma of the master of the engineer of air- radio technical devices. After the completion of studies he undertook work in the Higher School of Pilots in Modlin on position of the engineer of radio technical devices.

In 1959 he passed to work in Air Force Institute of Technology, wherein undertook duties of the Manager of Radio-navigation Laboratory. In 1962-1969 he was in an office the Manager of the Studio of the Radiolocation. He took up then with the problems of the radio-navigation and radiolocation. At that time in AFIT in a great way, design works were realized.

In laboratory of the radio-navigation the Doppler radio altimeter of the small height was worked out, and in laboratory of the radiolocation works on the creation of the simulator of the deck- radar station were begun. In 1968 for performed of the radar station simulator Professor received the III Degree Team Prize of Minister of National Defence. One ought to underline, that it was one of first prizes of Minister of National Defence in Air Force Institute of Technology. In that manner in the Institute, the novel specialization construction of simulators was begun.

In sixtieth of previous century Jerzy Jazwinski changed his scientific interests: the automated technology was replaced by reliability of air-technique. The commander of AFIT, Col. Mieczysław Sikorski fulfilled then requisite changes.

Celebrator defended his doctoral thesis in Warsaw University of Technology in 1967. His promoter was prof. Antoni Kiliński. Results of work doctor's were published by Simon Firkowicz and Jerzy Jaźwiński in the common publication entitled: Methods not parametral estimations of irreparable products' reliability in Archive of Electronics, book 4, 1968. The described method found its own image in the Szymon Firkowicz's monograph entitled: Statistical surveys of products, Ed. WNT, Warsaw 1970. Basing on the monograph, Statistical Tables were also worked out and given in issue of 500 pieces. The subscription was rendered accessible to civilian and military universities and scientific institutes in Poland.

In 1970 the Institute delegated Dr. Jerzy Jaźwiński to Group of Reliability of the State Committee for Science and Technology, where he met the outstanding specialist - Prof. Stefan Ziemia, He was friends with Prof. Zbigniew Smalko. At that time the initiated cooperation with Prof. Smalko stays up to the present and bore fruit with numerous collaborative papers. New relations into the essential manner bore on his further scientific development.



Fig. 5. Prof. Zbigniew Smalko, co-originator of Winter-Schools of Reliability

Date with Professor Stefan Ziemia bore fruit assumption work qualifying for professorship on the subject: *The study over methods estimation of the reliability of the some class of technical objects*. The colloquium qualifying for professorship took place Poznan University of Technology in 1973. In dissertation qualifying for professorship original models of systems on the starry structure and tests of the removal of examples for the not parametral method estimation of the reliability in the way impose of Markov processes were among other things. Obtained results were additionally published in ZEM 3/74 and ZEM 4/74.

In 1973 in AFIT one undertook from the range readily of military systems which was realized in team: Jerzy Jaźwiński, Janusz Migdalski, Włodzimierz. Wieremiejczyk, Józef Żurek, Maciej Kamiński. Practical results were worked out in form of normative documents of the fighting-activities technical protection. The original model readily of military systems was worked out. It comprised the state of the continuous readily, the state of the passage from the continuous to the full readily and the state of the full activity in military readiness. In 1975 in AFIT the scientific meeting of Bases Section of Exploitation of Committee of Machine Construction of Polish Academy of Sciences took place where was discussed worked out method in AFIT was disused.

For description of the process of passing from the state steady-state to the full readiness state the original, structural theory of the activity was proposed by Prof. Jaźwiński.



Fig. 6. Party meeting on the occasion obtainment of the professor title by Prof. Jaźwiński and Prof. Lewitowicz (from right: Col Zbigniew Stankiewicz – AFIT Commander, Beata Jaźwińska – professor's daughter, prof. Jerzy Lewitowicz; prof. Jerzy Jaźwiński; Anna Lewitowicz – wife of Prof. Lewitowicz, Col. Eugeniusz Kijewski - AFIT Deputy Commander)

Within the framework of realized theme three doctoral theses were performed by Dobiesław Matella - 1978, Józef Żurek - 1981, and Maciej Kamiński - 1981. Whole, obtained during realization of the theme, the scientific achievement underlied that Doctor Jerzy Jaźwiński had obtained the Professor title on 13 April 1979.



Fig. 7. Col. Jerzy Jaźwiński with professor's diploma (13 April 1979)

In that period Prof. Jerzy Jaźwiński sat in on the organization of Winter-Schools of Reliability which were the centre for the scientific promotion of many scientific workers employing with the reliability, diagnostics and exploitation.



Fig. 7. Professor Jerzy Jaźwiński in his study



Fig. 8. Winter-Schools of Reliability Szczyrk (from left: Prof. Aniela Gołqbek, prof. Bolesław Wojciechowicz, prof. Krystyna Ważyńska-Fiok, prof. Jerzy Jaźwiński, prof. Jan Borgoń)

In that period Prof. Jerzy Jaźwiński initiated cooperation with Prof. Krystyna Ważyńska-Fiok. This cooperation bore fruit with many publications domestic and foreign and numerous book-publishers.

As the worker of the AFIT Institute in the first period he was delegated Ministry of National Defence to Committee of Machine Construction POLISH ACADEMY OF SCIENCES. In 1990s he was elected by scientific environment to the State Committee for Scientific Research, where he worked in two following terms of office as a member of the Body of Mining, the Geodesy and Transport.

At that time he was elected by scientific environment to Committee of Machine Construction and the Committee transportation of POLISH ACADEMY OF SCIENCES. As the scientific worker of

Air Force Institute of Technology he sat in on works of Air Force Institute of Technology, the Military Institute of Information technology, the Electromechanical Faculty of Military University of Technology, Military Institute of Armour & Automotive Technology. Since the moment foundation the quarterly of the Problem the Exploitation of Machines Polish Academy of Sciences (ZEM) in 1973 he has been a Sub-Editor of the Reliability.



Fig. 9. Prof. Jerzy Jaźwiński (right) and Dr. Tadeusz Salamonowicz - Winter-Schools of Reliability organizer



Figs. 10. The honour for Mrs and Mr. Iwona and Jerzy Jaźwiński by the President of the Republic of Poland with decoration for 50-the years of the married life



Fig. 11. Prof. Jerzy Jaźwiński as a Member of State Committee for Scientific Research during visit in Institute of Aeronautics (from left Prof. J. Jaźwiński, Prof. Józef Jarosiński, Prof. Joanna Pinińska, Minister Aleksander Łuczak Dept. Dir. Barbara Bolkowska, Dir. Marek Ślęzak, Dir. Jacek Makles)



Fig. 12. Winter-Schools of Reliability, Szczyrk 2000 - the coronation of Dr. Józef Żurek on the Doctor Habilitated Degree. From left: Prof. Józef Żurek, MSc Stanisława Żurek, Prof. Jerzy Jaźwiński



Fig. 13. The Scientific meeting of Research i Development Centers in Ustroń - the concert on four-part, from left: Prof. Jerzy Jaźwiński, Prof. Jan Marcin Kowalski

In 1998 the Scientific Council of Transport Faculty of Warsaw University of Technology nominated the prof. Jerzy Jaźwiński on a Correspondent Member of Polish Academy of Sciences. In spite, that chance was not large for the scientific worker from Institute having application achievements, it was a big distinction.



Fig. 14. The meeting on the occasion of Prof. Jerzy Jaźwiński 75-Birthday on the session of the Committee of Machine Construction Polish Academy of Sciences in Sopot. From left: Prof. Jerzy Jaźwiński, Prof. Józef Szala Prof. Bolesław Wojciechowicz.

Beginning since eightieths, in team co-operative with the Prof. Jerzy Jaźwiński, Polish School of Reliability and Safety has begun to crystallize. The idea of the School consisted in the joint treatment of the problem of the reliability and the safety.



Fig. 15. Professor Zbigniew Smalko (right) a poster referring during scientific conference. From left: Prof. Jerzy Jaźwiński, Prof. Dobiesław Bobrowski



Fig. 16. Professor Jerzy Jaźwiński with the family: wife Iwona Jaźwińska, his son Jarosław Jaźwiński and grandson Marcin Gorzeń (from the right)

In the last years the novel model of stepped system of the safety was worked out, connected with age of the terrorism and natural disasters. Other idea, meriting attention, is the model of the system with assumptive structure redundant, resultant from the stormy mechatronics development,

artificial intelligences, the utilization of processors in transport control, in particular flying.



Fig. 17. Professor Jerzy Jaźwiński and his daughter Beata Jaźwińska-Gorzeń and his son Jarosław Jaźwiński.



Fig. 18. The Girl conquered Prof. Jerzy Jaźwiński



Fig. 19. Prof. Jerzy Jazwiński presents lecture during Winter-Schools of Reliability in Szczyrk 2007



Fig. 20. Prof. Jerzy Jazwiński has an address during Winter-Schools of Reliability in Szczyrk 2007



Fig. 21. Prof. Jerzy Jaźwiński (in-depth of room) during the Plenary Session of 32 International Scientific Congress on Powertrain and Transport Means European KONES in Naleczow2006



Fig. 22. During the Plenary Session of 32 International Scientific Congress on Powertrain and Transport Means European KONES in Naleczow2006 the decision of the Prof. Jerzy Jaźwiński Jubilee was undertaken (from left Prof. Ryszard Szczepanik – General Director of AFIT, Prof. Yasuhico Ohta (Japan), Prof. Tad Jaroszczyk (USA), author, Dir. Marek Ślęzak, Prof. Zbigniew Smalko



Fig. 23. FISITA Council Meeting in Budapest when the decision on the FISITA Patronage on KONES2007 where Prof. Jerzy Jaźwiński has the Birthday Jubilee, from left: President of FISITA Dr. Akihiko Saito – Vice-President of Toyota Motor Corporation - President of Denso, author, Congress Chairman - Dr. Andreas Voith (Hungary



Fig. 24. Prof. Mieczysława Prażewska - the first PhD student of Prof. Jerzy Jaźwiński is receiving professor's nomination from President Lech Wałęsa.



Fig. 25 Prof. Jerzy Jaźwiński with young scientist and poetess Lucyna Brzozowska in Bator Salon in Szczyrk.



Fig. 26. From left Prof. Zbigniew Smalko, Prof. Jerzy Jaźwiński, Prof. Ryszard Krystek in AFIT during The Aviation Holiday (2007)



Fig. 27. Prof. Ryszard Szczepanik- General Director of AFIT and Prof. Jerzy Jaźwiński in AFIT during the Aviation Holiday (2007)



Fig. 28 From Left: Prof. Ryszard Krystek, his wife Urszula Krystek and Prof. Jerzy Jaźwiński in AFIT during the Aviation Holiday (2007)



Fig. 28. Dir. Marek Ślęzak and Prof. Jerzy Jaźwiński in AFIT during the Aviation Holiday (2007)



Fig. 29. Prof. Jerzy Jaźwiński, Prof. Ryszard Szczepanik- General Director of AFIT and Ms. Iwona Jaźwińska in AFIT during the Aviation Holiday (2007)



Fig. 29 Prof. Zbigniew Smalko (left) and Prof. Jerzy Jaźwiński in AFIT during the Aviation Holiday (2007)



Fig. 30. Prof. Jerzy Jaźwiński (right) receives wishes from Dir. Marek Ślęzak and his wife Hanna Ślęzak, General Director of Institute of Aeronautics the Prof. Witold Wiśniowski in AFIT during the Aviation Holiday (2007)



Fig. 31. Prof. Jan Lesinsky is coming to KONES2007 this year as a FISITA Representing (FISTA Patronage on KONES Congress2007) and he will take participation at KONES2007 Congress and in the Ceremony of the Prof. Jerzy Jaźwiński Jubilee (from right: Prof. Jan Lesinsky and the author)

Ideas of Prof. Jaźwiński are realized in group by inter alia: Prof. Zbigniew Smalko, Prof. Józef Żurek, Prof. Lech Bukowski, Prof. Janusz Szpytko, prof. Wojciech Zamojski, Prof. Jan Borgoń, Prof. Wojciech Wawrzyński, Prof. Lesław Będkowski, Prof. Tadeusz Dąbrowski, Dr. Grzegorz Kowalczyk, Dr. Tadeusz Salamonowicz and other. The further development of the Winter-Schools of Reliability and others dictates the current being developed reality.

Prof. Jerzy Jaźwiński's the professional and scientific career was possible thanks to the support of commanders and managers of the Air Force Institute of Technology which in turn they were: Gen. Prof. Mieczysław Sikorski, MSc. Zbigniew Stankiewicz, Gen. Prof. Jerzy Lewitowicz, Prof. Jan Borgoń, Dr. Zbigniew Żmudziński, Dr. Leszek Lorocho, Dr. Ryszard Szczepanik.

Prof. Jerzy Jaźwiński lives with the family in Warsaw. The wife of the professor Iwona Jaźwińska - the lecturer of English in Military University of Technology (at present on pension). The son Jarosław Jaźwiński is an independent scientific worker in the Institute of The Organic Chemistry in Warsaw. The daughter Beata Jaźwińska-Gorzeń graduated within the range managements and at present deals in the private business. The grandson Marcin Gorzeń is a student of the information technology in the Warsaw University of Technology.

Prof. Jerzy Jaźwiński at one's leisure from scientific work deals with the poetry and the stamp-collecting. He wrote several volumes of the poetry, among other things: *The labyrinth of the life*, the Editor AFIT, Warsaw 2000, *Fragments of events*, the Editor ITeE, Radom 2003, *Torczyń*, the Editor ITeE, Radom 2005, *Today's and former years*, the Editor Warsaw 2006. Prof. Jerzy Jaźwiński is not only famous scientist of the outstanding achievement but a man of the rich inner life, the humanist and the poet. All the time, from enchantment in Zamość assists him and associates him, the charming girl with tress of the film-beauty, intelligent and devoted him wife Iwona.

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