

PERSONAL INFORMATION

Aurel TULCAN



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Nationality - Romanian

JOB APPLIED FOR
 POSITION
 PREFERRED JOB
 STUDIES APPLIED FOR
 PERSONAL STATEMENT

Habilitation thesis

WORK EXPERIENCE

01.12.1990-now

Associate professor (2009-now), Lecturer (1998-2008), Assistant Professor (1990-1998)

Politehnica University Timișoara, Piața Victoriei nr.2, 300006-Timișoara, România, www.upt.ro

Teaching and research activities:

- Teaching activity of course, laboratory and project in 13 different subjects and development of new subjects (6);
- Editing of teaching books (7 books) and a monography;
- Elaboration of scientific articles (98 articles);
- Development of patents (5);
- Director or member of the research team in various research grants or contracts (88):
 - Director on 1 international grant with companies, 5 national type A grants, 1 PN II and 1 FDI;
 - Director on 22 contracts with multinational automotive companies;
 - Team member on 7 international grants, 23 national grants and 28 contracts with national and multinational companies.

Business or sector Higher education, Field of manufacturing engineering

03.08.1990-01.12.1990

Engineer

IMU Arad Machine Tools Company, Tooling Section, Prototyping Workshop

- Participation, in team, in the manufacturing of lathe prototypes;
- Prototyping of a device for correcting the profile of locomotive wheels.

Business or sector Machine-Tools Manufacturing

01.04.1994-31.05.1994

Engineer (Tempus programme grant)

Engine Company Française de Mécanique, Douvrin, France

- Solving dimensional accuracy/quality problems in the grinding of camshaft bearings on various types of engines.

Business or sector Manufacture of Renault, Peugeot, Citroën and Volvo engines

EDUCATION AND TRAINING

1992-1999

Doctorate in Machine Building Technology (Industrial Engineering)

Doctorat

ISCED code 6

Politehnica University Timișoara, Piața Victoriei nr.2, 300006-Timișoara, România, www.upt.ro

- Flexible manufacturing in cold plastic forming. Applied research.
- Realization of an automatic stamping-forming line in the Cold Plastic Deformation Laboratory

- 1993 **Diploma of Industrial Property Advisor**
 INVENTA University Agency Bucharest, Romania
 - Industrial property (patents) / advisor

- 1985-1990 **Engineering diploma in the field of Machine Building Technology** Higher education
ISCED code 5
 Polytechnic Institute "Traian Vuia" of Timisoara, Faculty of Mechanical Engineering, Romania
 - Advanced knowledge of mechanical and manufacturing engineering

- 2019 **University Management Course**
 Ministry of National Education in partnership with the Romanian Academy
 Project: "Developing the capacity of the Ministry of National Education to monitor and forecast the evolution of higher education in relation to the labour market".
 - Improving the capacity of the education management system by developing the competences of higher education managers and increasing their counselling and career guidance capacity.

- 2002-2012 **Trainings (16)**
 Company Industrielle CNC und Messtechnik, Waldsölms-Kröfelbach, Germany (Convention no.12048 / 10.10.2000 with Politehnica University Timișoara)
 - 3D measuring procedures / part measuring programs, retrofit (up-grade) of existing Coordinate Measuring Machines on the market and design of new Coordinate Measuring Machines (Presingo 755 in 3 and 4 axes, NovaBernath 564).

- 2007 **Specialisation course**
 Messtechnik Wetzlar / Leitz, Germany - manufacturer of Quindos7 measurement software
 - Training in three-dimensional measurements using Quindos7 software

- 2000 **Autumn course**
 Polytechnic University of Bucharest, Romania and National Polytechnic Institute of Grenoble, France
 - Knowledge modelling for integrated design and manufacturing

- 1999 **Winter course**
 Polytechnic University of Bucharest, Romania and National Polytechnic Institute of Grenoble, France
 - Design and manufacture of mechanical products

- 1996 **Winter course**
 Polytechnic University of Bucharest, Romania and National Polytechnic Institute of Grenoble, France
 - Integrated design of mechanical and mechatronic systems

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Replace with language	B2	B2	B1	B1	B2
Firenze Scuola 2F Certificate					
Replace with language	B2	B2	B1	B1	B2
French language certificate No 540 /06.06.1995 issued by the French Cultural Centre					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

Teaching skills

- communication skills acquired during 32 years of teaching activity

Communication skills with people in a multicultural environment:

- numerous training-research-design internships at Industrielle CNC-und Messtechnik, Germany and interaction with collaborators/customers in Europe, USA, Japan, China etc.;
- visits to companies in Germany, France, Norway, Japan and Romania on various working topics;
- visits to the Tekniker research institute in Eibar, Spain, resulting from the MNT 7-021 research project (2010-2012);
- visits to various Universities in Europe in the framework of the Leonardo da Vinci project "LdV/PAR/2009 - RO/ 051 "European Network for Plastics and Composites";
- Communication/teaching experience in the framework of the summer school in English "Product design and manufacturing", edition 2014-2022 for second year students, Industrial Engineering, at the Institut National Polytechnique de Grenoble, France.

Organisational / managerial skills

- Vice-Dean of the Faculty of Mechanical Engineering (2016-2020);
- Director of the Plastics Competence Centre (CCP) at UPT (2014-present);
- Member of the Board of the Department of Materials and Manufacturing Engineering (2012-2016);
- Experience in the conduct and management of research activity, acquired through participation, as team member or director, in 88 research projects. Coordination, as project manager, of the research team on 7 national grants, 1 international contract and 22 contracts with industry (multinational automotive companies).
- Coordination of an institutional development project (CNFIS-FDI) to create a Student Business Accelerator within the UPT Student Entrepreneurial Society (DAASSAS-UPT), which involved:
 - Setting up a multifunctional space in the Faculty of Mechanical Engineering and equipping it with computing technology and a video projection system;
 - Organising an Entrepreneur 2021 event in partnership with INCUBOXX and with the support of student leagues (COSPol), with the invitation of leading entrepreneurs;
 - Organising a student business idea competition;
 - Organising a communication section for students on the results of the student business accelerator during the UPT Career Days event.
- Experience in Invention and Value Engineering / Patented invention valorisation, reflected by 5 patents, presented and awarded at national and international fairs;
- Establishing partnerships with companies in the country and abroad, attracting sponsorships, donations:
 - Introduction, for the first time, in 2002, the concept of Three-dimensional Measurement at the Polytechnic University of Timisoara (Control Systems course for 5th year students, specialising in Machine Building Technology - MCT), the publication in 2006 of the first book in Romania on three-dimensional measurement, entitled Control Systems, and the creation of two new Three-dimensional Measurement Laboratories, with the support of companies:
 - Industrielle CNC-und Messtechnik, Germany (convention no. 12048/2000-2013 with UPT): equipping with 2 Coordinate Measuring Machines TESA 343-manual and TESA 343 CNC-personally designing the machine motorization and converting it into a CNC machine;
 - Renishaw, UK/Germany branch: equipping with electronic equipment for measuring machines (controller UCC2, manual control unit MCU1);
 - Hexagon Manufacturing Intelligence (10-year partnership with UPT, no. 11521/07.09.2017: provision of a DEA Global Advantage 7.10.7 Coordinate Measuring Machine, model 2018, measuring accuracy 1.9 micrometers (with calibration certificate), with PC-DMIS and Quindos7 measuring software and 25 PC-DMIS offline software licenses, running on the computer network);
 - Kaeser / Rolling Romania: screw compressor and compressed air network equipment.
 - Development of the Virtual Manufacturing Lab by equipping it with 25 CAM software licenses from VERO-solutions through Hexagon Manufacturing Intelligence;
 - Development of the Cold Forming Technologies laboratory with the help of Meusburger: equipping with stamp and die and electronic/printed catalogues for the design of stamp and die;
 - Fitting out of the interdisciplinary laboratory (room 126 SPM) with the help of Hella Romania: computers, furniture, video projection equipment;
 - Development, together with colleague Stan Daniel, of the Optics laboratory for injected products, with optical equipment from Hella Romania;

- Organization, in 2018, of the 60th anniversary event of the Machine Building Technology specialization and editing of the monography "Machine Building Technology specialization at 60 years", as coordinating editor;
- Member of the conference organizing committee: International Conference on Advance Materials and Structures and member of the conference scientific committee in 2011, 2013, 2018, 2020 and 2022;
- Partnership agreement UPT - Profimatt for training courses in the field of Plastic Injection;
- Coordination of the team for the preparation of the periodic evaluation files of the Master programs in the field of Industrial Engineering (IPMPC /2008 and IPMPC, II, PPSMGP/2019);
- Coordination of the preparation of the periodic evaluation file of the specialization in Machine Building Technology (1995);
- Organizer, reviewer and member of the committee of scientific papers: "Student Technical Days" - ZTS 2009, 2010, 2015;
- Co-organizer International Summer School "Data Assimilation and its application (Faculty of Mechanical Engineering, 22 July - 2 August 2019) together with Prof. Dr. Remus Hanea from the Technical Faculty of Delft, The Netherlands and Equinor, Norway;
- Coordinator of the "Dual Degree Program" for the Industrial Engineering and Materials Engineering study programs, within the agreement signed in 2017 between the Politehnica University of Timisoara and the Ecole Nationale Supérieure des Mines Albi-Carmaux, France

Job-related skills

- **Advanced knowledge of mechanical design and manufacturing engineering:**
 - Complete design of two PRESINGO 755 Coordinate Measuring Machines, in 3 and 4 axes (with rotating table included in the actual table), with measuring accuracy of 0.9 micrometers, manufactured in Germany and Croatia, sold in Europe and Japan, and participation with them at the International Fair for Measuring and Control Technology, Sinsheim, Germany, 2007 and 2008;
 - Complete design of a NovaBernath 564 Coordinate Measuring Machine (manual and CNC version), manufactured in Romania (Nova Grup Cugir company) and China, and participation with it at the Bucharest International Fair - TIB, Bucharest, Romania, 2012;
 - Design of motorization systems for retrofitting of existing Coordinate Measuring Machines on the market, produced by established companies (DEA, TESA, Cordax-Sheffield, Zeiss, Mitutoyo, Brown&Sharpe);
 - - Motorisation of the manually operated TESA 343 Coordinate Measuring Machine and its conversion into a CNC Coordinate Measuring Machine (machine which has been added to the three-dimensional measurement laboratory of the IMF department).
- **Skills in 3D programming and measurement of parts.** Development of measuring programs for different parts made by automotive companies in the western part of Romania (Continental, Elbromplast, Hella, Plastor, Swoboda, TRW, Webasto etc.).
- **Expertise in geometrical product specification - GD&T / GPS** (Geometrical product specification). Technical consultancy and training for design engineers and 3D measurement laboratories of various automotive companies (Akwel, Continental, Elbromplast, Flex, Hella, Lemam Industrie, Mahle, Plasess, SIFA, Swoboda, Zoppas Industries etc).

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificates

- Use of Microsoft Office software (Word, Excel, PowerPoint);
- Computer Aided design (Solidworks);
- Finite element analysis (Ansys, Cosmos);
- 3D measurement: Quindos7, PC-DMIS, laser scanning: Dr. Picza, LPX EZ Studio and others;
- Statistical data processing: Statgraphics, Minitab.

Other skills

Trainee Collaborator at Tudor ICLĂNZAN Industrial Property Cabinet

Driving licence B

ADDITIONAL INFORMATION

Honours and awards

- Member of the Consortium of Mechanical and Industrial Engineering Faculties in Romania (2017-present);
- Member of the Romanian Standardization Association - ASRO: Technical Committee 58 - Metrology (2010 - present);
- Member of the University Association of Manufacturing Engineering - AUIF (2004-present): Vice President of AUIF, Timisoara branch (2019 - present);
- Member of PhD committees at the Politehnica University of Timisoara, Polytechnic University of Bucharest and Technical University of Cluj Napoca;
- Chairman of teaching grade I committees (high schools/colleges/school groups in Arad, Deva, Reșița, Caransebeș and Oțelul Roșu).
- Diploma of excellence and gold medal with special mention at the International Exhibition of Inventions PRO INVENT 12th edition, Cluj Napoca, Romania, 2014, for the invention "Microinjection mould";
- Diploma of excellence at the International Exhibition of Inventions PRO INVENT 12th edition, Cluj Napoca, Romania, 2014, for the invention "Portsculpted device with built-in ultrasonic activation system";
- Award of excellence at the international conference "Integrated systems for agri-food productions, SIPA'09", Nyiregyhaza, Hungary, 2011;
- 3rd Prize at the 14th International Conference "Modern Technologies, Quality and Innovation" (ModTech 2010), Slănic-Moldova, Romania, 2010;
- Silver medal at the 37th International Exhibition of Inventions, Techniques and New Products, Geneva, 2009;
- Silver medal at the INVENTIKA Exhibition, Bucharest, 2009;
- Silver medal at the 53rd World Exhibition of Innovation, Research and New Technologies, EUREKA, Brussels, 2004.

ANNEXES

Timișoara, 04.07.2022

Assoc. Prof. Dr. Eng. Aurel TULCAN