

Curriculum Vitae
of
Ildiko PETER

1. Basic information

1.1. First name: Ildiko
Family name: PETER

1.2. Citizenship: Italian and Romanian

In some publication and on the Diplomas (Degree and PhD) Ildiko Peter is signed as Ildiko Matekovits.

She obtained the Italian citizenship and the Italian laws have imposed to change back her un-married last name. After receiving the Italian citizenship she is signing as Ildiko PETER (from 1993 to 2007 she signed as Ildiko Matekovits).

Nationality: Hungarian (mother language: Hungarian)

1.3. Date of Birth: 25/11/1968, Arad (Romania)

1.4. Gender: Female

1.5. Family status: married, 1 child

1.6. Home address:
23, Via Tunisi, 10134 Torino-Italy
Home Phone: 0039 011 3190283
Mobile Phone: 0039 338 5672651

1.7. Business address:
24, Corso Duca degli Abruzzi, 10129 Torino-Italy
Office Phone: 0039 011 0904670
e-mail address: ildiko.peter@polito.it

1.8. Language skills:
1.-Hungarian (native language)
2.-Romanian (native language level)
3.-Italian (native language level)
4.-English (good)

1.9. Current employment:

PhD in Materials Science and Technology Scientist/ Laboratory Manager at the
Department of Applied Science and Technology, Politecnico di Torino (Italy)

Permanent position: 4/07/2012-to date

1.1 Employment record:

In January 2000 Ildiko Peter joined to the Department of Material Science and Chemical Engineering at Politecnico di Torino, where she has performed her continuous teaching and research activity covering different positions, as follows:

01/2000 – 12/2001	<i>Research Assistant</i> (assegno di ricerca). Research topic: Vitrification of Municipal Solid wastes - fixed term
01/2002-12/2005	<i>Ph.D student</i> : Research topic: Vitrification of Municipal Solid wastes. Supervisor Prof. Pietro Appendino. The thesis was defended on March 4, 2006.
1/1/2005 – 3/8/ 2005	<i>Research Fellow</i> in a project granted by the Piedmonte Region in collaboration with the European Social Found for the innovative research and technology transfer (Sinapsi). The topic of the grant is the same as of the Ph.D. thesis.
1/9/2005 30/8/2006	<i>Research Fellow</i> : Research topic: Investigating hard metals for cutting tools (diamonds, tungsten-carbon) - fixed term (1 year)
1/9/2006-15/11/2009	<i>Research Assistant</i> (assegno di ricerca): Research topic: Study of different metallic alloys. - fixed term
16/11/2009	– PhD in Materials Science and Technology Scientist/
04/07/2012	Laboratory Manager -fixed term position
04/07/2012 – to date	PhD in Materials Science and Technology Scientist/ Laboratory Manager- permanent position

2. Education, qualification and evaluations

- 2.1.
 1. Degree in Chemistry, Specialization in Biochemistry: Università degli Studi di Torino- Facoltà di Scienze Matematiche, Fisiche e Naturali- Dipartimento di Chimica, Torino (Italy) on Graduation date: 4/03/1999;
 2. PhD in Materials Science and Technology: Politecnico di Torino degree granted on 31/10/2006.
- 2.2. Ildiko Peter has acquired the “Abilità per Professore Associato (mandatory licence required for appointment for Associate Professor in Italy)” at National level judgment expressed by an International Committee.
In 2014 she received two such licences, in the field of Materials Science and a second one in the field of Metallurgy.

3. Research interest, Scientific activities:

- 3.1. Ildiko Peter’s research activity is highly interdisciplinary involving different people, departments and research centres at local, national and international level. During her research I. Peter, with Chemistry background has the capacity to use this skill for the connection and for the development of functional materials in a Materials Science network approach.

The large number of research topics considered in different circumstances reflects I. Peter’s capacity to develop productive links with experts with whom she had the opportunity to interact. She published papers in joint authorship with many researchers from different countries (Italy, UK, Ireland, Australia, France, Germany, Romania, Hungary) and her professional network is still growing. The collaboration with different industrial players operating in different realty as small and medium size

companies and/or world leaders in their field demonstrates the high problem-solving ability that characterizes her personal attitude.

I. Peter scientific skills. I. Peter's research was developed considering the compositions and the structure of the materials. The basic structure (microstructure) of the materials and its influence on the macroscopic properties, critical for suitable industrial application, is growing up exploring the composition and the internal "architecture" of the material, starting from chemical point of view. The microstructural characterization, the different mechanical properties measurements, thermal analysis, structural properties investigations, etc. on the materials by different instruments (microscopies, thermal analyzer, tensile/compression/etc. X-Ray diffractometer, etc. is carrying out directly by I. Peter and she use such investigation tools for her any scientific research. Actually, in most cases based on the aim (s) of the scientific project design/plan the scientific research to be done, coordinate the students and PhD students for the realization of the analysis and she directly analyze the results, with the support of the research team and finally she organize and finalize the scientific report for the research carried out.

Actually, Ildiko Peter's research interest is oriented to the:

1.-design, development, optimization and characterization of light weight alloys developed by traditional and innovative techniques. The research is carrying out in collaboration with industries for automotive, aeronautical industries and packaging industries. The produced materials are evaluated from macro and microstructural, morphological, mechanical (hardness, tensile properties, wear and friction resistance) and corrosion resistance point of view. On the basis of the results obtained there are the possibility to choose the proper material for the purposed application.

2.-design, development, optimization and characterization of iron based alloys for specific applications, including high temperature applications. The produced material are evaluated from macro and microstructural, mechanical (hardness, tensile properties, wear and friction resistance) and corrosion resistance point of view.

3.-design and study of metallic materials (steel, Ti based alloys, CoCr alloys) for biomedical applications for (dental and load-bearing implants development).

4.- design, synthesis and characterization of innovative substrates for advanced electromagnetic applications. The research is extremely interdisciplinary involving researchers with different scientific skills and the continuous collaboration with them.

5.-study of Al and Mg alloys properties, optimization of new compositions and their welding for automotive and aerospace application.

6.-development, optimization and characterization of thin and thick coatings on steel substrate for high temperature applications and on light alloys with the purpose of high mechanical properties achievement. Coating on light alloys Al, Mg, Ti based alloys are in progress. The new coating material development and their deposition on the substrates are strongly affected by the internal structure/chemistry of the different materials involved in the process and design. Coating on Ti based alloys substrate for biomedical applications are in progress. In this research field, high attention has been

made by I. Peter on the use of different microscopies and other tools for the study of the coating layer/layers, interface between the substrate and deposited film.

7.-study of Al matrix composites. In this research area, there are a strong interconnection between the activities carried out by I. Peter during the years. Her expertise in chemistry plays a fundamental role in combining the functionalities of different materials and to obtain the new composite material for a specific purpose.

8.-study of Zn-Al eutectoid based alloys developed by rapid cooling and their structural and thermal characterization for special applications. The set-up of the instrument for the alloy production and the research for the thermal properties evaluation are governed by I. Peter familiarity with chemistry and its laws.

9.- study of Pt₃Cu alloy nanoparticles supported on multi-wall carbon nanotubes for oxygen reduction reaction. The research has a strong interdisciplinary character, involving I. Peter's knowledge both in chemistry and in material science and the capacity of connecting them is a key factor in the success of the development. The influence of the surface morphology and its electronic surface properties on the kinetics of the reactions plays an important role. The microstructural characterization of the materials investigated was primary in this research topic.

10.-study of metals containing humidity sensors for environmental monitoring. This research includes the manufacturing (laboratory synthesis using different materials structures and different thermal treatments) of the semiconducting metal oxide capable of detecting humidity with the idea to obtain percolated network from the metal oxide within the glass (or eventually other materials) matrix through crystallization process involving a high skill both in chemistry and in materials science.

The various research activities are carried out (and actually are carrying out too) in cooperation with different research groups at various universities, National and International research centers and local, National and International industrial partners. During the years, I. Peter's ability to carry out independent research work, to use personally and directly the scientific tools, to coordinate the research group involved in the specific research area and to prepare scientific reports and papers are constantly demonstrated.

Results of such research have been disseminated in high quality journals and important conferences.

A list of all scientific publications (patents, journal, etc.) is provided.

Publications

- 5 book chapters
- 54 peer reviewed Journal Papers
- about 60 contributions to Proceedings

3.3 Participation to research programs:

I. Peter has strongly exploited the know-how deriving from the research and teaching activity also in preparing proposals and competitive funding requests that in many cases have been successfully evaluated. She has involved in many research projects and she is scientific responsible at local level within 2 European projects. Management of the

projects and scientific teams, often involving people with different and complementary scientific background and economic aspects have been directly coordinated by her with the support of the home institution demonstrating her capacity demonstrating her capacity to develop and to maintain a strong interdisciplinary links in research with other researchers.

She is able to attract research funds and later to plan/organize and coordinate the research team as the scientific aspects concern and also to manage the related activities at administrative level.

In some cases, the findings of these investigations have been implanted in the process tree at industrial level by the partner companies.

Ildiko Peter has participated to many research projects founded by the Italian Ministry of Education (Ministero dell'Università e della Ricerca Scientifica e Tecnologica) and the National Research Council (CNR) of Italy: e.g. Innovative glass and glass-ceramic matrix composite materials (PF-MSTA II, CNR). She has strong research contacts with small and medium size industries from Italy and around Europe.

3.4 Actually, I. Peter's Teaching activity is related to: materials science topics, metallic materials and characterization procedures.

3.5 Professional activities

Memberships

1. Since 2002 she is a Member of the *INSTM* (Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali-);
2. From 2007 of the *AIM* (Associazione Italiana di Metallurgia);
3. American Romanian Academy of Arts and Science Member from 2015.
4. Actually she is European Branch Director of the American Romania Academy.

Editorial and Organization activities- Project Evaluator:

Ildiko Peter is acting as reviewer of some Journals and conferences (Journal of Surface and Coating Technologies, Journal of Materials Processing Technology, Energy & Fuels, Journal of Alloys and Compounds), Journal of Cleaner Production.

1. Journals:

Ildiko Peter is GUEST Editor IEEE Access (Institute of Electrical and Electronics Engineers), Special section on "Bio-compatible materials and bio-electromagnetics for bio-medical applications" (2014/2015).

She serves as Associated Editor of the IEEE Access (2015-2017).

2. Conferences:

2.1 Co-Organizer of Special Sections in International Conferences

1. Co-Organizer of Special Section on “Functional Materials for Electromagnetic Applications” within the 17th edition of the International Conference on Electromagnetics in Advanced Applications, (ICEAA) and the 5th IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (IEEE APWC 2015) to be held in Torino, Italy on September 7 - 11, 2015;
2. Co-Organizer of Special Section on “Body Area NanoNETworks: Electromagnetic, Materials and Communications (BANN-EMC)” within the 10th International Conference on Body Area Networks (BodyNets 2015) Sydney, Australia on September 28–30, 2015;
3. Local Chair of “Body Area NanoNETworks: Electromagnetic, Materials and Communications (BANN-EMC)” within the 11th International Conference on Body Area Networks (BodyNets 2016) Torino, Italy on December 16–18, 2016.
4. Project Evaluator within the Executive Agency for Higher Education, Research, Development and Innovation Funding - UEFISCDI, Ministry of National Education and Scientific Research-Romania.

4.2. Technical Program Committee Member:

1. 9th International Conference on Materials Science & Engineering, 5– 7 March 2015, Brasov (Romania);
2. 10th International Conference on Materials Science & Engineering, 9-11 March 2017, Brasov (Romania).

4.3. Awards:

- Plenary session Award: International Conference ModTech 2014, July 13-16, 2014, Gliwice- Poland;
- Best Poster Award: International Conference-High Tech Die Casting 2016, 22-24 June 2016, Venice-Italy.
- Abilitazione Scientifica Nazionale (2014):
 1. in the field of Materials Science and
 2. in the field of Metallurgy.

Torino, 7/07/2017

Olouko Petru