Vitry Véronique
Associate professor (tenured), Metallurgy lab, Engineering Faculty (Faculté Polytechnique de Mons), University of Mons, Belgium - Born June 13th 1980

Work experience and academic profile

* **Current position (since September 1st, 2018) :** Associate professor (tenured), Metallurgy lab, Engineering Faculty (Faculté Polytechnique de Mons), University of Mons, Belgium
* **Previous work experience**
* **January 2017 – June 2019:** Invited professor Condorcet School for Higher Education, Charleroi, Belgium, Introduction to Materials Science.
* **1/1/2010-30/9/2018 :** Adjunct professor Université de Valenciennes – Haut Cambraisis (UVHC) Maubeuge Campus, for corrosion, corrosion prevention and surface treatment..
* **At UMONS since 15/1/2010: Successively** Research and Teaching Assistant, Research and Teaching Associate (tenured) and Senior Research and Teaching Associate (tenured), [equivalent to an American Assistant Professor], Metallurgy lab, Engineering Faculty, University of Mons, Belgium
* **1/1/2007 – 15/1/2010 :** PhD candidate, FRIA (Belgian fund for research formation in industry and agriculture), Metallurgy lab, Engineering Faculty, University of Mons, Belgium
* **1/11/2004 – 31/12/2006,** PhD candidate, FSR (Special fund for research from FPMs), Materials Science lab, then Metallurgy lab, Engineering Faculty, University of Mons, Belgium
* **15/7/2003 – 31/10/2004** : research assistant, Thin films lab, MATERIA NOVA (Mons, Belgium), under a research contract with Glaverbel (now AGC) and the Région Wallonne
* **1/8/2002 – 15/9/2002 :** Internship at the Roux plant of Glaverbel (now AGC) : formation of furnace operators.
* **As a student** : several ‘students jobs’ from 1995 in service and culture.
* **Academic profile**
* **10/2/2010 :** PhD in Engineering, UMONS. ‘Electroless Nickel-Boron Deposits : Synthesis, formation and characterization ; Effect of heat treatments ; Analytical modeling of the structural state.’
* **February 2007:** Diplôme d’Etudes Approfondies en Sciences Appliquées (summa cum laude), Faculté Polytechnique de Mons (UMONS)
* **June 2003** : Masters in Engineering in Materials Science (magna cum laude), Faculté Polytechnique de Mons. (UMONS)

Research

**Most important funding**

* ***2020 (****Belgian National Research Funding (FNRS)): SustaiNIBle - Replenishment, ageing and sustained use of heavy-metals free electroless nickel boron deposition bath as an alternative to hard chrome plating. 58,500€.*
* ***2018 (EU (H2020) + Walloon Region Funding)****: ALTernative au Chrome TRi et hexavaLent pour le secteur du TRANSport et de laTRANSformation, AltCtrlTrans, (collaborative project on hard chrome replacement) INTERREG France-Wallonie-Vlaanderen : 488,344.22 € for the metallurgy lab. Total budget of the project : 2,080,476.16 €.*
* ***2018 (UMONS)****: Corrosion and tribocorrosion performance of sealed ceramic coatings obtained by plasma electrolytic oxidation, SEALCERA, ARC Research project funded by UMONS, 397,500€*
* ***2016*** *(Belgian National Research Funding (FNRS)): ULTRASONIB, research project on the use of ultrasound assistance in electroless nickel-boron CDR-Vitry, 54,150 €*
* ***2016 (Belgian development cooperation funding):****Gestion and recycling of WEEE : 2017-2021, with ULB and Burkina Faso, total budget 400 000 €, leader: ULB.*
* ***2006 (Belgian National Research Funding (FNRS))****: FRIA PhD grant : VITRY V. ‘nitriding of electroless nickel-boron for improved mechanical properties and wear resistance)’ October 2006 – January 2010*

**Patents**

* Luxemburg Patent LU100682 ‘Nickel alloy coating’ deposited on 25 January 2018, awarded on 21 August 2019. PCT process running for the rest of the world.
An exclusive licence for the technology covered by this patent has been octroyed to the company UCT coatings, from Stuart, Fl, USA in 2019.

**Awards**

* Biennal award "Guibal & Devillez" from AIMs (alumni of FPMs), May 2010 for the best Master of PhD thesis obtained at FPMs period : 2007-2010 (for the PhD thesis : Electroless Nickel-Boron Deposits : Synthesis, formation and characterization ; Effect of heat treatments ; Analytical modeling of the structural state.)
* 2018 ASM-IIM Visiting Lecturer award
* Nominated as one of the 40 under 40 in Surface Finishing by the Journal Product Finishing in June 2019
* ASM Silver medal 2020

**Main Publications**

***Main editor of a reference book on electroless nickel plating:***

*F. DELAUNOIS, V. VITRY, L BONIN “Electroless Nickel Plating: Fundamentals to Applications”, CRC Press, 26 November 2019. ISBN 9781138605800.*

***Author or co-authors of 5 book chapters*** ***and of 57peer review papers.***

*Here are the three most cited.*

* *VITRY V., DELAUNOIS F., C. DUMORTIER, “Mechanical properties and scratch test resistance of nickel-boron coated aluminium alloy after heat treatments”, Surface and Coatings Technology, 202 (2008) 3316–3324.*
* *V. VITRY, A.-F. KANTA, A. SENS, F. DELAUNOIS, “Wear and corrosion resistance of heat treated and as-plated Duplex NiP/NiB coatings on 2024 aluminum alloys.”, Surface & Coatings Technology 206 (2012) pp. 3421-3427.*
* *V. VITRY, A.-F. KANTA, J. DILLE, F. DELAUNOIS, “Structural state of electroless nickel-boron deposits (5 wt. % B): re-characterization by XRD and FIB-TEM”, Surface & Coatings Technology 206 (2012) pp. 3444-3449.*

***75 oral presentations in international conferences. 24 papers in conference proceedings. Several keynotes and plenaries, including those listed below.***

* *2020: HT&SE 2020, Chennai, India, May 2020,* ***plenary and Keynote*** *speaker*
* *2018: MET & HTS 2018, Navi Mumbai (India) September 27-29 –* ***Invited*** *speaker*
* *2018: SMT32, San Sebastian, Spain, ,* ***Keynote*** *speaker*
* *2016 : 2d Caparica Conference on Sample Treatment, Caparica, Portugal, December 2016,* ***invited*** *speaker.*
* *2016 : HT&SE 2016, Chennai, India, May 2016,* ***plenary*** *speaker*
* *2014 : IMTCE 2014, Kuala Lumpur, 13-16 May 2014,* ***invited*** *speaker*

**Organisation of several symposia and conferences, including:**

* *SMT31, Mons (Belgium) July 5-7 2017 : co-chair.*
* *ECHT-2020, Antwerp (Belgium) March 25-27 2020, co-chair.*
* *Thermec 2018 - Paris (France), July 2018, member of the organization committee;*
* *IFHTSE 2017, Nice (France), June 27-30 2017, member of the organization committee.*

**Supervision of PhD theses**

***Supervisor or co-supervisor of 2 finished and 7 ongoing PhD thesis in the following fields***

* *Lead-free electroless nickel-boron (2 PhDs theses)*
* *WC-Co cutting tools (3 PhD theses)*
* *Recycling of WEEE*
* *Multifunctional electrodeposited nickel coatings*
* *Sealing of PEO coatings with sol-gels.*
* *Composite electroless nickel-boron coatings.*

***Member of jury for more than 15 PhD theses at UMONS and Internationally.***

**Reviewer and editing activities**

***Member of the editorial board*** of Surface Engineering, Surface and Coatings Technology, and Coatings.

***Reviewer*** for more than 40 Journals (more than 250 reviewed papers). Journals with the most

***Project funding evaluation*** for theBelgian (French and Dutch speaking funding bodies) and Canadian funding bodies.

Teaching

***2 full courses and 1 project/semester*** + short interventions (less than 10 hours) in 4 colleague’s classes, mostly at the Master level. Main topics:

- Process metallurgy and process modelling

- Spectroscopic methods in chemical and materials analysis.

- Nanomaterials

- Engineering projects.

- Structure of materials.

***Yearly supervision of Masters theses and Internships.***

***Invited teaching and Masterclasses in Burkina Faso, India, Morocco, Brazil and China.***

Service

**Main implication in Scientific and professional societies**

* **President** of the board of A3TS (French Association for Heat treatments and Surface Treatments) since September 2020, Vice-President March 2019-Sept. 2020., Member since March 2017.
* **Founding member** of the Failure Analysis Society (Affiliate Society of ASM International) since 2016
* **Chair** of the international relations committee of the Failure Analysis Committee 2016-2020.
* **Chair** of the local section France-Nord/Belgique of A3TS (French Association for Heat treatments and Surface Treatments) 2015-2019 (member of the local board since 2011).
* Member (MC substitute) of COST Action MP1407 : E-MINDS 2018 - 2020
* Member (MC substitute) of COST Action ES1407 : ReCreew 2015-2020

**Public service**

Numerous **public scientific animations** and conferences for younger (high school) students, various topics related to metallurgy and electrochemistry.

**Expertise work** provider for local industries, mainly in the fields of electroless plating, steelmaking processes, and failure analysis.

**Administrative charges at UMONS**

**Counsellor** to the Vice-Chancellor of UMONS for International Relations, in Charge of Internationalization at Home since 1/10/2018

Member of the **board of directors** of FPMs then of UMONS 1/2/2009 – 30/9/2018

**President** of the assembly of the Scientific Staff at UMONS 01/10/2012- 30/9/2018

**Founder of the UMONS Students and Staff Band and artistic director** of the band since February 2010.