

AUFRAY Maëlen
INPT-ENSIACET, CIRIMAT Laboratory
4, allée Emile Monso - BP 44362
F-31030 Toulouse Cedex 4 - France
Phone : +33 (0)5 34 32 34 42
E-mail : maelenn.aufray@ensiacet.fr

date of birth : 09/17/1979
citizenship : French

Curriculum Vitæ

Work experience

- February 2008 - Now **Associate Professor** - *ENSIACET-CIRIMAT - Toulouse (France)*
- Research area in the CIRIMAT Laboratory:**
Study of polymers interfaces and interphases
Adherence tests (three points flexure test)
Chemistry and kinetics of epoxy networks
- Teaching area in the ENSIACET engineer school:**
Polymer chemistry & materials science (lectures & lab work)
Adhesion and adherence in polymers (lectures)
Ageing of polymers (lectures)
- Sep. 2007 - Jan. 2008 **Post-Doctoral position** - *Nancy University - Nancy (France)*
Nanostructures and ferroelectric nanocomposites:
Synthesis, characterisation, applications
- Feb. 2006 - Aug. 2007 **Post-Doctoral position** - *ASPG - Saarbrücken (Germany)*
Study of DGEBA Prepolymer and Epoxy Network by DES.
- Oct. 2005 - Jan. 2006 **Post-Doctoral position** - *DGTec Industry - Lyon (France)*
Study of nanocomposite materials.
- Oct. 2002 - Sep. 2005 **PhD Thesis** - *IMP/LMM Laboratory - Lyon (France)*
Physico-chemical characterization of epoxy-amine / metal interphases
Characterisation of their constituents

Expertise

Polymers
Interphases formation and characterisation
Epoxy-amine chemistry
Adherence tests

Apparatus responsibility

DSC Netzsch (*Differential scanning calorimetry*)
FTIR microscope Perkin (*Infra-red imaging*)
Adherence test (*Three points flexure test by Instron*)

Languages

English (*Working knowledge*)
TOEIC : 850
German (*18 months in Germany*)
conversational German

Special skills

OS: *Windows, linux (ubuntu, linux mint)*
LaTeX, *bases on HTML*

Main publications

JB. Sauvage, M. Aufray, J-P. Jeandrau, P. Chalandon, D. Poquillon, M. Nardin
Using the 3-point bending method to study failure initiation in epoxide-aluminum joints ,
International Journal of Adhesion and Adhesives , 2017, In Press, Accepted
Manuscript.

Trinh Anh Truc, Nguyen Thu Trang, Thai Thu Thuy, To Thi Xuan Hang, Nguyen
Xuan Hoan, Nguyen Anh Son, M. Aufray, N. Pébère
*Improvement of adherence and anticorrosion properties of an epoxy-polyamide coating on
steel by incorporation of an indol-3 butyric acid modified nanomagnetite* ,
Journal of Coatings Technology and Research , 2016, 13(3), pp. 489-499.

M. Pomes-Hadda, M. Aufray, S. Diahm
Interval Analysis: A New Tool for the Characterization of an Epoxy-Amine/Al System ,
Polymers , 2015, 7, pp. 644-654.

T. Duguet, C. Bessaguet, M. Aufray, J. Esvan, C. Charvillat, C. Vahlas, C. Dufaure,
Towards a computational and experimental model of a poly-epoxy surface ,
Applied Surface Science , 2015, 324, pp. 605-611.

B. Reig, V. Bardinal, JB. Doucet, T. Camps, E. Daran, M. Aufray, C. Tendero, A.
Lamure,
*Study of SU-8 reliability in wet thermal ambient for application to polymer micro-optics
on VCSELs* ,
Japanese Journal of Applied Physics , 2014, 53(8S21), pp. 08MC03.

V. Floch, Y. Doleyres, S. Amand, M. Aufray, N. Pébère, & D. Verchère,
*Corrosion resistance and practical adhesion measurements in primer/ Hot-Dip Galvanized
steel systems* ,
The Journal of Adhesion , 2013, 89(5) pp. 339-357.

M. Aufray, A. Brochier, W. Possart,
Interval analysis applied to dielectric spectroscopy: a guaranteed parameter estimation ,
System Identification , 2012, 16(1), pp. 458-463.

A. Brochier, M. Aufray, W. Possart, *Dielectric Spectra Analysis:
Reliable Parameter Estimation Using Interval Analysis* ,
in **Materials with Complex Behaviour** ,
Editors: A. Oechsner, L. da Silva & H. Altenbach,
publisher: SPRINGER, 2010, pp. 99-123.

M. Aufray and A. A. Roche, *Is gold always chemically passive ?
Study and comparison of the epoxy-amine/metals interphases* ,
Applied Surface Science , 2008, 254(7), pp. 1936 - 1941.

M. Aufray and A. A. Roche
Epoxy-amine/metal interphases: Influences from sharp needle-like crystal formation ,
International Journal of Adhesion and Adhesives , 2007, 27(5), pp. 387-393.

A.A. Roche, M. Aufray, and J. Bouchet, *The Role of the Residual Stresses of the
Epoxy-Aluminium Interphase on the Interfacial Fracture Toughness* ,
The Journal of Adhesion , 2006, 82(9), pp.861-880.

M. Aufray and A. A. Roche, *Residual Stresses and Practical Adhesion:
Effect of Organo-metallic Complex Formation and Crystallization* ,
Journal of Adhesion Science and Technology , 2006, 20(16), pp. 1889-1903.

M. Aufray et A. A. Roche, *Properties of the interphase epoxy-amine / metal:
Influences from the nature of the amine and the metal* ,
in **Adhesion - Current Research and Application** , Editor: W. Possart,
publisher: WILEY, 2005, pp. 89-102.