

RADIGUET Bertrand
28th July 1976 (37 years old)
Lecturer
phone: +33 (0)2 32 95 51 40
@: Bertrand.radiguet@univ-rouen.fr

Group of Physics of Materials (GPM)
University and INSA of Rouen
CNRS Join Research Team 6634
Labex EMC3 / Equipex-APE Genesis /
Carnot Institute ESP / EDF-CNRS join
laboratory EM²VM

Education

- 2001-2004** PhD at University of Rouen in the Group of Physics of Materials: “*Study of the formation of solute clusters under irradiation in ferritic model alloys*”, PhD directors: Pr. P. Pareige and Dr. A. Barbu.
- 2000-2001** Master Degree in Material Science at University of Rouen with 5 months research training at Group of Physics of Materials: “*Study of the microstructural evolution of VVER 440 pressure vessel steel by Atom Probe Tomography*”

Teaching experience

- since 2005:** Lecturer at University of Rouen: Lectures and practical of *Optic, Physic* to undergraduate students, Lecture of *Material Sciences* to undergraduate and postgraduate students, Lecture of *Materials under irradiation* in Engineer School, Responsible of the 1st year of the Master
- 2001-2004:** Teaching assistant at University of Rouen

Research Experience

- Since 2005:** Research activities in the Group of Physics of Materials
Keywords: *Material Sciences, Nuclear materials, Phase transformation, Irradiation ageing, Steels, Atom Probe Tomography, Dual-beam, Cluster Dynamic modeling*
- 2005:** Post-doctoral position at Hahn-Meitner-Institute (Berlin, Germany)
“*First stages of crystallisation of amorphous aluminium alloys*”

Current project participations and collaborations

Labex EMC3 project NANINOX (2013-2014)
Influence of nanostructuration on

Publications

Radiation-induced solute precipitation in a ferritic alloy: an experimental and theoretical study

E. Meslin, B. Radiguet and M. Loyer

Acta Materialia 61 (2013) 6246-6254

Influence of ball-milling and annealing conditions on nanoclusters characteristics in oxide dispersion strengthened steels

M. Laurent-Brocq, F. Legendre, M.-H. Mathon, A. Mascaro, S. Poissonnet, B. Radiguet, M. Loyer, O. Leseigneur.

Acta Materialia 60 (2012) 7150-7159

Irradiation-Induced Solute Clustering in a Low Nickel FeMnNi Ferritic Alloy

E. Meslin, B. Radiguet, P. Pareige, C. Toffolon, A. Barbu

Experimental mechanics 51 (2011) 1453-1458

Effect of Mn on the Nanoprecipitation in Binary Fe-Cu alloys

R. Shabadi, R. Taillard, B. Radiguet, J. de Baerdemaeker, E. Leunis

Solid State Phenomena 172-174 (2011) 297-302

Comparison of radiation-induced segregation in ultrafine-grained and conventionnal 316 austenitic stainless steels

A. Etienne, B. Radiguet, N.J. Cunningham, G.R. Odette, R. Valiev, P. Pareige

Ultramicroscopy 111 (2011) 659-663

Review on the EFDA Work Programme on Nano-Structured ODS RAF Steels

N. Baluc, J.L. Boutard, S.L. Dudarev, M. Rieth, J. Brito Coreia, B. Fournier, J. Henry, F. Legendre, T. Leguey, M. Lewandowska, R. Lindau, E. Marquis, A. Munoz, B. Radiguet, Z. Oksiuta

Journal of Nuclear Materials 417 (2011) 149-153

Nanoscale characterization and formation mechanism of nanoclusters in an ODS steel elaborated by reactive-inspired ball-milling and annealing

M. Brocq, B. Radiguet, S. Poissonnet, F. Cuvilly, P. Pareige, F. Legendre

Journal of Nuclear Materials 409 (2011) 80-85

Characterization of neutron-irradiated ferritic model alloys and RPV steel from combined APT, SANS, TEM and PAS analyses

E. Meslin, M. Hernandez-Mayoral, F. Bergner, M. Lambrecht, A. Almazouzi, P. Pareige, B. Radiguet, A. Barbu, D. Gomez-Briceno, A. Ulbricht

Journal of Nuclear Materials 406 (2010) 73-83

On the correlation between irradiation-induced microstructural features and the hardening of reactor pressure vessel steels

M. Lambrecht, E. Meslin, L. Malerba, M. Hernandez-Mayoral, F. Bergner, P. Pareige, B. Radiguet, A. Almazouzi

Journal of Nuclear Materials 406 (2010) 84-89

Atomic scale investigation of radiation-induced segregation in austenitic stainless steels

A. Etienne, B. Radiguet, N.J. Cunningham, G.R. Odette, P. Pareige

Journal of Nuclear Materials 406 (2010) 244-250

Understanding silicon-rich phase precipitation under irradiation in austenitic stainless steels

A. Etienne, B. Radiguet, P. Pareige

Journal of Nuclear Materials 406 (2010) 251-256

Thermal stability of ultrafine-grained austenitic stainless steels

A. Etienne, B. Radiguet, C. Genevois, J.-M. Le Breton, R. Valiev, P. Pareige
Materials Science and Engineering A 527 (2010) 5805-5810

Dislocation loop evolution under ion irradiation in austenitic stainless steels

A. Etienne, M. Hernandez-Mayoral, C. Genevois, B. Radiguet, P. Pareige
Journal of Nuclear Materials 400 (2010) 56-63

Kinetics of solute clustering in neutron irradiated ferritic model alloys and a French pressure vessel steel investigated by atom probe tomography

E. Meslin, B. Radiguet, P. Pareige, A. Barbu
Journal of Nuclear Materials 399 (2010) 137-145

Nanoscale characterisation and clustering mechanism in an Fe-Y2O3 model ODS alloy processed by reactive ball milling and annealing

M. Brocq, B. Radiguet, J.-M. Le Breton, F. Cuvilly, P. Pareige, F. Legendre
Acta Materialia 58 (2010) 1806-1814

Revision of the irradiation embrittlement correlation used for the EDF RPV fleet

P. Todeschini, B Radiguet, H. Huang, P. Pareige, Y. Lefebvre, G. Chas, H. Churier-Bosseneq, C. Benhamou

Proceeding Technical meeting IAEA 2010, Znojmo TcheK Republic

Study of irradiation effects in austenitic stainless steels

A. Etienne, P. Pareige, B. Radiguet, N.J. Cunningham, G.R. Odette, C. Pokor
Proceeding Fontevraud 7 (2010) Avignon France

Evolution of the microstructure of a French reactor pressure vessel steel under neutron irradiation

H.F. Huang, B. Radiguet, P. Todeschini, G. Chas, P. Pareige
Proceeding Fontevraud 7 (2010) Avignon France

Atom Probe Tomography characterization of the microstructural evolution of a low copper reactor pressure vessel steel under neutron irradiation

H.F. Huang, B. Radiguet, P. Todeschini, G. Chas, P. Pareige
Proceeding MRS Spring meeting 2010, San Francisco - USA

Study of Nano-cluster Formation in Fe-18Cr ODS Ferritic Steel by Atom Probe Tomography

O. Kalokhtina, B. Radiguet, Y. de Carlan, P. Pareige
Proceeding MRS Spring meeting 2010, San Francisco - USA

Irradiation induced clustering in low copper or copper free ferritic model alloys

B. Radiguet, P. Pareige, A. Barbu
Nuclear Instruments & Methods in Physic Research Section B Beam Interactions with Materials and Atoms 267 (2009) 1496-1499

Experimental atomic scale investigation of irradiation effects in CW 316SS and UFG-CW 316SS

P. Pareige, A. Etienne, B. Radiguet
Journal of Nuclear Materials 389 (2009) 259-264

Cluster-dynamics modelling of defects in alpha-iron under cascade damage conditions

E. Meslin, A Barbu, L. Boulanger, B. Radiguet, P. Pareige, K. Arakawa, C.C. Fu
Journal of Nuclear Materials 382 (2008) 190-196

Irradiation behavior of nanostructured 316 austenitic stainless steel

B. Radiguet, A. Etienne, P. Pareige, X. Sauvage, R. Valiev

GENESIS : An open platform for the study and nano analysis (Atom probe, SEM Cross beam station and MET (in situ straining, temperature, tomography) of irradiation effects in radioactive materials for nuclear application

P. Pareige, B. Radiguet, C. Pareige

TMS Annual Meeting, 3-7 March 2013, San Diego - USA

Atom Probe Tomography investigation of the evolution of the microstructure of ion irradiated ODS ferritic steels

B. Radiguet, C. Hatzoglou, L. Chaffron, Y. Serruys, F. Legendre, P. Pareige

TMS Annual Meeting, 3-7 March 2013, San Diego - USA

Evaluation of the presence of vacancies in irradiation induced solute clusters in ferritic model alloys by combination of Atom Probe Tomography and X Ray absorption Spectroscopy

S. Cammelli, B. Radiguet, P. Pareige, Y. Serruys

TMS Annual Meeting, 3-7 March 2013, San Diego - USA

Synergetic effect of Ni and Cu in French reactor pressure vessel steels

H.F. Huang, B. Radiguet, P. Todeschini, F. Clémendot, P. Pareige

TMS Annual Meeting, 3-7 March 2013, San Diego - USA

Understanding of the microstructural evolution of austenitic model alloy and 316 steel under ion irradiation by coupling of TEM and APT investigations – Part II: APT results

A. Volgin, B. Radiguet, P. Pareige, B. Décamps, A. Gentils, F. Fortuna, C. Pokor

TMS Annual Meeting, 3-7 March 2013, San Diego USA

Characterisation of radiation damage by APT

B. Radiguet

Soteria (Training Symposium on Irradiation Effects in Structural Materials for Nuclear Reactors), 17-21 September 2012, Seville

Effect of Cu level on the microstructure evolution of 16MND5 steels from EDF surveillance program

H. Huang, B. Radiguet, P. Todeschini, F. Clémendot, P. Pareige

TMS Annual Meeting, 11-15 March 2012, Orlando - USA

Atom Probe Tomography study of ion irradiation effects on microstructure of ODS ferritic steels

B. Radiguet, F. Cuvilly, O. Kalokhtina, P. Pareige, M. Couvrat, L. Chaffron, Y. Serruys, F. Legendre

TMS Annual Meeting, 11-15 March 2012, Orlando USA

Study of ion irradiation effects on microstructure of an Fe-18Cr ODS ferritic steel by Atom Probe Tomography

B. Radiguet, C. Hatzoglou, F. Cuvilly, P. Pareige, M. Couvrat, L. Chaffron, Y. Serruys, F. Legendre

20th workshop on Fe-Cr alloys and 2nd workshop on nuclear Fe alloys, 9-10 May 2012 - Rouen

Ion irradiation effects on the microstructure of steels by Atom Probe Tomography

B. Radiguet

EMIR Users days, October 20-21 2011, Orsay - France

Effect of Cu level on the microstructure evolution of 16MND5 steels from EDF surveillance program

B. Radiguet, H. Huang, P. Todeschini, F. Clémendot, P. Pareige

IGRDM 16, 4-9 December 2011, Santa Barbara - USA

Irradiation induced clustering in under-saturated Fe-Mn model alloy
B. Radiguet

E. Meslin, B. Radiguet, P. Pareige, A. Barbu
International Group of Radiation Damage Mechanisms 14, 12-20-25 April 2008, Pittsburgh, USA

Nano-structured Materials for Radiation Environment

B. Radiguet

Symposium on Functional Nanomaterials for Power Engineering, Rusnanotech 08, 3-5 December 2008, Moscow - Russia

Irradiation behavior of nanostructured 316 austenitic stainless steel

B. Radiguet, A. Etienne, P. Pareige, X. Sauvage, R. Valiev

5th International Symposium on Ultrafine-Grained Materials 137th TMS Annual Meeting, 9-13 March 2008, New-Orleans - USA

Kinetic of formation of solute clusters in Cu or Cu free ferritic model alloys under neutron irradiation - Study by 3D Atom Probe

E. Meslin, B. Radiguet, P. Pareige, A. Barbu

Symposium on Microstructural Processes in Irradiated Materials - 136th TMS Annual Meeting, 25 February 1st March 2007, Orlando - USA

Study of the kinetic of formation of solute clusters in Cu or Cu free ferritic model alloys under neutron irradiation: 3D Atom Probe and modeling

B. Radiguet, E. Meslin, P. Pareige, A. Barbu

International Group of Radiation Damage Mechanisms 13, 15-20 October 2006, Tsukuba Japan

Atom Probe Tomography: Advantages and Disadvantages

B. Radiguet

International School on Experimental Quantification of Radiation Damage, 25-29 September 2006, Rochehaut - Belgium

Study of the formation of copper rich cluster under irradiation in FeCu0.1wt% ferritic alloy

B. Radiguet, P. Pareige, A. Barbu

7th International Moscow School of Physic,- 16-26 february 2004, Moscow - Russia

Influence of the chemical composition and point defects creation mode on the formation of solute clusters under irradiation in model alloys

B. Radiguet, P. Pareige and A. Barbu

International Group of Radiation Damage Mechanisms 11, 11-16 September 2003, San Diego - USA

Study of the formation of solute clusters under irradiation in model alloys

B. Radiguet, P. Pareige, A. Barbu, R. Krummeich-Brangier, S. Jumel

International Group of Radiation Damage Mechanisms 10, 19-24 May 2002, Osaka Japan