



E. Ansoborlo

CEA-Marcoule

DEN/DRCP/CETAMA

BP 17171

30207 BAGNOLS-SUR-CEZE Cedex - FRANCE

SPECIATION SEMINAR

Le Corum – Palais des Congrès
Antigone Room - 34027 Montpellier

May 29-31, 2012



SCIENTIFIC COMMITTEE

- E. Ansoborlo (CEA/DEN-Mar)
- D. Doizi (CEA/DEN-Sac)
- R. Lobinski (CNRS-Pau)
- P. Moisy (CEA/DEN-Mar)
- C. Moulin (CEA/DAM-BIII)
- C. Poinssot (CEA/DEN-Mar)
- D. Roudil (CEA/DEN-Mar)
- E. Simoni (IPN-Ors)
- T. Vercouter (CEA/DEN-Sac)

Submitted papers will be sent to Radiochimica Acta Journal for reviewing process.

INFORMATIONS

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SPECIATION SEMINAR

Biological, environmental and nuclear speciation

Le Corum – Palais des Congrès
Antigone Room - 34027 Montpellier

May 29-31, 2012

ОПЫТЪ СИСТЕМА ЭЛЕМЕНТОВЪ.

ОСНОВАННОЙ НА ВЪЗЪ АТОМНОМЪ ВЪСЪ И ЛИНИЧЕСКОМЪ СХОДСТВЪ.

| | | | | | |
|----------|--------------|------------|-------------|-----------|-----------|
| | Ti = 50 | Zr = 90 | ? = 180. | | |
| | V = 51 | Nb = 94 | Ta = 182. | | |
| | Cr = 52 | Mo = 96 | W = 186. | | |
| | Mn = 55 | Rh = 104,4 | Pt = 197,4. | | |
| | Fe = 56 | Rn = 104,4 | Ir = 198. | | |
| | Ni = Co = 59 | Pl = 106,4 | O = 109. | | |
| | Cu = 63,4 | Ag = 108 | Hg = 200. | | |
| H = 1 | | | | | |
| Be = 9,4 | Mg = 24 | Zn = 65,2 | Cd = 112 | | |
| B = 11 | Al = 27,4 | ? = 68 | Ur = 116 | Au = 197? | |
| C = 12 | Si = 28 | ? = 70 | Sn = 118 | | |
| N = 14 | P = 31 | As = 75 | Sb = 122 | Bi = 210? | |
| O = 16 | S = 32 | Se = 79,4 | Te = 128? | | |
| F = 19 | Cl = 35,4 | Br = 80 | I = 127 | | |
| Li = 7 | Na = 23 | K = 39 | Rb = 85,4 | Cs = 133 | Tl = 204. |
| | | | ? = 45 | Ce = 92 | |
| | | | ?Er = 56 | La = 94 | |
| | | | ?Yt = 60 | Di = 95 | |
| | | | ?In = 75,4 | Th = 118? | |

Д. Менделѣевъ

INTRODUCTION

Tuesday 29th, May 201213h00 E. Ansoborlo, G. Bordier
V. Cabuil, A-Y-Le Dain

INVITED LECTURES

13h30 M. Leroy (CNE) *Towards a better knowledge of Mendeleiev table*
14h00 D.M.Templeton (Univ-Tor-Can) *Overview of speciation: IUPAC*

SESSION I : SPECIATION TECHNIQUES

14h30 R. Lobinski (CNRS-Pau)
Multiplexed speciation analysis
15h00 C. Moulin (CEA/DAM-Blll)
Speciation : examples and trends
15h30 N. Jakubowski (BAM/Ger)
Interactions of metals with biomolecules : do we have the proper tools?

16h00 – 16h30 : Coffee break

16h30 C. Bresson (CEA/DEN-Sac)

Analytical tools for speciation

17h00 J. Feldmann (Univ-Aberdeen-UK)

Element speciation analysis techniques towards methodological integration

17h30 M-P. Isaure (CNRS-Pau)

Combining imaging - XAS to investigate metal localization & speciation

18h00 C. Den Auwer (Univ-Nice)

X-Ray absorption spectroscopy for bioactinidic system

18h30 : End- 20h00 Dinner at "Insensé"

SESSION II : ENVIRONMENTAL SPECIATION

Wednesday 30th, May 2012 (AM)

9h00 J. Bourguignon/ M. Carrière (CEA/DSV-Gre)

Chemical speciation influences metal accumulation in plants : case of U

9h30 A.J. Francis (USA-BNL; Korea-POSTECH)

Microbiological speciation of RN in nuclear wastes and environments

10h00 V.Chapon/C.Berthomieu (CEA/DSV-Cad)

Bacteria from natural U ores and their interactions with uranium

10h30 – 11h00 : Coffee break

11h00 L. Février (IRSN-Cad)

Assessment of U bioavailability in water : use of thermodynamic models

11h30 C. Casiot (Univ-Montpellier)

Speciation and transfer processes of metals /metalloids in mining water

12h00 P. Delangle (CEA/DSM-Gre)

Speciation of metal complexes with peptide-based ligands

12h30 – 14h00 : Lunch

SESSION III : BIOLOGICAL SPECIATION

Wednesday 30th, May 2012 (PM)

14h00 R. Abergel (Berk-USA)

Curium contamination and decorporation : mecanistic insights and comparison with other f-elements

14h30 A. Barkleit (HZDR/IRE-Ger)

Luminescence spectroscopic investigation of Eu(III) and Cm(III) speciation in human body fluids and cell culture media.

15h00 G. Montavon (Sub-Nan) / A. Morgenstern (ITU-Ger)

Speciation of RN in blood serum : a key issue in alpha therapy

15h30 – 16h00 : Coffee break

16h00 V. Malard (CEA/DSV-Mar)

Relationship between speciation and in vitro cellular toxicity: case of Co

16h30 D. Bourgeois (ICSM-Mar)

Uranium speciation within bone matrix

17h00 C. Vidaud (CEA/DSV-Mar)

Deciphering the speciation of uranyl-protein in blood through a rapid screening method

17h30 : End

18h30 : Visit of the Montpellier plant garden

SESSION IV : SPECIATION IN NUCLEAR PROCESSES

Thursday 31st, May 2012

9h00 L. Berthon (CEA/DEN-Mar)

Speciation in organic media

9h30 P. Guilbaud/ D. Guillaumont (CEA/DEN-Mar)

Molecular modelling in organic media

10h00 F. Frizon (CEA/DEN-Mar)

Speciation in cement-based materials: structural flexibility and sorption

10h30 – 11h00 : Coffee break

11h00 D. Doizi (CEA/DEN-Sac)

Iodine speciation in nuclear industry

11h30 N. Baglan (CEA/DAM-Blll)

Tritium speciation which tools for which speciation?

12h00 J. Aupiais (CEA/DAM-Blll)

Speciation of actinides at ultratraces level by EC-ICP-MS

12h30 – 14h00 : Lunch

SESSION V : SPECIATION AND DATABASES

14h00 X. Gaona (INE-Ger)

Actinide speciation and thermodynamics in solution

14h30 J. Perrone (OECD-Eur)

Thermodynamics databases : AEN-TDB project

15h00 T. Vercouter (CEA/DEN-Sac)

Development of databases for speciation

15h30 : End of the seminar

REGISTRATION

(To return by mail or e-mail before April 20 , 2012)

eric.ansoborlo@cea.frnadine.daini-staub@cea.fr

Name:

First Name:.....

Address:.....

.....

.....

Town:Country:.....

Tel:E-Mail:

Fees: 350 € TTC

(Including conferences, coffee breaks, 2 lunches, 1 dinner, the visit of the plant garden and the lecture CD-Rom)

 CEA : Par «Virement interne» pour agents DEN Par «Cession interne» pour agents hors DEN

(préciser le nom du ou des participants)

Imputation Fournisseur (*mentions obligatoires) :

EOTP * : A-PURHA-20-03

Ordre Statistique * : LOC5F50SPECI

Centre de Profit : P5F50

 Non CEA : By bank transfer to BNP PARIBAS - Paris

Agence Centrale Entreprises - 1, Bd Haussmann – BP 281

75425 PARIS CEDEX 09

RIB : 30004 00818 00021216221 27

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SWIFT : BNPAFRPPVVD

 Par cheque ordered to: C.E.A.

(included in the registration)

Address : CEA-Marcoule - DEN/DRCP/CETAMA

B.P. 17171 - 30207 BAGNOLS SUR CEZE

(For cheques and bank transfers

specify « speciation seminar » and names(s) of participants)