Radiopurity Database

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Journée Matière Sombre

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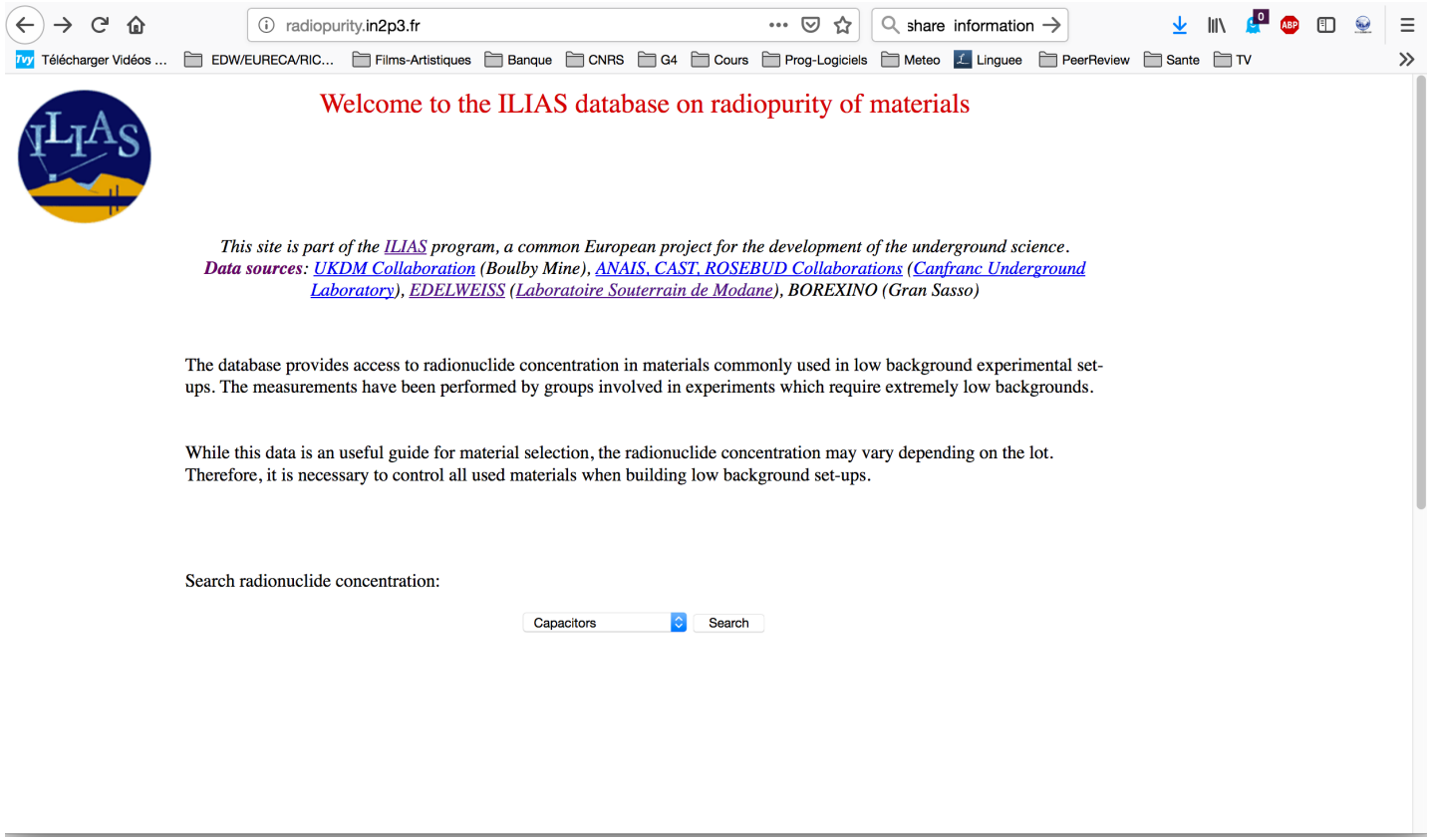
Nécessite d’une base de données de radiopureté des matériaux accessible au plus grand nombre ?

-> partage d’expérience sur les matériaux et sur les fournisseurs

http://radiopurity.in2p3.fr

Pia Loaiza

(financement réseau européen ILIAS, ~2006 *Laboratoire Souterrain de Modane, France)*



N'est plus mise à jour, problème technique MySQL, pourrait être réactivée mais …

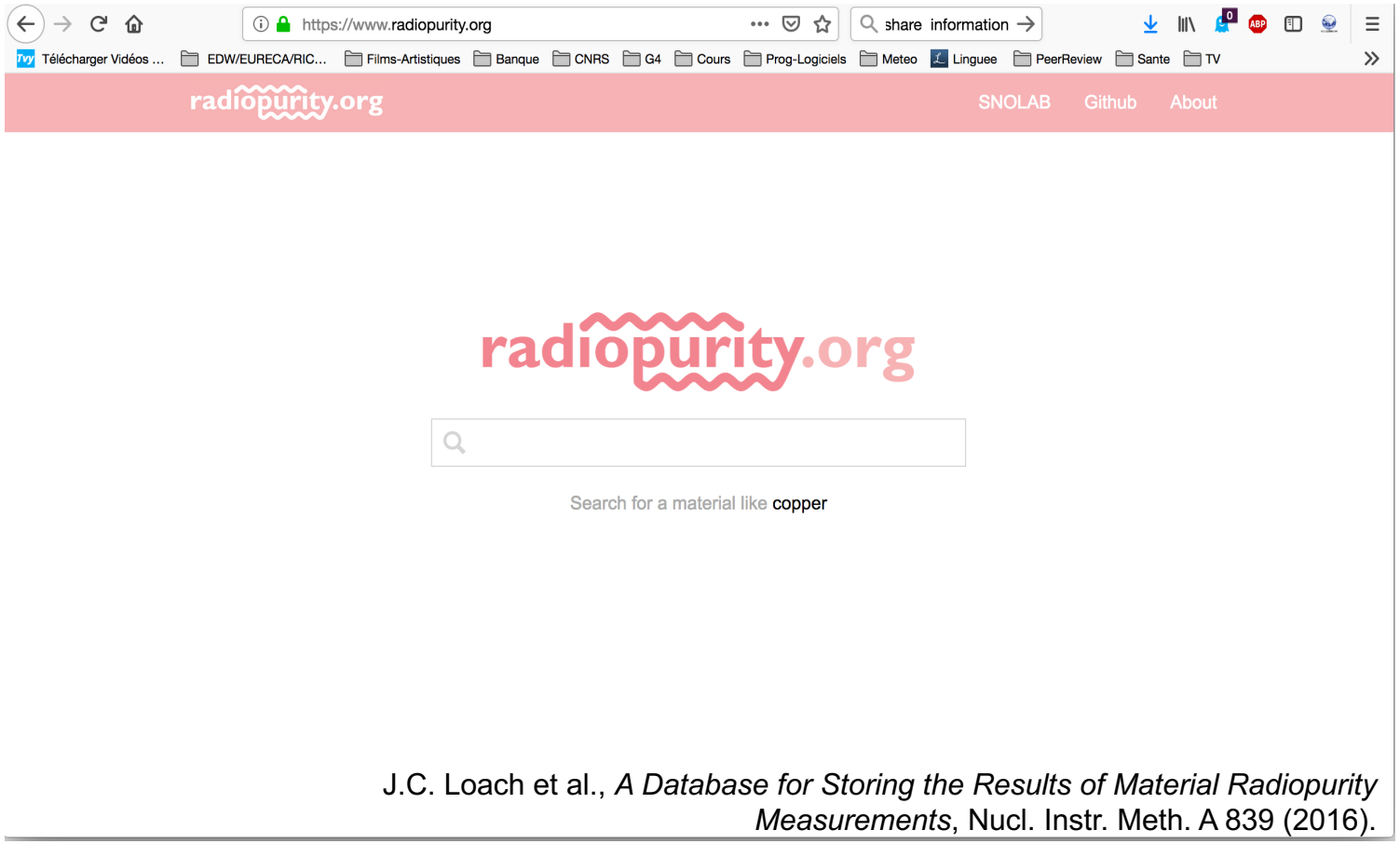
http://www.radiopurity.org

Crée en ~2015: James C. Loach (formerly SJTU) Jodi Cooley (SMU) G. Adam Cox (IBM, formerly KIT),Alan Poon (LBNL)

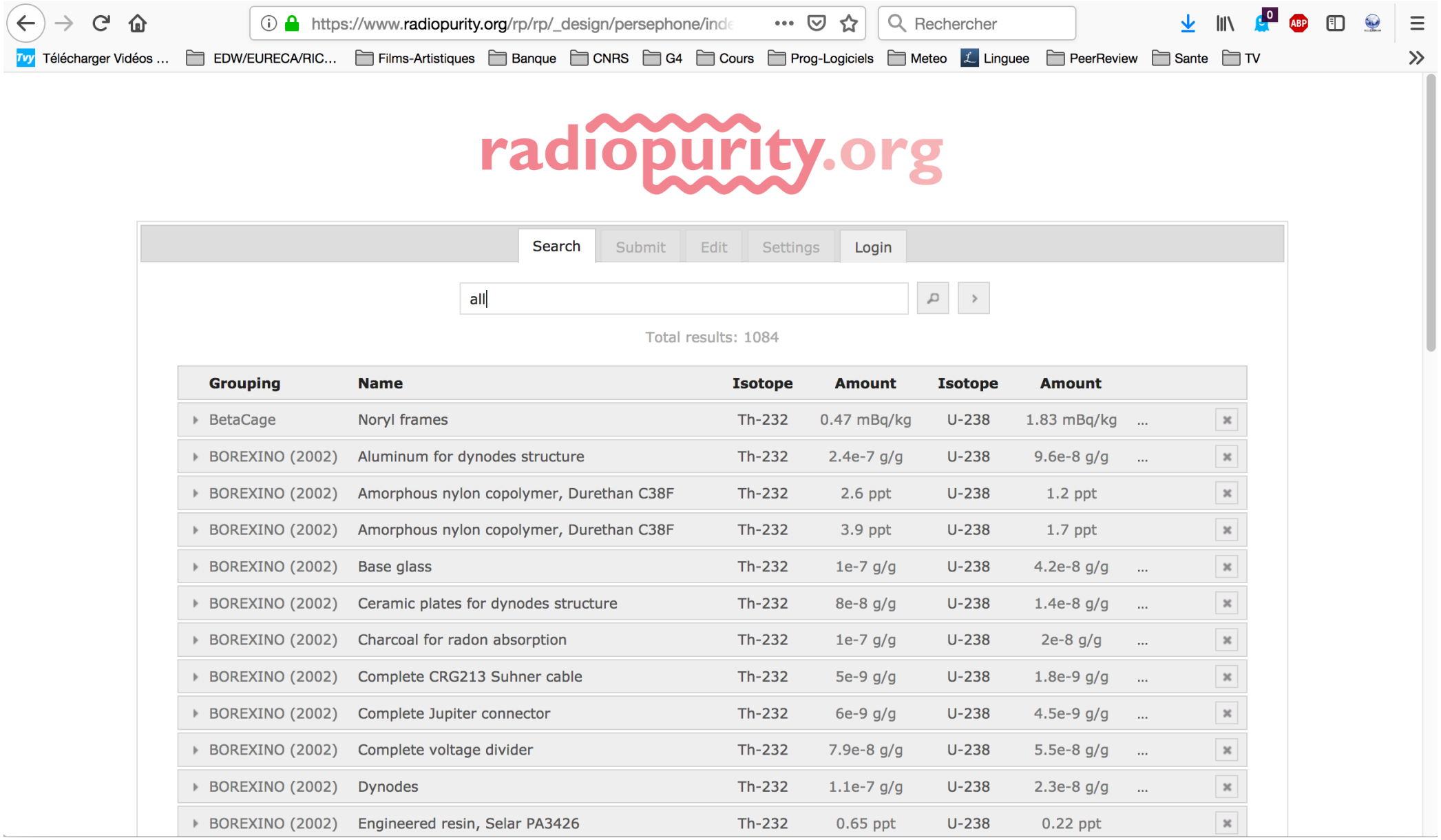
Reprend toutes les données de **http://radiopurity.in2p3.fr (label ILIAS xxx)**
+ CDMS, MAJORANA, LUX, BOREXINO, EXO, EDELWEISS, CRESST, … jusqu'en 2016

https://www.radiopurity.org/rp/rp/_design/persephone/index.html?all

Fonctionne comme un repository centralisé



J.C. Loach et al., *A Database for Storing the Results of Material Radiopurity Measurements*, Nucl. Instr. Meth. A 839 (2016).



Grouping	Name	Isotope	Amount	Isotope	Amount	
BetaCage	Noryl frames	Th-232	0.47 mBq/kg	U-238	1.83 mBq/kg	...
BOREXINO (2002)	Aluminum for dynodes structure	Th-232	2.4e-7 g/g	U-238	9.6e-8 g/g	...
BOREXINO (2002)	Amorphous nylon copolymer, Durethan C38F	Th-232	2.6 ppt	U-238	1.2 ppt	
BOREXINO (2002)	Amorphous nylon copolymer, Durethan C38F	Th-232	3.9 ppt	U-238	1.7 ppt	
BOREXINO (2002)	Base glass	Th-232	1e-7 g/g	U-238	4.2e-8 g/g	...
BOREXINO (2002)	Ceramic plates for dynodes structure	Th-232	8e-8 g/g	U-238	1.4e-8 g/g	...
BOREXINO (2002)	Charcoal for radon absorption	Th-232	1e-7 g/g	U-238	2e-8 g/g	...
BOREXINO (2002)	Complete CRG213 Suhner cable	Th-232	5e-9 g/g	U-238	1.8e-9 g/g	...
BOREXINO (2002)	Complete Jupiter connector	Th-232	6e-9 g/g	U-238	4.5e-9 g/g	...
BOREXINO (2002)	Complete voltage divider	Th-232	7.9e-8 g/g	U-238	5.5e-8 g/g	...
BOREXINO (2002)	Dynodes	Th-232	1.1e-7 g/g	U-238	2.3e-8 g/g	...
BOREXINO (2002)	Engineered resin, Selar PA3426	Th-232	0.65 ppt	U-238	0.22 ppt	

copper edelweiss

Total results: 201

Grouping	Name	Isotope	Amount	Isotope	Amount
EDELWEISS (2011)	Copper, Apical, cables				

Sample Description: Copper, Apical, cables

Measurement Results:

Ra-226		26	(15)	mBq/kg
Th-228	<	50		mBq/kg
Pb-210		346	(110)	mBq/kg
K-40		167	(126)	mBq/kg
Co-60	<	25		mBq/kg

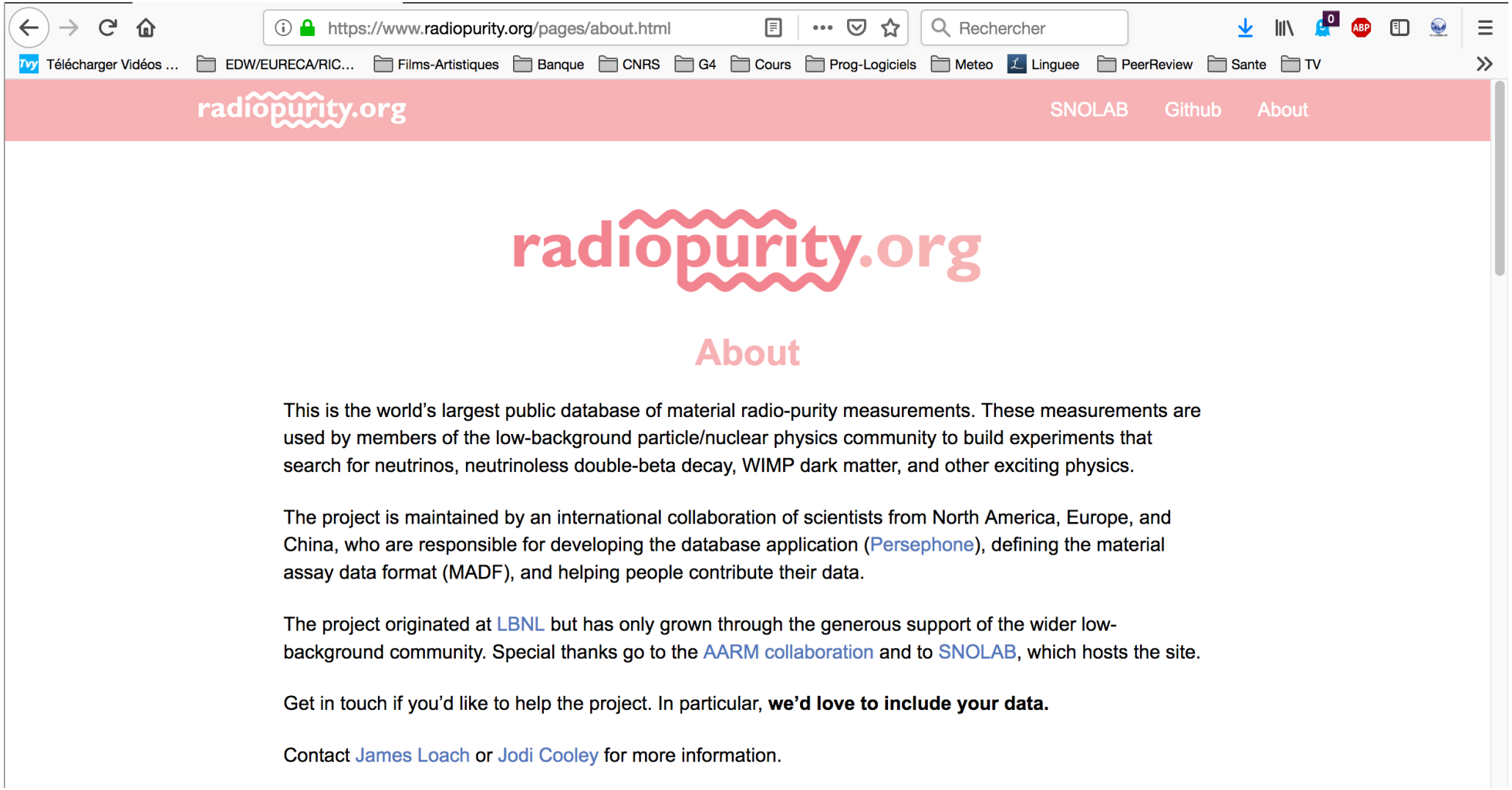
ILIAS Edelweiss	Copper, Cuc2 Plate, CARLIER				

Sample Description: Copper, Cuc2 Plate, CARLIER

Measurement Results:

Th-234	<	20		mBq/kg
Pb-214	<	1.5		mBq/kg
Tl-208	<	1		mBq/kg
Pb-210		200	(100)	mBq/kg
Cs-137	<	0.6		mBq/kg
K-40	<	13		mBq/kg
Co-60		0.7	(0.4)	mBq/kg

EDELWEISS (2011)	Copper, screens, support				...
EDELWEISS (2011)	Copper, CuC2, detector casings	U-238	1.4 mBq/kg		...


https://www.radiopurity.org/pages/about.html
Rechercher
Télécharger Vidéos ...
EDW/EURECA/RIC...
Films-Artistiques
Banque
CNRS
G4
Cours
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About
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About
This is the world's largest public database of material radio-purity measurements. These measurements are used by members of the low-background particle/nuclear physics community to build experiments that search for neutrinos, neutrinoless double-beta decay, WIMP dark matter, and other exciting physics.
The project is maintained by an international collaboration of scientists from North America, Europe, and China, who are responsible for developing the database application (Persephone), defining the material assay data format (MADF), and helping people contribute their data.
The project originated at LBNL but has only grown through the generous support of the wider low-background community. Special thanks go to the AARM collaboration and to SNOLAB, which hosts the site.
Get in touch if you'd like to help the project. In particular, we'd love to include your data.
Contact James Loach or Jodi Cooley for more information.

Discussion avec Jodi Cooley et Alan Poon:

- **Les expériences peuvent utiliser l'application Persephone pour leur propre database de manière privée et faire ensuite un *release* partiel ou total vers le repository central qu'est radiopurity.org quand cela leur semble opportun.**

- **Suggère l'organisation d'un mini-workshop pendant la conférence LRT2019 qui se tiendra à Jaca (Espagne) fin mai 2019**

https://indico.cern.ch/event/716552/
Registration opening: 10 February, 2019
Registration deadline: 30 April, 2019

Historique LRT :

•LRT2017 hosted by the Institute for Basic Science (IBS) Center for Underground Physics (CUP) and by Ewha Womans University.
•LRT2015 hosted jointly by PNNL and the University of Washington in Seattle, USA
•LRT2013 at LNGS in Assergi, Italy
•LRT2010 at SNOLAB in Sudbury, Canada
•LRT2006 hosted by LSM in Aussois, France
•LRT2004 inaugural meeting, hosted at Laurentian University in Sudbury, Canada.