

EURADOS WG 7 – Update February 2018

M.A. Lopez (CIEMAT, Spain), Bastian Breustedt (KIT, Germany)



WG7 – Definition

“ EURADOS WG7 acts as a **network** of

- Scientists,
- Services,
- Regulators and
- Laboratories

collaborating for the coordination of research and the dissemination of knowledge **for the assessment of doses due to intakes of radionuclides.**”

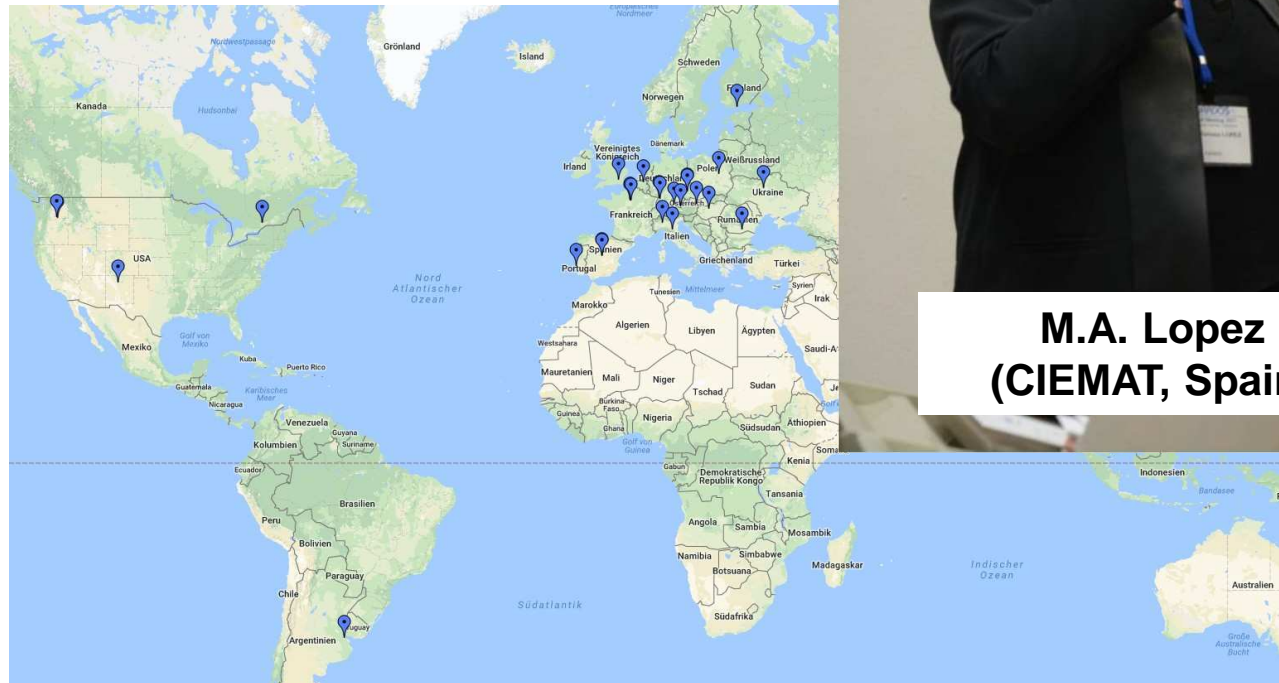
■ Motivation

- **Harmonization** of methods and tools to obtain the “best estimate” of the intake and dose due to the incorporation of radionuclides into the body;
- **Normalization** for the establishment of Standards for appropriate quality assurance programs that guarantee reliability of the results of monitoring and dose E(50) and permit accreditation of internal dosimetry laboratories and
- **Networking** and coordination of research to promote collaboration of internal dosimetry experts, laboratories and services;
- **Dissemination** of knowledge, education and training.

WG7 – Status

■ Status February 2018

- Chair: B. Breustedt (KIT, Germany)
- Secretary: E. Davesne (IRSN, France)
- 35 Full Members,
- 70 Corresponding Members + ~50 Observers
- 57 Institutes from 24 countries in Europe, Amer



**M.A. Lopez
(CIEMAT, Spain)**

WG7 Work in 2017 – Tasks 7.1, 7.2 and 7.3

- 7.1 – EURADOS Intercomparison on Dose Assessments ICIDOSE
 - Team: C.M Castellani (ENEA, Italy), G. Roberts (Nuvia, UK), A. Giussani (BfS, Germany) A. Andradi (MTA EK-retired) and J.W.Marsh (PHE, UK)
 - Exercise finished, Participants Workshop planned in October 2018 @ HEIR2018

- 7.2 – Implementation and QA of Biokinetic Models
 - Contact: D. Nosske (BfS, Germany)
 - Report on Guidance for the implementation of ICRP Models under development

- 7.3 – DTPA Therapy Modeling
 - Contact: B. Breustedt (KIT, Germany), E. Blanchardon (IRSN, Germany)
 - DTPA Task Meetings
 - Detailed Discussion of Hypotheses and Modeling Approaches

WG7 Work in 2017 – Tasks 7.4 and 7.5

- 7.4 – Individual Monitoring and Application of Monte Carlo Methods to in-vivo monitoring
 - Contact: D. Franck, D. Broggio (IRSN, France), A.L. Lebacq (SCK-CEN, Belgium)
 - CATHyMaRa-Project finished in 2017 → follow up actions discussed
 - Thursday 12:25h: D. Broggio (IRSN)
Physical and Mathematical phantoms for internal dosimetry applications (including outcome of CATHYMARA Project)
 - LLNL(USA) / EURADOS Intercomparison on Thyroid Radioiodine Monitoring
 - New European Intercomparison for in-vivo monitoring of Radionuclides
- 7.5 – Uncertainties on dose assessments
 - Contact: E. Blanchardon (IRSN, France), E. Davesne (IRSN, France)
 - Dosimetry for epidemiology studies – Exercise Uranium Workers
 - EURADOS report 2017-03 (Davesne et al.) – published in December

WG7 Work in 2017 – Task 7.6

- 7.6 – Training on Internal Dosimetry
 - Contact: G. Etherington (PHE, UK)

 - TECHREC Report still awaits publication
 - Training Course on TECHREC in preparation – March 2019
 - EURADOS Training Course on the Application of Monte Carlo Methods for Dosimetry of Ionizing Radiation (**WG6 + WG7**)
 - **March 12-16, 2018, KIT Karlsruhe, Germany**

 - Monday – Wednesday Basis Module
 - Voxel Phantom Development and Implementation for Radiation Physics Calculations
 - Wednesday – Friday 2 Parallel Application Modules
 - Individual Monitoring
 - Calibration of in-vivo Counters

 - <http://www.sum.kit.edu/CONCERT-Training.php>

WG7 Work in 2017 – Tasks 7.7 and 7.8

■ 7.7 – Internal Microdosimetry

- Contact: W. Hofmann (Univ. Salzburg, Austria), W. Li (HMGU, Germany)
- Review paper “Internal microdosimetry of alpha-emitting radionuclides” (draft)
- Micro- and nanodosimetry in nuclear medicine and radiotherapy.
 - Application of computational nanodosimetry to gold nanoparticles in diagnosis and therapy
- Collaboration with WG6 “Computational Dosimetry”
 - Uncertainty Analysis of micro- and nanodosimetry of I-125 in liquid water

■ 7.8 – Biodosimetry in case of internal exposures

- Contact: A. Giussani (BfS, Germany), M.A. Lopez (CIEMAT, Spain),
- Review paper on the use of biodosimetry methods in scenarios involving accidental internal exposures. 10 case scenario studies.
- Future joint **WG10 + WG7** actions will be established from the conclusions

WG7 – Work Programme 2018

- Task 7.1: **Dose Assessment Methodology**
 - C.M. Castellani (ENEA, Italy)
- Task 7.2: Implementation and QA of Biokinetic Models.
 - D. Nosske (BfS, Germany).
- Task 7.3: Towards a DTPA Therapy model
 - B. Breustedt (KIT, Germany)
- Task 7.4: Individual Monitoring and application of Monte Carlo methods to in-vivo monitoring
 - D. Broggio, D. Franck, (IRSN, France), A.L. Lebacq (SCK-CEN, Belgium)
- Task 7.5: Uncertainty on Dose Assessments
 - E. Blanchardon, E. Davesne (IRSN, France)
- Task 7.6: Training on Internal Dosimetry
 - G. Etherington (PHE, UK).
- Task 7.7: Internal Microdosimetry. Collaboration with WG6 “Computational Dosimetry”
 - W. Hofmann (Univ. Salzburg, Austria), W. Li (HMGU, Germany)
- Task 7.8: **Internal Dosimetry in Emergency Situations**
 - A. Giussani (BfS, Germany), M.A. Lopez (CIEMAT, Spain),

WG7 – Work Programme 2018



- **Feel free to present and discuss your work with us**

- Discussion in Task Groups and WG7 plenary are welcome

- **Any new proposals are welcome**

- We surely will discuss if and how to implement these

- Please contact task coordinators, WG7 secretary and chair

**Thank you
for your attention**