

First circular

17th

GARRM

RADON v.o.s. + Faculty of Nuclear Sciences and Physical Engineering CTU + Czech Geological Survey organize the

17th INTERNATIONAL WORKSHOP GARRM

(on the GEOLOGICAL ASPECTS OF RADON RISK MAPPING)

September 16th – 18th, 2025, Prague, Czech Republic

**+ this time an associated workshop (part of GARRM)
“Radon as a Natural Tracer for Monitoring NAPL Contamination”
September 18th, 2025**

**+ RIM & PIM – Radon and Soil Permeability Intercomparison
Measurements at Radon Reference Sites
September 15th, 2025**

(it is certainly possible to participate in all events or only in selected ones)

WEBPAGE: www.radon.eu/workshop2025

ORGANIZING COMMITTEE:

GARRM: Matej NEZNAL (RADON), Petra PACHEROVA (CGS), Lenka THINOVA (FNCPE),

RIM: Milan MATOLIN, Ondrej SALEK (Charles University), Matej NEZNAL (RADON)

Associated workshop: Jan KUKACKA (DEKONTA), Paola TUCCIMEI (ROMA TRE), Matej NEZNAL (RADON)

IMPORTANT DATES AND DEADLINES

Second announcement: April/May 2025

Deadline for paper submission: June 30, 2025

Deadline for lower registration fee: June 30, 2025

PROGRAMME

September 15th (Monday): Registration for RIM + PIM (in the field in the morning) + field measurements

Registration for GARRM (18,00-21,00)

September 16th (Tuesday): Registration for GARRM (8,00-9,30), GARRM Sessions

September 17th (Wednesday): GARRM Sessions, GARRM dinner

September 18th (Thursday): GARRM – workshop NAPL

WORKSHOP GARRM - GENERAL TOPICS

RADON RISK MAPPING AND RADON ACTION PLANS

- **NEW RESEARCH ACTIVITIES AND RESULTS
NATIONAL STRATEGIES, RADON ACTION PLANS, APPROACHES TO RADON RISK; RADON RISK MAPPING ON VARIOUS SCALES INCLUDING GEOGENIC MAPPING & DETAILED MEASUREMENTS; DELINEATION OF RADON PRONE/PRIORITY AREAS**

RADON IN GEOLOGICAL ENVIRONMENT

- **NEW RESEARCH ACTIVITIES AND RESULTS
METHODS OF MEASUREMENTS AND CLASSIFICATION OF RADON RISK; PASSIVE AND ACTIVE SOIL GAS SAMPLING; SOIL PERMEABILITY AS THE SECOND DECISIVE PARAMETER FOR RADON POTENTIAL ASSESSMENT; UNDERSTANDING RADON TRANSPORT MECHANISMS IN THE SOIL AND FROM THE SOIL INTO THE BUILDINGS; RADON IN KARST AREAS; RADON MODELING**

Due to our common experiences from last workshops, we would like to ask you for oral presentations (15 min) or poster presentations.

Associated workshop (part of GARRM, September 18th)

“Radon as a Natural Tracer for Monitoring NAPL Contamination”

We have already almost all presentations for this associated workshop, we would like to ask you for one more, ideally an oral presentation (20 min) - A case study, Radon as a Natural Tracer for Monitoring NAPL.

Selection of papers presented at the GARRM + NAPL workshops will be published in JERA.

VENUE + TRANSPORT

The conference will be held in the beautiful city of Prague, capital of the Czech Republic, at the Faculty of Nuclear Sciences and Physical Engineering of the Czech Technical University in Prague (www.cvut.cz). The address is FNSPE CTU in Prague, Břehová 7, 110 00, Prague 1.

The main building of the Faculty of Nuclear Sciences and Physical Engineering of the Czech Technical University in Prague is located in the centre of Prague at the embankment of the river Vltava between Mánesův most (Mánes Bridge) and Čechův most (Čech Bridge). The entrance is on Břehová Street 7, in a short part of this street between the embankment and the 17. listopadu Street.

The nearest underground station is Staroměstská (Metro line A). Leaving the vestibule of the station in direction of Náměstí Jana Palacha (Jan Palach Square, exit E1), you then turn right along the tram lines parallel to the river, after about 150 m the Faculty building is on the left. You can use also tram connection: tram line No. 17 to Právnická fakulta (the nearest stop) or No. 18 and 2 to Staroměstská stop (near the underground station).

For more details see <https://mapy.cz/s/fejababugu> or <https://maps.app.goo.gl/YJNUChc1vzQR8qTN6>.

ACCOMMODATION

Accommodation is not included in the registration fee.

The direct neighbourhood as well as nearby parts of Prague have large number of excellent hotels, pensions, hostels, which you can find via internet (*booking, airbnb*). You can also have a look at the official information site of the Prague city authority, which is available on: <https://www.prague.eu/> and <https://www.prague.eu/en>, because this web page gathers together practical information with information about Prague including its history, monuments, cultural events, accommodation possibilities, etc.

RIM & PIM - GENERAL INFORMATION

Radon in soil gas comparison measurement (RIM) at radon reference sites in the Czech Republic, RIM 2025, will be organized as an independent part of the GARRM Workshop on September 15th, 2025. Comparison measurements at reference sites serve for verification of field radon measurements performed by single organizations by their instruments. During the RIM we would like to focus not only on comparison of resulting soil gas radon concentrations, but on the sampling methods themselves.

Radon intercomparison measurement will be organized at two reference sites Cetyne and Buk established in 2000, located 60 km SW of Prague near the city Milín in the Czech Republic. Both reference sites are accessible for cars. Radon reference sites are situated on meadows, their soil cover enables soil gas sampling at the depth of 0.8 m, and their mutual total distance is 12 km. Each reference site implies 10 stabilized stations, which are marked by numbers. Single reference sites differ in radon activity concentration in soil gas, the radon distribution within the reference site is relatively homogeneous.

Radon in soil gas comparison measurements at reference sites are organized for single participants or groups of participants. **Results of tests will be anonymous, each participant (group or a set of tested radon data) will be denoted by a code.**

Working plan: Instruction (via e-mail), transport from Prague (provided on request, we recommend to arrange the transport to the reference sites on an individual basis), meeting at the reference area, measurement of radon in soil gas at 10 stations of each reference site, reporting of resultant radon activity concentration data (kBq/m³) from measured stations, filled in a provided form by 2 weeks after RIM measurement by e-mail. Data processing and evaluation will follow after all participants provide the data. For those who will collect a lower number of

measurements at reference sites, the evaluation programme accepts their number of data.

Soil Permeability intercomparison measurement (PIM) - with respect to the success of the first PIM 2023, we would like to organize the second **soil permeability intercomparison measurement**, at the same day, on Monday, 15th September, and at the same reference sites as RIM. The challenge is simple – to continue with intercomparison measurements of the second parameter used during radon risk mapping.

Accommodation: Please, take into consideration, that this year “only” one-day radon in soil gas intercomparison is hold. Suitable accommodation, just in the area of radon reference sites, is available in “Hotel u Milina” (www.hotelumilina.cz). More detailed information will be available at the second circular and at the workshop webpage, details will be discussed with all participants of RIM and PIM via e-mail.

CALIBRATION OF RADON IN SOIL GAS DEVICES

.. in Calibration laboratory SUJCHBO, v.v.i. – the accredited Calibration protocol

Calibration Laboratory SUJCHBO, v.v.i.: National Institute for Nuclear, Chemical and Biological Protection (SUJCHBO, v.v.i.) is certificated by Lloyd’s Register Quality Assurance according to standards ČSN EN ISO 9001 - quality management system, ČSN EN ISO 14001 - environmental management system, ČSN ISO 45001:2018 - safety management system. The Authorized Metrological Centre (AMC) working under SUJCHBO v.v.i. ensures the metrological traceability for devices measuring the radon air activity concentration and the energy equivalent radon concentration connected with the radon decay products (RnDP). The AMS laboratory is authorized by the UNMZ (Czech office for standards, metrology and testing). Calibration Laboratory is accredited by the Czech Institute for Accreditation according to the standard ČSN EN/IEC 17025:2018 and certificated by Lloyd’s. Following the metrological traceability, the AMC is on the same metrological level as BfS Berlin. These two institutions compare results periodically and cooperate in some international research projects.

Working plan for calibration: Expected time schedule differs for continual radon monitors and for grab sampling devices.

We expect, that in case of continual radon monitors, a responsible person from SUJCHBO will pick up the participant’s continual monitors at reference site Buk on Monday, September 15th, 2025, after the RIM. It is necessary to prepare some similar operation manual and pack it for transport together with owner’s contact data. Devices will be exposed in the Radon-aerosol chamber of SUJCHBO under two different levels of radon activity concentration. On Thursday, calibration of continual radon monitors will be completed and the responsible person from SUJCHBO will transport participant’s devices back to Prague (GARRM venue). Participant will download data from the device and send results from two expositions no later than one month after the calibration. Time of each exposition will be sent to participants briefly after the calibration process. Based on the participant’s results, SUJCHBO will send the accredited Calibration protocol to each participant forthwith.

In case of grab sampling radon in soil gas devices – on Thursday, September, 18th, at about 8,00 a.m. we will organize the transport of interested persons + equipment from Prague to the Calibration laboratory of SUJCHBO, Kamenna. Participants will take samples of the air from prepared sampling rubber tires with three different levels of radon activity concentration. Because of limited volume of air in the sampling rubber tires, each participant can take at most four 150 ml samples (600 ml together) from each level of radon activity concentration. Expected time of arrival back to Prague: Thursday, September 18th before or at about 13,00. Participants will send the results of three levels of radon activity concentration no later than one month after the calibration. Based on the participant's results, SUJCHBO will send the accredited Calibration protocol to each participant forthwith.

Note: Limits of participants/devices number – due to the time schedule and due to the special price for calibration as well, there are limits of participants/devices for the calibration: - continual monitors: min 4 – max 15 devices; - grab sampling devices: min 4 – max 15 devices

REGISTRATION FEE and INSTRUCTION for PAYMENT

Note: there is no special fee for the associated workshop "Radon as a Natural Tracer for Monitoring NAPL Contamination" on September 18th, i.e. the fee for GARRM workshop includes this associated workshop

+ we are nowadays discussing with ERA a possible discount for ERA members (will be announced at the GARRM and ERA webpages)

The registration fee for the GARRM workshop (390 € if paid after June 30, 2025, 350 € if paid before) covers the GARRM workshop program including the associated workshop, refreshments during the coffee breaks and the GARRM workshop dinner.

The fee for exhibitors during the GARRM workshop, Tuesday till Thursday (**820 €** if paid after June 30, 2025, **740 €** if paid before) covers the exhibition (a standard booth) and the GARRM workshop program including the associated workshop, refreshments during the coffee breaks and the GARRM workshop dinner; for 1 or 2 persons.

The fee for RIM – (**380 €** if paid after June 30, 2025, **340 €** if paid before) means a fee for an independent participant or for two participants in one measuring group using one measurement instrument and sampling technique. The fee for each another one (third, fourth ..., participant in the same measuring group) is **60 €**. The fee for each another measurement/sampling technique used by the same participant/group (involved in final testing) is **280 €**.

The fee for PIM – (**150 €** if paid after June 30, 2025, **130 €** if paid before) means a fee for an independent participant or for two participants in one measuring group using one measurement technique. The fee for each another measurement technique used by the same participant/group is **80 €**.

The fee for Calibration – (**310 €** if paid after June 30, 2025, **280 €** if paid before) means a fee for calibration of one piece of equipment (continual radon monitor or grab sampling device).

Accommodation is not included in any of the above mentioned registration fees. VAT is 21% and is included in the fees. VAT number of the beneficiary is CZ00473316. In order to confirm your registration, a proof of payment (photocopy of bank transfer) should be sent to RADON v.o.s. (via e-mail: radon@comp.cz), accepting the given conditions of payment and cancellations. Participants are kindly asked to indicate clearly the name of the person for whom the services are booked in the bank document sent. Payments can only be accepted in Euros. Cancellation and requests for refunds should be made in writing and sent to RADON v.o.s.. Those made before 30 August 2025, will be refunded at 85 % of the original sum. After that date no refunds will be possible. All bank charges will be deducted from the refund. Refunds will be issued after the Workshop (15th October 2025).

Payment - by bank transfer (the payee name ... **RADON v.o.s.**)

The bank name: KOMERCNI BANKA

Account number: 35-6485850237/0100

Swift (BIC): KOMBCZPPXXX

IBAN code: CZ9501000000356485850237

Var.symbol/details of payment: 340125

There would be also a possibility to pay cash at the registration, but those participants should also send us the registration form in advance (the number of participants can be limited). Payment after the end of the event is not possible for accounting reasons.

CALL FOR PAPERS AND INSTRUCTIONS FOR AUTHORS

The language of the conference will be English.

Authors are kindly asked to send their contributions (extended abstracts) as camera ready file, e-mail attachment (best in Word 6. or higher, for high quality print, black+white, A4 format, 2.5 cm margins on all sides). Please do not number the pages. The papers should not extend 7 pages including figures, tables and references.

Contributions (extended abstracts) should be submitted ideally by the 30th of June, 2025. The extended abstracts will be provided on a flash disk and distributed to all participants during the workshop.

For further contacts, please, send us the registration form (via e-mail, or – the easiest way – you can make the registration directly through the workshop webpage). Please fill in your e-mail with attention as it is the most effective way how to contact you.

REGISTRATION FORM

I shall take part in the: GARRM workshop RIM (radon)
 PIM (permeability) Calibration
 Exhibition

Name.....Mr/Mrs

Address.....

.....

Phone.....

e-mail.....

Title of my contribution(s):

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Names of participants in one measuring group (in case of RIM – radon intercomparison measurement participation):

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Names of participants in one measuring group (in case of PIM – soil permeability intercomparison participation):

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Names of participants and specification of instruments (continual x grab sampling) in case of Calibration:

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Contact addresses of the organizing committee:

Matej Neznal, RADON v.o.s. corp., 18000 Prague 8, Novakovyh 6, Czech Republic,
phone +420 266314112, e-mail radon@comp.cz or matej@radon.eu