Applying for an experiment at the INE/ACT-Beamline.

1- General information

The INE-Beamline and the ACT experiment at KIT synchrotron radiation source are dedicated to radionuclide research with X-ray spectroscopic techniques. They are operated by the **Institute for Nuclear Waste Disposal** (INE). The INE-Beamline as well as INE controlled area laboratories were "Pooled Facilities" in the EU FP-7 project TALISMAN and still stay open for collaborative works.

Investigations on non-fissile radioisotopes **up to 10^6 times the legal exemption limit** and fissile radioisotopes (Pu-239, U-235) up to 200mg, contained within **two layers of protection**, are possible. The synchrotron-based activities at the INE-Beamline and ACT experiment at the CAT-ACT beamline are embedded in INE's in-house research, thereby allowing a combination of analytical and instrumental methods, notably laser techniques and microscopic methods available in the INE laboratories.

Before planning an experiment at the INE-Beamlines (INE-Beamline and / or at the ACT experiment at the CAT-ACT beamline), it is required to contact the beamline scientists. Please be aware that any task or information related to radioactive work at the beamline (sample delivery, sample preparation, access to controlled areas, radiation protection, security clearance, etc…) is in the responsibility of KIT-INE and not of KIT-IBPT managing the KIT synchrotron radiation source!!!

2- Radiation safety requirements:

The experimental hutches of the INE-Beamline and ACT beamline are declared a **controlled area lab** as soon as radioactive materials are present. There are special requirements to access and work in a controlled area laboratory. If they are not fulfilled prior to the scheduled start of the measurements, the experiment will be cancelled and you may risk losing your beamtime.

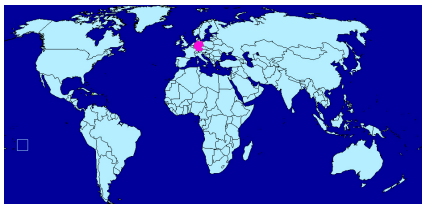
In all cases, you need a **valid German security clearance**, called „Erklärung zur Zuverlässigkeitsüberprüfung (EZU)“.

 It takes ca. 6 - 8 weeks to get your security clearance application validated, it requires:

- ☑ **the filled yellow form (original form needed)** - you will receive it via post once your experiment has been accepted, or as pdf to print double sided.
- ☑ **your criminal record (original record needed)** issued by your responsible police department at home
- ☑ **a curriculum vitae in table form**
- ☑ **a copy of your identity card or passport**

As the yellow form is only available in German, you can download an annotated version with English instructions to fill it properly (“EZU_translation_EN.pdf”).
Depending on your medical surveillance status at your home institution (radworker or not), other documents are mandatory:

RADWORKERS Cat. A or B



For radworkers employed outside Germany,
You are considered as "professionally exposed to ionizing radiation", it means you have a personal dosimeter at "home" and you are declared as Cat. A or B radworker.

1. Valid security clearance
2. your dose record for the actual year **and** your accumulated dose since you are under surveillance (work-life dose available from your responsible radiation protection officer). You can send it to us as pdf via E-mail.
3. Your medical certificate (from your own medical service confirming that you are suited to work in a controlled area). You can send it to us as pdf via E-mail.
4. „Erhebungsbogen" form and its appendix "Anlage" (you will have to complete the form and to sign it at your arrival at KIT to get your KIT dosimeter)
5. Follow the radiation safety training for the controlled areas (INE-Beamlines and/or INE laboratories) you intend to work inside (the training can only be done after your arrival)

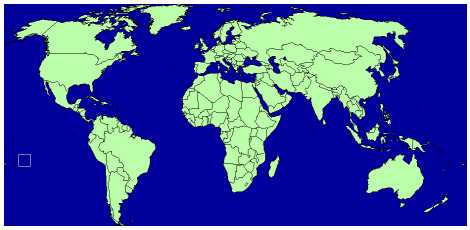
For radworkers employed in Germany,
„Berufliche strahlexponierte Personen der Kat. A oder Kat. B."

*Please **contact us if you are planning to perform an experiment** in order for us to check if all requirements are fulfilled by your home institution. For example (but probably not exhaustive!), the following institutions: FZJülich, HZDR, JRC-Karlsruhe (former ITU), Uni Mainz (Johannes Gutenberg-Universität), Uni Bonn, Uni Heidelberg (Ruprecht-Karls-Universität) and TU München fulfill the requirements in points 1 and 2 below:*

1. *Die fremde Einrichtung muss eine gültige Genehmigung nach § 15 StrlSchV vorlegen*
2. *Zwischen der fremden Einrichtung und dem KIT muss ein Abgrenzungsvertrag geschlossen werden, der die Zuständigkeiten eindeutig regelt.*
3. *Der Mitarbeiter der fremden Einrichtung muss einen gültigen und vollständig ausgefüllten Strahlenpass vorlegen (bring your "**Strahlenpass**" with you as well as **your personal dosimeter**).*
4. *Follow the radiation safety training for the controlled areas (INE-Beamline and/or INE laboratories) you intend to work inside (done after your arrival)*

NON RADWORKERS

For non-radworkers,
You are not considered as “professionally exposed to ionizing radiation”, it means you do not have a personal dosimeter at “home” and you are not under radioprotection surveillance.



1. Valid security clearance
2. Certificate from your institution on your annual dose for the present year (Form “kiss_000476”, available as download, needs to be filled and returned to us)
3. Read and sign the radiation safety training form (done at your arrival, available in German, English and French).
4. „K- Person“ registration form (you have to complete and to sign it at your arrival)
5. Follow the radiation safety training for the controlled areas (INE-Beamlines and/or INE laboratories) you intend to work inside (done after your arrival)

3- Sample transport:

All samples have to be **delivered to KIT-INE (Building 712)** and will be stored at INE controlled area prior to the start of your experiment. **Note that samples cannot be delivered directly to the INE –Beamlines (INE or CAT-ACT) at KIT synchrotron radiation source.**

The contact person at KIT-INE for organizing sample transports is Christian Marquardt (christian.marquardt@kit.edu). When contacting Christian, please always send a copy of this E-mail to the responsible beamline contacts (named in your beamtime confirmation E-mail). Be aware that organizing sample transport can require up to several months, depending on your home institution.

In the KIT-INE controlled area, containments of samples will be visually inspected and checked for non-contamination before the samples are internally transported to the INE-Beamline.
For samples requiring to be finalized after shipment to KIT-INE (reconditioning, separation, etc…), the INE controlled area laboratories provide the necessary infrastructure (additional sample characterization, handling in glove boxes, etc…). Please explicitly mention in your proposal if you need to use our controlled area facilities. **It is important to contact us in advance for planning your experiment**!

Check list for sample transportation to INE:

☑ ***2 weeks or more in advance***

Description of samples as they will be shipped, including:

- Nuclides composition and activity for each isotope
- Physical/chemical state of the samples (liquid, paste, pellets,…)
- The containments (first and second)

You should contact your radiation protection officer or the shipment department at your institution. They will need a statement from KIT-INE that we are licensed to accept the shipment. Christian Marquardt will send this confirmation once he has checked the sample description.

☑ ***If possible 1 week in advance***

Type of transport and transport service company (e.g., exempted package with UN number, radioactive transport, what kind of container, etc…). Please send a copy of your transport form so that we know what to expect.

*Once the transport is organized, please let us know the expected date of the delivery of your samples to KIT-INE. We will provide the name and coordinates of the authorized person to receive the samples at INE at that time. The transport has to go **through our delivery and shipment department** which will check that all requirements are fulfilled (transport forms etc.).*

☑ ***at least 2 days in advance***

Certificate of non-surface contamination of the samples (results of wipe tests) and indication of the dose at the surface and at 1m distance. (You will need this information for your transport form in any case).

You will get a definitive "OK" from our side to proceed to the shipping of the samples.

4- Contact persons for the Beamline:

Beamline scientists:

Jörg Rothe	rothe@kit.edu
Kathy Dardenne	dardenne@kit.edu

Beamline scientist for Johann spectrometer (High Energy resolution HXRES, RIXS):

Tonya Vitova	tonya.vitova@kit.edu

Radiation safety officers: Kathy Dardenne
Nicolas Finck
Frank Heberling
Jörg Rothe

5- Website information:

KIT-INE	www.ine.kit.edu
INE –Beamlines (INE & CAT-ACT)	http://www.ine.kit.edu/1279.php
INE/ACT beamline downloads	http://www.ine.kit.edu/1450.php