

Experimental Training in Radioanalysis

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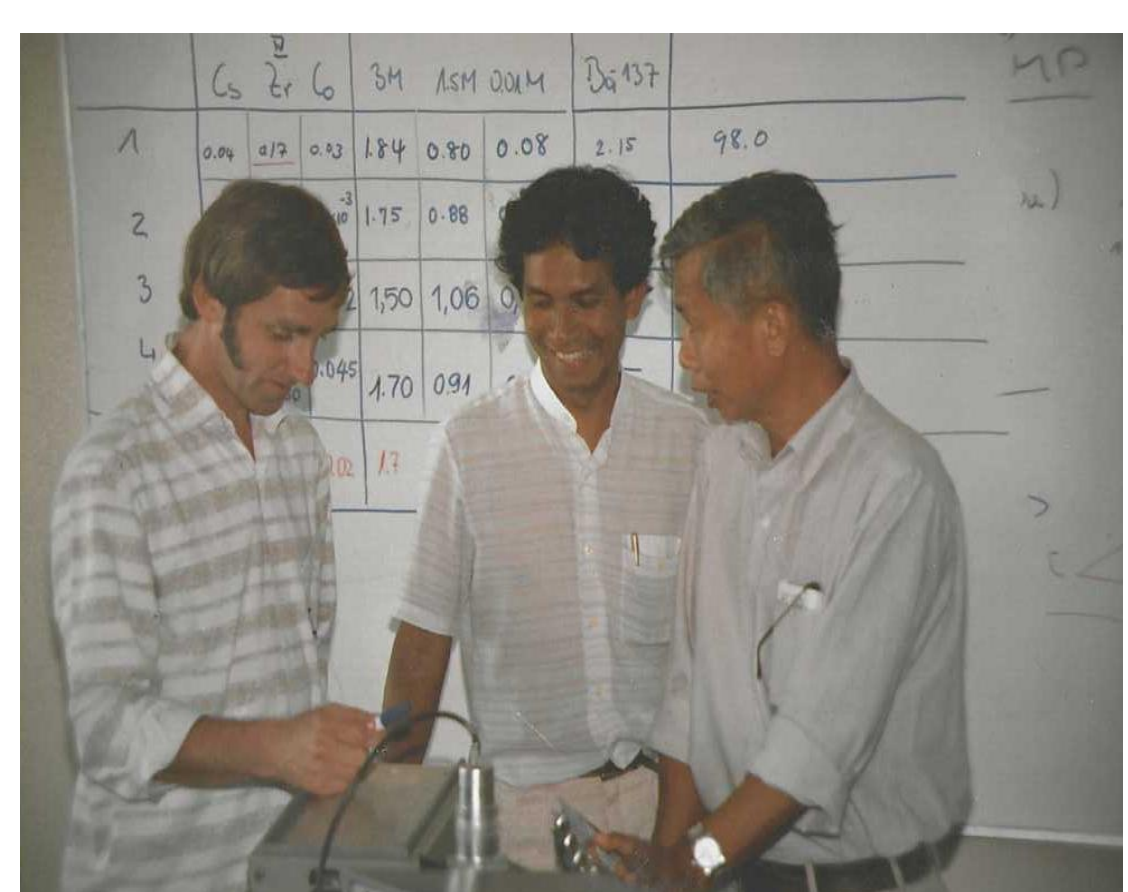
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Motivation

Experimental Training and Workshops aim to transfer practical knowledge by laboratory work and performing experiments. Radioisotope Training is practiced at KIT since 50 years. It has been transferred worldwide with emphasis to CMU in Thailand. The way to, curriculum of and results are presented.

Radioisotope Training

- **1. History/Milestones (National)**
 - 1.1. Radioisotope Training RT for Science Students (Hd, Ka) as precondition for MSc and PhD in Radiochemistry (3 to 4 weeks)
 - 1.2. RT for Nuclear Scientists (3 weeks)
 - 1.3. RT for RPO's of highest qualification (2 to 3 weeks) (national → EC wide)
- **2. Radioisotope Training (abroad)**
 - 2.1. UFPE Recife (BR)
 - 2.2. IPEN Lima (PE)
 - 2.3. CMU Chiang Mai (TH)
 - 2.4. INET Beijing (CH)
 - 2.5. INSTN Antsiranana (MG)
- **3. Radioanalysis**
 - α -, β (LS) -, γ -spectrometry
- **4. Training Manual**
 - Experiments for Training in Nuclear and Radiochemistry



Experimental Training with CMU

- Workshop on Nuclear and Radiochemistry 8-28 April 1987
- IAEA National TC on Modern Radiochemistry and Radioanalytical Chemistry 18/1-5/2 1988
- National TC on Modern Radiochemistry and Radioanalytical Chemistry 23/1-10/2 1989
- Application of Nuclear and Radiochemical Techniques to Environmental Sample Analyses 21/1-8/2 1991
- Workshop on Radiochemical and Modern Analytical Techniques Applied to Environmental Analysis 3-13 January 1995
- IAEA Regional TC on Nuclear Analytical and Related Techniques in Water Quality Monitoring 3-21 November 1997

Example for Curriculum week 3:

		Weeks III: RELATED TECHNIQUES & FIA			
		13-14	14-15	15-16	16-17
Mon 17	Water Quality regulations	Water analysis by: • GC • HPLC • Ion chromatography • D. Mueggen / Satoyuki / Poon / Thiraporn / Nira / Krongkarn			
Tue 18	Automation for water monitoring - hyphenated techniques - FIA	① Campbell	① Gekko	OIL: water quality mapping - visit to the Laboratory of the office of Mineral Research, Region III	
Wed 19	FIA in practice	① Gekko	FIA components and instrumentation	Kanchan Pongrath / View	
Thu 20	① Gekko / Staff	Technique: FIA for water monitoring	① Gekko	FIA for water quality monitoring: PO ₄ ³⁻ , U, CT, hardness, alkalinity	
Fri 21	Analytical quality: Basic principles & recommendations	① Gekko	① Gekko	SO ₄ ²⁻ , Fe ³⁺ / Fe ²⁺ , NO ₃ ⁻ / NO ₂ ⁻ , urethane, Ca ²⁺	
	① Gekko	① Gekko	① Gekko	① Gekko / Pongrath / Jongsak / Nipattak / Whana / Sontakul	
	Round Table Discussion: - knowledge gained for participants' home institute			Closing session	
	Information about IAEA				
		① Gekko	① Gekko		

Heading for More

Experimental Training and Workshop by further combining
LSC and FIA
Handbook extension to Flow Injection Analysis FIA
Further expanding the collaboration to Academics and Friendship

