



## Preliminary Program

6 – 10 June 2022

**Monday, 6. June 2022**

**Registration and Opening: 9:00 – 10:00 (Local time)**

IJS representatives

URSJV representative

IAEA representative

IJS/SVPIS – safety issues

**Break: Coffee/Tea: 10:00 – 10:30 (Local time)**

### 1. Fundamentals of $k_0$ -NAA

Chair: B. Smodiš

Time	Code	Authors	Title
10:30 – 11:00	No. 04	<u>Maria Angela de Barros Correia Menezes</u> , Claudia de Vilhena Schayer Sabino Radojko Jaćimović	<b>History, development and main achievements in twenty-seven years of the establishment of <math>k_0</math>-Instrumental Neutron Activation Analysis based method at CDTN, Brazil</b>
11:00 – 11:30	No. 31	<u>Hamidatou-Alghem Lylia</u> , Slamene Hocine, Akhal Tarik, Djebli Kamel, Zouranen Boussaad	<b>Neutron Activation Analysis Laboratory: Evaluation of three decades of experiment applying INAA, <math>k_0</math>-NAA and RNAA methods</b>
11:30 – 12:00	No. 38	<u>R. Acharya</u> and P.K. Pujari	<b>A Journey of 25 Years of R&amp;D Works on <math>k_0</math>-Based Conventional and Internal Monostandard NAA Using Research Reactors of India And Applications to Diverse Fields</b>
12:00 – 12:30	No. 19	R. van Sluijs	<b>"The Westcott story": The analysis of non-<math>1/\nu</math> nuclides using the <math>k_0</math>-method</b>

**Lunch: 12:30 – 14:00 (Local time)**



## 2. Nuclear data

Chair: G. Kennedy

Time	Code	Authors	Title
14:00 – 14:30	No. 33	R. Jaćimović, F. De Corte, G. Kennedy, R. van Sluijs, P. Vermaercke	The 2020 recommended $k_0$ database
14:30 – 15:00	No. 03	Peter Vermaercke, Attila Stopic	(Re)determination of $Q_0$ and $k_0$ factors for $^{124}\text{Sb}$ , $^{122}\text{Sb}$ and $^{122\text{m}}\text{Sb}$
15:00 – 15:30	No. 25	Ho Van Doanh, Pham Van Giap, Tran Quang Thien, Ho Manh Dung	Determination of $k_0$ and $Q_0$ factors for five short-lived radionuclides of interest in $k_0$ -NAA

Break: Coffee/Tea: 15:30 – 16:00

Chair: G. Kennedy

Time	Code	Authors	Title
16:00 – 16:30	No. 32	Vladimir Radulović, Radojko Jaćimović, Andrej Trkov	Determination of the $k_0$ and $Q_0$ constants of $^{94,96}\text{Zr}$ for neutron activation analysis
16:30 – 17:00	No. 27	R. van Sluijs, M. Blaauw	Defining " $k_0$ -factors" for threshold reactions
17:00 – 17:30	No. 34	Radojko Jaćimović	Stability of an Al-0.1% Au alloy

$k_0$ -ISC Meeting: 18:00 – ...



**Tuesday, 7. June 2022**

## 2. Nuclear data (continue)

Chair: R. van Sluijs

Time	Code	Authors	Title
09:00 – 09:30	No. 46	N. Pessoa Barradas, A. Vieira, M. Blaauw	<b>Artificial neural networks for NAA: proof of concept on data analysed with <math>k_0</math>-IAEA</b>
09:30 – 10:00	No. 45	G. Kennedy	<b>Coincidence summing: the neglected nemesis of <math>k_0</math>-NAA</b>
10:00 – 10:30	No. 36	S. K. Samanta, R. Acharya, P. K. Pujari	<b>Standardization of <math>k_0</math>-based Conventional and Internal Monostandard NAA Methods using Apsara-U Research Reactor: Characterization of Irradiation Sites and Validation of Methods</b>

Break: Coffee/Tea: 10:30 – 11:00

## 3. Neutron Spectrum Characterization

Chair: L. Hamidatou-Alghem

Time	Code	Authors	Title
11:00 – 11:30	No. 17	A. Pungerčič, I. Lengar, T. Goričanec, G. Žerovnik, K. Ambrožič, Ž. Štancar, I. Švajger, V. Radulović, A. Trkov, L. Snój	<b>Experimental and computational characterisation of the neutron field in JSI TRIGA reactor</b>
11:30 – 12:00	No. 23	Maria Ângela de Barros Correia Menezes, Radojko Jaćimović	<b>Characterization of irradiation channels in the carousel of TRIGA Mark I IPR-R1 research reactor, Brazil, aiming at the application of <math>k_0</math>-standardization method of neutron activation analysis</b>
12:00 – 12:30	No. 29	Guesmia Ahmed, Slamene Hocine, Azli Tarik, Hamidatou-Alghem Lyliya	<b>Characterization of neutron spectrum at NUR research reactor of CRND-ALGERIA for the <math>k_0</math>-based neutron activation analysis</b>



**Lunch: 12:30 – 14:00 (Local time)**

**Chair: M. Blaauw**

Time	Code	Authors	Title
14:00 – 14:30	No. 15	Sebastjan Rupnik, <u>Borut Smodiš</u>	<b>Improved short irradiations at JSI TRIGA reactor</b>
14:30 – 15:00	No. 09	<u>Christian Stieghorst</u> and Zsolt Révay	<b>The NAA instrument at MLZ</b>
15:00 – 15:30	No. 14	<u>Ildikó Harsányi</u> , Zoltán Kis, András Horváth, László Szentmiklósi	<b>Computer simulations to estimate the neutron-activation of irradiated samples</b>

**Break: Coffee/Tea: 15:30 – 16:00**

#### 4. $k_0$ -NAA Methodology

**Chair: R. Jaćimović**

Time	Code	Authors	Title
16:00 – 16:30	No. 06	<u>L. Gačnik</u> , R. Jaćimović	<b>Progress on NAA aided by Geant4 particle simulation</b>
16:30 – 17:00	No. 28	<u>Isaac Kwasi Baidoo</u> , Wilfred Sedofia Massiasta, Bernard Osei, Henry Cecil Odoi, Edward Shitsi	<b><math>k_0</math> standardization and implementation of <math>k_0</math>-IAEA software for Neutron Activation Analysis at the GHARR-1 NAA facility: Ten (10) years' experience</b>
17:00 – 17:30	No. 37	V. Sharma, S. K. Samanta, H.K. Bagla, <u>R. Acharya</u> , P. K. Pujari	<b>Utilization of relative and <math>k_0</math>-based NAA methods for quantification of trace elements in automobile windshield glass samples for forensic applications</b>
17:30 – 18:00	No. 41	Iliasse Aarab, <u>Hamid Bounouira</u> , El Mahjoub Chakir, Hamid Amsil, Abdessamad. Didi	<b>Utilisation of <math>k_0</math>-standardisation method of neutron activation analysis for the determination of major and trace elements in medicinal plant of Senhaja Srair region (Morocco)</b>



8<sup>th</sup> International  $k_0$ -Users' Workshop  
6 – 10 June 2022  
Ljubljana, Slovenia



Institut  
"Jožef Stefan"  
Ljubljana, Slovenija

**Wednesday, 8. June 2022**

**Workshop trip and lunch**



**Thursday, 9. June 2022**

## 5. Prompt-gamma NAA

Chair: L. Szentmiklósi

Time	Code	Authors	Title
09:00 – 09:30	No. 08	Zsolt Révay	Spectroscopic data library for PGAA
09:30 – 10:00	No. 11	László Szentmiklósi, Boglárka Maróti, Zoltán Kis	Prompt-gamma activation analysis of bulky and structured samples
10:00 – 10:30	No. 12	Noémi Anna Buczkó, Boglárka Maróti, László Szentmiklósi	Characterization of electronic waste with neutron and X-ray based element analysis techniques

Break: Coffee/Tea: 10:30 – 11:00

Chair: Z. Révay

Time	Code	Authors	Title
10:30 – 11:00	No. 13	Boglárka Maróti, Zoltán Kis, László Szentmiklósi	Non-destructive analysis of structured samples, validation of the MCNP simulations on test objects
11:00 – 11:30	No. 10	Katalin Gméling, Veronika Szilágyi, Ildikó Harsányi, László Szentmiklósi	The role of NAA in the assessment of activation properties of pebbles, used as raw materials in neutron- and gamma-shielding concrete

## 6. Software

Chair: P. Vermaercke

Time	Code	Authors	Title
11:30 – 12:00	No. 20	R. van Sluijs	Kayzero for Windows, V3, software for NAA using the $k_0$ -method
12:00 – 12:30	No. 02	Giancarlo D'Agostino, Menno Blaauw, Ho Manh Dung, Marco di Luzio, Radojko Jacimovic, Mauro Da Silva Dias, Renato Semmler,	The 2021 IAEA software intercomparison for $k_0$ -INAA



		Robbert van Sluijs, Nuno Pessoa Barradas	
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**Lunch: 12:30 – 14:00 (Local time)**

**Chair: P. Bedregal**

Time	Code	Authors	Title
14:00 – 14:30	No. 01	<u>Mauro da Silva Dias</u> , Renato Semmler, Marina Fallone Koskinas, Denise Simões Moreira, Ione Makiko Yamazaki, Franco Brancaccio, Lívia Fernandes Barros, Rafael Vanhoz Ribeiro and Thales Salvador Lima de Morais	<b>k0-IPEN: a new software for Instrumental Neutron Activation Analysis</b>
14:30 – 15:00	No. 21	<u>M. Di Luzio</u> , G. D'Agostino	<b>Use of the k0-INRIM 2.0 software in k0-INAA</b>
15:00 – 15:30	No. 24	<u>Ho Manh Dung</u> , Tran Quang Thien, Ho Van Doanh, Tran Tuan Anh, Truong Truong Son, Phonesavanh Lathdavong	<b>Development of a PC program for the k0-based epithermal neutron activation analysis</b>

**Break: Coffee/Tea: 15:30 – 16:00**

## 7. Validation of $k_0$ -NAA

**Chair: R. Acharya**

Time	Code	Authors	Title
16:00 – 16:30	No. 07	<u>L. Gačnik</u> , R. Jačimović	<b>Expanded functionality of particle-simulation aided NAA</b>
16:30 – 17:00	No. 42	<u>H. Bounouira</u> , H. Chahidi, H. Amsil, A. Didi, I. Aarab	<b>Combination of k0-IAEA and k0 for windows for the characterization of neutron flux parameters at Triga Mark II Research Reactor, Morocco</b>
17:00 – 17:30	No. 22	<u>Radojko Jačimović</u> and Marijan Nečemer	<b>Comparison of EDFXR and k0-INAA methods used for multielement analysis of organic and inorganic materials</b>
17:30 – 18:00	No. 40	<u>Minas Elfatih Ali Ahmed</u> , Hamid Bounouira, Mohammed	<b>Utilization of the k0_IAEA program for the determination of Rare Earth</b>



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		Adam Abbo, Hamid Amsil, Abdessamad Didi, Ilias Aarab	<b>Elements in Soil Samples from gold mining area in Sudan</b>
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**Friday, 10. June 2022**

## 8. Applications of $k_0$ -NAA

Chair: M.A.B.C. Menezes

Time	Code	Authors	Title
09:00 – 09:30	No. 05	<u>Mohamed Soliman</u> , Fatma S. Abdou, Abdullah M. Othman, Mohamed Shabib	<b>Determination of Ca-substituting elements in skeleton of corals collected from Red Sea using <math>k_0</math>-NAA</b>
09:30 – 10:00	No. 18	<u>N.A. Nursapina</u> , R. Jacimovic, I.V. Matveyeva, Sh.N. Nazarkulova	<b>Application of <math>k_0</math>-INAA for analysis of fertilizers</b>
10:00 – 10:30	No. 26	<u>Ho Manh Dung</u> , Tran Tuan Anh, Tran Quang Thien, Ho Van Doanh	<b>Analysis of automobile window glass samples by the <math>k_0</math>-based Neutron Activation Analysis for forensic applications</b>
10:30 – 11:00	No. 43	<u>Russel Rolphe Caroll Moubakou Diahou</u> , Hamid Bounouira, Guy Blanchard Dallou, Hamid Amsil, Abdessamad. Didi, Iliasse Aarab, Rajaà Cherkaoui El Moursli, Clobite Bouka Biona	<b>NAA study for major and trace-elements in soils and phosphate rocks of a prospective phosphate mining area in Hinda district, Republic of Congo</b>

**Break: Coffee/Tea: 11:00 – 11:30**

Chair: Ho Manh Dung

Time	Code	Authors	Title
11:30 – 12:00	No. 16	<u>Rodrigo R. Moura</u> , Maria Ângela de B.C. Menezes	<b>After analysis by <math>k_0</math>-NAA, how long should be a sample in an intermediate storage according to the Brazilian Standard NN 8.01?</b>
12:00 – 12:30	No. 30	<u>Hamidatou-Alghem Lylia</u> , Slamene Hocine, Djebli Kamel	<b>Performance Assessment Laboratory Applying <math>k_0</math>-Standardization At Es-Salam Research Reactor During 2021-2022</b>
12:30 – 13:00	No. 35	<u>Toledo JR</u> , Krambrock K, Leal AS, Menezes MABC, Jacimovic R	<b>Determination and characterization of impurities in MoS<sub>2</sub> by <math>k_0</math> instrumental neutron activation analysis</b>



<b>13:00 – 13:30</b>	<b>No. 39</b>	<u>P. Bedregal</u> , M. Ubillús, C. Cáceres, R. Garay, R. Urdanivia, J. Rojas	<b>Multielemental determination of PM<sub>10</sub> and PM<sub>2.5</sub> to evaluate the level of contamination and its sources in an urban area</b>
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## **13:30 Closing ceremony**

**Lunch: 14:00 – 15:00 (Local time)**