

ISO-TOPICS: THE FIRMS NETWORK NEWSLETTER

October 2025

ABOUT US

The Forensic Isotope Ratio Mass Spectrometry (FIRMS) Network was founded to develop the scope of stable isotope techniques in forensic applications.

FIRMS brings together chemists, physicists, materials scientists, and life scientists who employ isotopic analysis in their respective fields. FIRMS is helping to focus collective knowledge and expertise on improving methods for crime detection and reduction.



The 3rd Edition of the Good Practice Guide for Isotope Ratio Mass Spectrometry is now available! Download your copy today.

WELCOME

Welcome to the FIRMS October 2025 newsletter. To provide feedback on this newsletter, please contact us at news@forensic-isotopes.org

DISCLAIMER

Reference to or mention of any commercial product or process by specific trademark or manufacturer within this newsletter does not necessarily represent an endorsement by the FIRMS Network.

FIRMS 2025 FOLLOW-UP

Thank you to everyone who attended the **9th Conference of the FIRMS Network** in London! This page contains a recap of the workshop and the meeting plus links to all conference documents: <https://www.forensic-isotopes.org/event/firms-conference-2025/>. For any questions you may have regarding the conference, please write to admin@forensic-isotopes.org.

*A very special thank you to the FIRMS 2025
presenters and sponsors!*

Note that papers from the conference will be published in a **special issue of the journal *Forensic Chemistry***. Submission instructions and deadlines will be emailed to all presenters. We look forward to seeing your work in press!

UPDATES FROM THE STEERING GROUP

The Steering Group would like to **thank Tara Aitchison and Merry Rivas from LGC Group** for their efforts preceding and during FIRMS 2025, which helped to ensure the conference was a success. Thanks are also due to **Professor Niamh Nic Daeid from the University of Dundee**, who opened the meeting with a thoughtful (and thought-provoking) keynote presentation.

If you missed the news, the **3rd Edition of the Good Practice Guide for Isotope Ratio Mass Spectrometry is now available!** A copy can be

downloaded from the FIRMS Network's website. If you have any comments on the guide, please submit them to gpg@forensic-isotopes.org.

The 3rd Edition of the IRMS Good Practice Guide has been published.

Note that guide for databases is in development; it will soon be available alongside the IRMS Good Practice Guide and the IRMS Guidance for Interpretation document on the FIRMS Network's website under Resources.

NEWS AND NOTICES

The **12th International Conference on Isotopes (12ICI)** will be held 15-19 February 2026 in Florence, Italy while the **XIV South American Symposium on Isotope Geology (SSAGI)** will take place 13-16 April 2026 in Montevideo, Uruguay.

Save the date – the **14th International Conference on the Applications of Stable Isotope Techniques to**

Ecological Studies (IsoEcol) will take place 12-17 October 2026 in Hong Kong.

The **2nd European Congress on Mass Spectrometry and Analytical Techniques** has a current call for papers in a scientific session on “Mass Spectrometry for Isotope Ratios.” The meeting is scheduled for 09-08 June 2026 in Lisbon, Portugal.

PUBLICATION OPPORTUNITIES

Submissions are being accepted through 31 December 2025 by the journal *Isotopes in Environmental and Health Studies* for a special issue honouring Professor Keith Alan Hobson. One of the guest editors is David Soto; see here for details: https://think.taylorandfrancis.com/special_issues/honouring-professor-keith-alan-hobson-pioneer-of-isotope-ecology/

A special issue of the journal *Molecules* titled “Stable Isotope Techniques Across Chemistry: Methods, Applications, and Perspectives” is accepting submissions through 31 March 2026. The guest editor is Matteo Perini. Details are available here: https://www.mdpi.com/journal/molecules/special_issues/OM871WFFJW4

Don't forget that the journal *Forensic Chemistry* will be publishing a **special issue for the FIRMS Conference 2025!** Details will be available soon.

HIGHLIGHTED PUBLICATION

FIRMS Network Directors Jim Carter and Phil Dunn wrote a letter to *Chemistry World* that was published in October 2025 (<https://www.chemistryworld.com/opinion/letters-october-2025/4022166.article>, “Mammoth lack of peer review”). The letter emphasized the need for authors, editors, and reviewers to follow **minimum requirements for publishing IRMS test results**, which are: “...that at least two reference materials (of well characterised isotope-delta value) must be used to normalise results and that the assigned isotope-delta values for these materials and quality control materials must be reported.” The letter was written in response to a recent publication on the use of stable isotope analysis to identify illegally trafficked ivory; the paper is marked with an asterisk (*) in the below list.

PUBLICATIONS LIST

Disclaimer: This section contains a non-comprehensive list of recent publications that may be of interest to members. Inclusion does not necessarily mean that the FIRMS Network approves the content. You are encouraged to consider critically whether (i) the experimental work complies with SI guidelines and the Good Practice Guide; and (ii) the conclusions drawn are based on sound scientific background information.

- Arnold D, Andreasen R, Cankur O, et al (2025) Progress achieved in EURAMET project 21GRD09 MetroPOEM: Metrology for the harmonisation of measurements of environmental pollutants in Europe. *Applied Radiation and Isotopes* 226:112182. <https://doi.org/10.1016/j.apradiso.2025.112182>
- Bird MI, Box M, Comley R, et al (2025) Carbon and nitrogen isotope composition of Australasian hair and fingernails in a global context. *Rapid Communications in Mass Spectrometry* 39:e10058. <https://doi.org/10.1002/rcm.10058>
- Bowen GJ, Banerjee S, Chakraborty S (2025) Technical note: Spectral correction for cavity ring-down isotope analysis of plant and soil waters. *Hydrology and Earth System Sciences* 29:3907–3915. <https://doi.org/10.5194/hess-29-3907-2025>
- Büntgen U, Oulehle F, Oppenheimer C, et al (2025) Potential and limitations of strontium isotopic fingerprinting in wood. *Geophysical Research Letters* 52:e2025GL117556. <https://doi.org/10.1029/2025GL117556>
- Chen Z, Xu Q, Liu B, et al (2025) K-means clustering analysis of $^{13}\text{C}/^{12}\text{C}$, $^{18}\text{O}/^{16}\text{O}$ and $^2\text{H}/^1\text{H}$ isotope ratios for identification of alcohol origin. *Forensic Science International* 374:112549. <https://doi.org/10.1016/j.forsciint.2025.112549>
- Costa FJV, Abdalla-Filho AL, Boesing AL, et al (2025) Stable isotope analysis reveals dietary and foraging ecology in Neotropical birds. *Ornithological Applications*. <https://doi.org/10.1093/ornithapp/duaf058>
- Gomes MDG, Costa FJV, Nascentes CC, et al (2025) Multi-elemental analysis for the determination of the geographic origin of tropical timber from the Brazilian Legal Amazon. *Forests* 16:1284. <https://doi.org/10.3390/f16081284>
- Gori Y, Deklerck V, Camin F (2025) Stable isotope ratio analysis to determine the geographical origin of timber: A review. *TrAC Trends in Analytical Chemistry* 193:118448. <https://doi.org/10.1016/j.trac.2025.118448>
- Hill KGW, Delean S, Hall T, et al (2025) Feather forensics: tracing the origins of parrots in wildlife trade with stable isotopes and citizen science. *Animal Conservation* 28:582–591. <https://doi.org/10.1111/acv.13007>
- Holmfred E, Chamberlain P, Stürup S (2025) Revealing the stable $\delta^2\text{H}$, $\delta^{13}\text{C}$, and $\delta^{18}\text{O}$ isotopic patterns of ibuprofen drug products and commonly used pharmaceutical excipients. *Molecular Pharmaceutics* 22:4879–4889. <https://doi.org/10.1021/acs.molpharmaceut.5c00522>
- Hulst RVD, Gerretsen RRR, Kootker LM, et al (2025) A multidisciplinary approach to forensic biological profiling on a single tooth and nail sample. *International Journal of Legal Medicine* 139:361–374. <https://doi.org/10.1007/s00414-024-03357-2>
- Martinelli L, Bataille C, Batista A, et al (2025) Bioavailable strontium isoscape for the Amazon region using tree wood. *Forest Ecology and Management* 594:122963. <https://doi.org/10.1016/j.foreco.2025.122963>
- O'Brien DM, Freedman LS, Rivera P, et al (2025) Urine stable isotope ratios are associated with proportional intakes of animal protein and added sugars in a 15-day controlled feeding study. *The Journal of Nutrition* S0022316625004912. <https://doi.org/10.1016/j.tjnut.2025.08.013>
- O'Connell TC (2025) The signal and the noise: Inherent challenges for isotopic studies in bioarchaeology. *Journal of Archaeological Science* 183:106379. <https://doi.org/10.1016/j.jas.2025.106379>
- Piper T, Thevis M (2025) Improving the determination of carbon isotope ratios of endogenous steroids found in human serum. *Drug Testing and Analysis* 17:944–953. <https://doi.org/10.1002/dta.3793>
- Quinn R, Beasley MM, Gocha TP, Mavroudas S (2025) Differential human bone remodeling rates and implications for the temporal resolution of geoprofiling isotopes in forensic anthropology. *Forensic Science International* 112454. <https://doi.org/10.1016/j.forsciint.2025.112454>



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Have Feedback? Contact Us

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Reitsema LJ (2025) Commentary: Revisiting physiological and theoretical dimensions of stable isotope variation in human tissues. *American Journal of Human Biology* 37:e70073. <https://doi.org/10.1002/ajhb.70073>

Roncione A, Bontempo L (2025) Stable isotope analysis of alcoholic beverages: A review. *Beverages* 11:89. <https://doi.org/10.3390/beverages11030089>

Santos EA, Florisbal LM, Stevenson R, et al (2025) From rock to bottle: Strontium isotopes ($^{87}\text{Sr}/^{86}\text{Sr}$) as indicator of provenance for the volcanic wines of altitude from São Joaquim, southern Brazil. *CATENA* 249:108624. <https://doi.org/10.1016/j.catena.2024.108624>

* Santos MEA, Toropov P, Agarwal P, et al (2025) A mammoth task: Stable isotope analyses as a tool to prevent illegal trade of elephant ivory. *Frontiers in Ecology and Evolution* 13:1533703. <https://doi.org/10.3389/fevo.2025.1533703>

Scharrenbroch L, Scheid N, Holdermann T, et al (2025) Application of carbon and nitrogen stable isotope and elemental composition data for *Ricinus communis* sample comparison and correlation. *Analyst* 150:4169–4180. <https://doi.org/10.1039/D5AN00572H>

Soto DX, Radloff FGT, Bond AL, et al (2025) In the quest of isotope equilibrium for trophic discrimination estimation: diet–tissue dynamics in Nile crocodiles (*Crocodylus niloticus*). *Isotopes in Environmental and Health Studies* 1–20. <https://doi.org/10.1080/10256016.2025.2535762>

Tshilongo J, Lee JB, Kim JS, et al (2026) Hydrogen isotope analysis: Experimental approach and research trends analysis. *Talanta* 298:128881. <https://doi.org/10.1016/j.talanta.2025.128881>

Van Damme IM, Linzey FY, Brust GMH, et al (2025) Elemental and isotopic profiling of potassium perchlorate salts for forensic explosives investigations. *Forensic Chemistry* 44:100666. <https://doi.org/10.1016/j.forc.2025.100666>