

TDRM

TECHNICAL DIVISION ON
REFERENCE MATERIALS

Special points of interest:

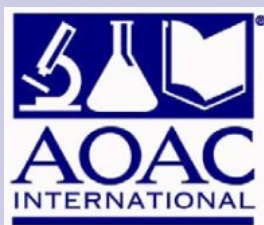
- EC Nominations!
- BERM 16!
- IS Update!

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Did you receive this
newsletter

from a colleague?
Interested in joining
TDRM?

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The Reference Standard

Issue 91

March 2025

Executive Committee's Message

Reference materials are essential tools for ensuring precise and accurate measurements, providing the standard against which materials, instrumentation, and methods are validated. We are at a time where innovation and technology move at an ever-increasing pace, the need for high-quality, matrix-matched reference materials is essential. The Technical Division on Reference Materials (TDRM) focuses on improving the quality of analytical measurements by using reference materials in validating or using analytical methods. TDRM wants to emphasize the importance of collaboration and knowledge sharing. As everyone faces new challenges, we can ensure that the measurement sciences community continues to support the science.

TDRM supports the community by providing a database on reference materials based on analyte or analyte/matrix information that analyst can search through. The database can aid analyst in finding references materials for method development, and for quality control materials and routine analyses. TDRM continues to add reference materials to the database and has updated some features to support its continued use. If you are interested in getting involved with the database, please contact Donna Zink, Information Services Chair at dzink@aimresearchenterprises.com.

The Executive Committee is busy working on agenda items for 2025 in addition to planning for the AOAC 139th Annual Meeting & Exposition in San Diego, CA, USA. Your input on agenda items and meeting planning would be greatly appreciated. If you have any suggestions or need assistance with identifying reference materials to support method development, please reach out to any of our Executive Committee members. Contact information is listed on pages 9-10.

In addition, the TDRM EC Nomination Committee is seeking candidates for the upcoming EC election slate. Nominations play a key role in ensuring that the election reflects a diverse range of ideas, research backgrounds, and organizations. The upcoming election will have three Officer positions, Chair-Elect, Secretary, and Treasurer, as well as three Elected Member positions to be filled. Please consider nominating someone (or yourself) for an EC position. Additional information can be found on page 5.

We look forward to working closely with all our TDRM members in-person and virtually, whether at the AOAC Annual Meeting or through collaborations.



TDRM Members circa 1992



Join TDRM on LinkedIn!
[Request Membership Here](#)



You may contact any member of the committee directly if you have questions. If you are interested in volunteering, or if you have any comments to share, please contact us.

Upcoming AOAC Meetings!

139th Annual Meeting & Exposition

Aug. 23 – 28, 2025
Town and Country Resort
San Diego, CA, USA

140th Annual Meeting & Exposition

Aug. 28 – Sept. 2, 2026
JW Marriott Indianapolis
Indianapolis, IN, USA

141st Annual Meeting & Exposition

Aug. 27 – Sept. 1, 2027
Sheraton Centre Toronto
Hotel
Toronto, Ontario Canada

Information Services Corner

With this submission, I am asking for attention to the need for clear, disciplined organization of key information in order for information about standards to be returned online. I talk about this in some respect with each newsletter, but I want to be sure that the importance and value are clear, as well as the relevance of data organization in TDRM's RM Database to AOAC's OMA records.

Standards are a part of trade. To not be "data compliant" is to be unmoored - adrift, unrecognizable by other online entities in related areas. Since the basis of analytical work has the purpose of supporting trade, ease of accessibility is very important for meeting AOAC's goals of being a global resource in international trade. Key criteria for analytical methods are 1) clear identification of the applicable materials (scope, matrix) and 2) clear identification of the analyte(s).

Within the TDRM database, we chose InChi key as a tool for structural identification of chemical analytes. Some databases include multiple forms of identification, such as SMILES and the standard InChi. [CAS numbers represent a material (useful for a pharmaceutical material, for example), while OMA methods are often based on detection of the anion or cation of a material or an unbound form or analog(s) present in a food or agricultural matrix. With assignment of the InChi key to method analytes in the OMA method, AOAC methods could be returned in a search query for a method without being limited to one of multiple descriptions, given that some analytes have many different descriptions, as well as being described within many different languages. Without clear identification of the analyte, those methods may not be found.

CRMs or PT programs from a producer whose catalog information includes materials with the same analytes could be returned in a query by analysts searching for CRMs or PT programs within a selected method, as occurs in the TDRM RM Database.

Likewise, standardizing the matrix description to an international trade description, as with [GSI's GPC](#) (Global Product Classification), and using a grouping organization for these materials appropriate for analytical purposes, would allow methods and/or corresponding reference materials to be associated. GPC is organized similarly but not identically to TDRM's database. "Industry" in our database is similar to "Family" in the GPC system, and for most analytical purposes, the grouping used in TDRM's database is similar to the "Class" in the GPC system. For methods, the scope of a method would need to be systematically assigned (selected from a list) upon approval using a matrix group. GPC as an organization of materials for trade, could be a field in the grouping scheme used for analytical purposes. Similarity should be expected, as analytical work is a part of trade, for material identification and qualification. Using a globally recognized system of organization allows methods for materials within a class that is unfamiliar to many US analysts but common to other areas to be considered for use in a similar matrix.

These steps in organizing OMA information would greatly improve its position by increasing accessibility of OMA methods through searches, while still securing access to methods. This was the approach taken in organizing

Continued on page 3

Information Services Corner (Continued)

the information in TDRM's RM Database, which offers a starting point for organizing the same information for OMA methods. In TDRM's database, OMA methods can easily be searched by analyte, by method description or by method number.

Organizing data for the purpose of alignment to other data sources makes sense for AOAC from the perspective of trade and the industries whose materials are within the scope of AOAC methods, whether the interest is from within industry, for university or industry research, or for sourcing reference materials for a method. Methods are a very important part of trade.

To launch the database, only CRMs were included. PT programs and qualified RMs could also be included, as well as methods from other organizations. To provide some assurance of the reliability of these materials, producers submitting data must be either an NMI or a private producer accredited according to ISO 17034 or ISO 17043.

TDRM's RM Database launched in 2010. Without being able to secure funding, the database is running on antiquated architecture, out of compliance with current security requirements, and the continuation of its operation is being reviewed. The need for sourcing method appropriate RMs will continue, as will the need for accessibility of competent, reliable, well-characterized analytical methods.

To explore the visibility of OMA method information in search engines, use a search expression such as "aoac method phosphorous", "aoac method pfas in food" or "aoac method cannabis".

I want to express sincere and deep appreciation for each of the volunteers who have contributed to working within this database over the years. It has been a pleasure to work with each of you. It is my hope that our progress continues whether within TDRM's RM Database or in another form.

Contributed by: Donna Zink, Information Services Chair, dzink@aimresearchenterprises.com

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BERM 16

International Symposium on Biological
and Environmental Reference Materials

For more than 40 years, the BERM symposium has been the premier meeting for discussions on the production, certification and application of reference materials. The demand for reference materials is ever increasing with ongoing requirements to respond efficiently to market needs for new types of materials. BERM presents a unique opportunity to foster collaboration between publicly funded reference material producers, academia and commercial standards providers to fulfill future requirements across a broad spectrum of analytical fields.

BERM 16 will be hosted by the National Research Council of Canada in Halifax, Nova Scotia, Canada. Halifax is a renowned university city with active research and technology sectors. The city has a rich history and its downtown area is very walkable, offering easy access to the waterfront, hotels, and a variety of restaurants, making it an inviting place to explore and enjoy.

Registration for BERM 16 is currently open with details and information available at the conference website:

[BERM 16 – International Symposium on Biological and Environmental Reference Materials \(2025\)](#)

BERM 16 Partnerships Opportunities

Organizations and companies in the field of reference material production and distribution have opportunities for BERM 16 partnerships to help ensure the success of the conference. Two related satellite meetings, qNMR Summit and ISO/TC 334, will be held in conjunction with BERM 16 offering even greater profile for partners. Information on partnership opportunities is available on the conference website, or directly by contacting the symposium secretariat: berm16@agendamanagers.com.

The 16th International Symposium on Biological and Environmental Reference Materials (BERM 16)

June 1 - 4, 2025: Convention Centre, Halifax, Nova Scotia, Canada

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Nominations for 2025 TDRM Executive Committee Election

An AOAC TDRM Nominating Committee will soon be established to begin developing the slate for the 2025 Executive Committee election. The upcoming election will have three Officer positions, Chair-Elect, Secretary, and Treasurer, as well as three Elected Member positions to be filled. Please contact Sarah Aijaz at sarah.aijaz@milliporesigma.com if you would like to be considered for this or a future election, or to suggest a nominee; in the subject line of the email please state "2025 TDRM Nomination Request". The three officer positions will serve three-year terms. One Elected Member position for this cycle will serve one-year term, and the two other Elected Members will serve three-year terms on the Executive Committee and vote on procedural matters. Executive Committee members also strive to uphold the mission statement of TDRM and advance the quality of analytical measurements through use of

reference materials in validating or using analytical methods. Those who are interested in becoming Executive Committee members through future elections are encouraged to attend the annual TDRM Member meeting and Executive Committee meetings to learn more about current goals and activities and to become better acquainted with other TDRM members. The last date to suggest a nominee for the current election is **Friday, May 16, 2025**. Once a slate is developed and presented to the Executive Committee, to be sure that the interests of TDRM are well-served, members will have the additional option of running by petition or as write-in candidates. Please see the AOAC TDRM Mission Statement and TDRM By-laws, page 4, for more details.

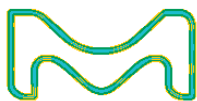
Contributed by Sarah Aijaz,
Nominating Committee Chair

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More info:

SigmaAldrich.com/standards

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MILLIPORE
SIGMA

The advertisement features a central image of a 'Certificant' Certified Reference Material (Testosterone in Serum) and several vials of standards. The background is a vibrant green with yellow and white wavy lines. The text 'Analytical Products' is prominently displayed in the bottom right corner.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

Analytical Products

Inés Cereijo Student Award

TDRM sponsors a Student Award raising awareness of the need for method performance evaluation at an early point in a chemist's career. Because not all colleagues have research facilities or may only be involved in a short-term summer internship, nominees are evaluated based on a report describing either the use of a reference material for method performance evaluation or the development of a new reference material.

- Undergraduate and graduate students are eligible; award based on a report that evaluates the use of a reference material for a specific application; winner will receive in USD a \$1,000 prize; \$1,000 towards lodging; \$500 towards transportation; \$400 food, and a TDRM membership.
- Please visit the [AOAC Awards Program for TDRM](#).



TDRM Achievement Award

- Award recognizes an outstanding contribution to the use of reference materials in a unique or unusual manner or to the development of reference materials for laboratory use; nominations are based on a short statement describing the unique or significant contribution of the scientist or group of scientists using 150 words or less.
- Statements and up to 2 letters of support should be sent to derrell.johnson@milliporesigma.com by **May 1, 2025**.



FREE ONLINE TRAINING COURSE


EURM
Estimation of uncertainties and the use of reference materials


European Commission

#EUAcademy
eu|academy

The European Commission's Joint Research Centre launches a free interactive course on reference materials.

The Joint Research Centre is one of the leading global producers of reference materials in the fields of food and feed analysis, environmental analysis, engineering and health applications.

Quality of measurements is key in our daily life. Reference materials ensure useful, reliable and comparable results from different methods and laboratories.

Our new online training sessions will teach you how to use reference materials and how to estimate measurement uncertainties.

In this course, you will learn the basics why measurement uncertainties are important and how you can estimate them.

You will learn the role and importance of reference materials and how you can best select and use them.

Our interactive course will be complemented by practical exercises where you can apply and test your newly acquired knowledge.

You will be able to follow 8 modules:

Estimation of measurement uncertainty – This module explains what measurements uncertainty is and why is needed. You will learn how to estimate measurements uncertainty and will be get more details on the quantification procedure and whether it is a combination of uncertainty sources. At the end we show two options: the so-called bottom-up approach and the so-called top-down approach (use of validation data).

Use of CRMs to prove laboratory and method performance – This module provides the tools to understand how to make use of the added value of certified reference materials (CRMs) to prove laboratory and/or method performance.

Making the best use of RMs – This module presents how to get the best use out of reference materials and you will learn what sources of

information are available.

Use of CRMs in method validation – In this module, will be explained how to validate a new method and how to estimate the measurement uncertainty of its results.

Commutability of reference materials – After being acquainted with the validation of a new method and how to estimate the uncertainty of its measurements, in this module focus will be on the commutability of reference materials.

Selection of reference materials – In this module will be presented all the steps to consider when selecting a reference material.

Traceability of measurement results – In this module, will be explained the metrological traceability and its role for the comparability of measurement results. Furthermore will be described how certified reference materials or CRMs can be used to help you to make your results traceable.

The wrap-up – This last module provides an example of how this course can guide you through the processes in your laboratory practice.

This course is intended for practitioners working in laboratories that need to apply reference materials for statistical quality control, method validation and calibration and who need to assess measurement uncertainties on customer's demand or as requirement of the ISO/IEC 17025 standard. It can also be useful for ISO/IEC 17025 auditors who need to assess the estimation of measurement uncertainties and the correct application of certified reference materials.

Join EC-JRS's online course and boost your knowledge in reference materials and measurements!

Join freely the course wherever you are, whenever you want, and whatever device you want to use!

Register [here](#).

Enjoy the journey in the exciting world of measurement science!

Join the free interactive course on reference materials and measurement uncertainty!

Member Corner

Congratulations on your TDRM membership! Whether you are a new member or a returning member, we are happy to welcome you. As a member, you may be wondering how you can become more involved in the group. There are a number of ways to become involved with varying time commitments, please feel free to email any member of the board to discuss the opportunities (contact information on pages 9–11). A few examples include:

Attend our member meeting at the AOAC INTERNATIONAL Annual Meeting in San Diego, California, USA., in August 2025. We will discuss our work from 2025 and our directions for 2026. This is a great opportunity to meet the TDRM leadership and make suggestions.

Donna Zink is looking for volunteers to help with the reference material database (<http://tdrmdb.aoac.org/>). More details on pages 2-3.

Propose a session for a national meeting or a local section meeting.

Run for office. Please contact Sarah Aijaz, Nominating Committee Chair, at sarah.aijaz@milliporesigma.com, if you would like to be considered for a future election, or to suggest a nominee.

To learn more about TDRM and their [mission](#), please visit our table at the AOAC Annual Meeting, or send an email to volunteer your ideas and skills or just to ask how you can be more involved.

Reference Material Resources

Do you ever find yourself looking for basic information about reference materials? Look no further!

Ever wonder [how to compare a measurement result with a certified value](#) to determine if your method is appropriate? [What about how to use a reference material for calibration \(including examples\)?](#) Ever tried to figure out [how to use a reference material to establish traceability](#)? Wait, there's [more!](#) There is a discussion of using reference materials to quantify GMOs in [food and feed](#), and in [DNA copy number ratio](#). European Reference Materials (ERM) even provides a guide on [use of their certificates and materials](#), and the National Institute of Standards and Technology (NIST) has an excellent [Frequently Asked Questions](#) section where you can find a plethora of additional information. NIST also released [The ABCs of Using Standard Reference Materials in the Analysis of Foods and Dietary Supplements: A Practical Guide](#) in June 2014.

Additional RM Resources! The *Cooperation in publicly funded reference material production*, is a free, open access article available to download at <https://link.springer.com>. TDRM guidelines: Applications and Resources for Use of Reference Materials: [TDRM Guidelines](#).



Join TDRM on LinkedIn!
[Request Membership Here](#)

Interested in learning more about the current activities of the AOAC TDRM Executive Committee? Join the Linked-In TDRM group to access The Reference Standard (newsletter), EC agenda items, sub-committee updates, election information, individual posts from fellow TDRM members, and so much more!

Join the TDRM Linked-In group at <https://www.linkedin.com/groups/7498809/> and click "join" to be added. Once the request to join the group is received, a notification will be sent to TDRM for approval. Once approved, you will have access to view content and communicate with the TDRM community.

2025-2026 Executive Committee



Chair-Elect

Sneh Bhandari
Independent Contractor
sdbhandari1@gmail.com



Past Chair

Derrell Johnson
MilliporeSigma
derrell.johnson@milliporesigma.com



Treasurer

Sarah Aijaz
MilliporeSigma
aijazzarah@gmail.com



Secretary

Katherine Stenerson,
MilliporeSigma
katherine.stenerson@milliporesigma.com



Elected Member

Gretchen Gutierrez
Matrix Sciences
(2022-2025)
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Elected Member

Sean McClure
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(2022-2025)
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Elected Member

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Elected Member

Carolyn Burdette
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(2023-2026)
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Elected Member

Elizabeth Mudge
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Elected Member

Matilde Portnoy
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**Appointed Member**

Charles Barber

FDA HFP

(2024-2027)

charles.barber@fda.hhs.gov

**Member (Key Volunteer)**

Håkan Emteborg

EC-JRC

hakan.emteborg@ec.europa.eu

Ancillary Appointed Positions**Information Services Chair**

Donna Zink, AIM Research Enterprises

ISO-REMCO Liaison

Pearse McCarron, NRC Canada

Advisor

Wayne Wolf, USDA (retired)

Newsletter Editor

Charles Barber, FDA

Membership Chair

Vacant

AOAC Support Positions

Deborah McKenzie

Email

derrell.johnson@milliporesigma.com
if you are interested in becoming more
involved in the TDRM through the
Executive Committee.



AOAC INTERNATIONAL expanded its mission statement "To promote quality measurements and method validation in the analytical sciences." Focus has increased on accuracy of analytical measurements generated by AOAC methods and the role of reference materials in verification of accuracy.



The Technical Division on Reference Materials (TDRM) further develops and maintains AOAC INTERNATIONAL's status as a recognized worldwide authority on methods validation and quality analytical measurements through facilitating the use of reference materials in collaborative validation, implementation, and routine use of AOAC methods.

AOAC INTERNATIONAL

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*Improving the Quality of Laboratory Measurements
through the use of Reference Materials*