



Quantifying Color Changes in Seashells Using UV-Vis-NIR Spectroscopy and Color Metrics

I recently had an opportunity to work with Rick Cox and Sam Panariello at Metrohm USA/B&W Tek to develop an application note using the Quest X Linear CCD array spectrometer. This is an easy-to-use, low-stray-light ultraviolet-visible (UV-vis) and near-infrared (NIR) instrument. The study compares the sensitivity of CIE Lab values, peak area, and yellowness index to determine color attributes among a set of white and stained seashells exposed to tea tannins. The article was published in [Spectroscopy](#) on 3 April 2025.

Contributed by Deborah A. Peru

Call for Papers – 2026 Winter Conference on Plasma Spectrochemistry



International Atomic Spectrometry Association

The SAS-affiliate society International Atomic Spectrometry Association (IASA) will host the 2026 Winter Conference on Plasma Spectrochemistry at the El Conquistador Hotel in Tucson, Arizona, USA 7–11 January 2026. The conference focuses on the latest developments in plasma spectrochemistry and atomic spectrometry and welcomes elite scientists from around the globe. The proceedings include technical short courses, oral presentations, poster presentations, user meetings, and topic-oriented technical sessions, as well as ample opportunities for social interaction and networking. The 2026 conference is a 'passing of the torch' from the dedicated team that developed this conference over 50 years to the new IASA society, and special events are planned to celebrate this new endeavor.

The open Call For Abstracts can be accessed either [here](#) or found on the [IASA website](#).


The Priority Deadline for Consideration is 1 August 2025.



Meet the Early Career Interest Group’s (ECIG’s) Leadership Committee

This month, the Early Career Interest Group (ECIG’) leadership committee is highlighting committee members Beauty Chabuka and Sam Mabbott.

Are you an Early Career member who would like to be highlighted as the “Early Career Member of the Month”? If so, please complete the brief online survey found [here](#).



Sam Mabbott

Assistant Professor

Years at SAS: 12

THE BIGGEST BENEFIT OF SAS MEMBERSHIP?

“Networking Events”

CHILDHOOD DREAM JOB?

“Pirate”

WHAT MADE ME FALL IN LOVE WITH SPECTROSCOPY?

“Its broad utility”

FAVORITE PART OF MY JOB?

“Mentoring and collaborating with postdocs, graduate, and undergraduate students. It’s incredibly rewarding to support their growth and share in the discovery process together. ”

WHAT SCIENTIST, PAST OR PRESENT, WOULD I MOST LIKE TO MEET?

“Leo Szilard, stands out not just for his monumental contributions to physics, but also for his broader moral and philosophical reflections, making him an intriguing figure to learn from on multiple levels.”



Beauty Chabuka

PhD. Student

Years at SAS: 5

THE BIGGEST BENEFIT OF SAS MEMBERSHIP?

"Global Networking"

CHILDHOOD DREAM JOB?

"Physician"

WHAT MADE ME FALL IN LOVE WITH SPECTROSCOPY?

"Applying ML and chemometrics to spectroscopy"

FAVORITE PART OF MY JOB?

"As a computational chemist, there's something deeply satisfying about watching theoretical peaks align with experimental data. Being able to bypass experimental challenges and using computations to predict molecular properties, reaction mechanisms, and energetics."

WHAT SCIENTIST, PAST OR PRESENT, WOULD I MOST LIKE TO MEET?

"Howard Elliot Zimmerman. His pioneering work in photochemistry laid the foundation for my current research in pericyclic reactions and mechanistic photochemistry. As a second-degree connection in our chemistry family tree, I feel a profound connection to his scientific legacy."

Contributed by Anthony Stender, Early Career Interest Group

Join the Newsletter Team!

The Society for Applied Spectroscopy (SAS) Newsletter committee is seeking dedicated volunteers to join our team to help create the monthly SAS newsletter.

What's in it for you?

- Connect with fellow SAS enthusiasts: Build valuable relationships within the Society.
- Make a meaningful impact: Contribute to a vital resource for the entire SAS community.
- Gain valuable skills: Develop your writing, editing, and communication abilities.
- Commitment: A modest time commitment of a few hours per month is all that's required.

No experience needed! We welcome individuals from all backgrounds and skill levels. If interested, please contact Konnor Jones at konnorkjones@gmail.com to learn more and get involved.

Contributed by Konnor Jones, SAS Newsletter Editor

Landmark Publications in Analytical Atomic Spectrometry: Fundamentals and Instrumentation Development

Note from the Editor: The April 2025 issue of *Applied Spectroscopy* consists entirely of one submitted paper, “Landmark Publications in Analytical Atomic Spectrometry: Fundamentals and Instrumentation Development”, with George C.-Y. Chan, Gary M. Hieftje, and Nicoló Omenetto as corresponding authors and 45 others from all corners of the world as co-authors. I am one of the 45 coauthors, and this Forward is written partly from that perspective, but, up until the end of 2024, I was also an Editor for the journal. In the role of Editor and Editor-in-Chief over the past 15 years, I have seen and overseen a lot of papers published in the journal but this one is something truly special. It is a “Landmark”! The *Oxford English Dictionary* has two definitions for “landmark”. One is “an object or feature of a landscape or town that is easily seen and recognized from a distance, especially one that enables someone to establish their location”, like a lighthouse for example that illuminates a mariner’s way. The other definition is “an event, discovery, or change marking an important stage or turning point in something”. As I will discuss below, both definitions are pertinent with respect to this unique and special paper.

My participation as a co-author (contributor) began with a communication I received on 31 January 2019, from George, Gary, and Nicoló that began, “This letter is to invite you to participate as a co-author in preparing a study-guide type of review on spectrochemical analysis. The goal will be to compile an authoritative list of key papers in the field of spectrochemical analysis.” What George, Gary, and Nicoló were asking for was assistance, in particular by providing one’s own list of “landmark” papers (ideally between 12 and 48) in the field of atomic spectrochemical analysis. The identical letter was sent to 44 other atomic spectroscopists. Each of us was asked to provide an “authoritative list of key papers” in the field of spectrochemical analysis focusing in on those that relate specifically to atomic spectroscopy. Why was I asked to participate? I suppose it is because I worked on inductively coupled plasmas; at the University of Alberta in from 1976 to 1980 under the supervision of Dr. Gary Horlick, as a postdoctoral research associate in the laboratory of Dr. Gary Hieftje (1980-1981) and also at the University of British Columbia from 1981 to about 2004. My primary interests were on the fundamental characteristics plasmas and the development and characterization of novel analytical plasma sources for trace element analysis, for example capacitively coupled plasmas. I was pretty familiar with the literature from that slice of topic and time and also with some of the “bedrock papers” that preceded each. George, Gary, and Nicoló invited contributors who had a diverse range of interests and perspectives in atomic spectroscopy so that the coverage of topics would be comprehensive and authoritative.

Where did the intriguing idea of an insightful review of the atomic spectroscopy literature originate? I asked George for a little background. He replied that the idea first occurred to him when he was a graduate student in Gary Hieftje’s research group, “When I was a graduate student, I was amazed whenever I stumbled upon a classic paper. The problem was that these classic papers were difficult to discover. I gathered quite a few of these classics through Gary, either in group meetings or during research discussions. Early on, I knew there were still many classic papers that I had missed, so I dreamed of having a compilation of landmark papers in our field. Clearly, the project started from a personal desire.” Gary Hieftje explained, “George deserves the lion's share of credit. It was he who conceived the

project and recruited Nico and me. It was he who compiled the enormous number of contributed statements into a coherent narrative. It was he who drove us and maintained high standards. It was he who organized our weekly Zoom meetings over a period of roughly four years.”

This special issue is the physical expression of that desire, although, it is also clearly a collaboration and a synthesis of opinions and insights from multiple scientists.

So, how does one approach identifying 12 to 48 key papers as requested by Chan, Hieftje, and Omenetto? Of course, one way would be to use a metrics tool like Journal Citation Reports to assess “impact” by identifying the papers that have received the highest number citations over the past 100 or so years. There are a variety of reasons why this is not so straight-forward and prone to misinterpretation as I have recently pointed out in a “Letter to the Editor” of *Spectroscopy* in 2022 ([“H-Classic Papers in Atomic Spectroscopy”](#), April 2022, Volume 37, Issue 4, Pages 10–12). It was clear that Chan, Hieftje, and Omenetto were looking for papers not just based on impressive metrics, but rather, what they were seeking were papers that, in the opinion of experts in the field, provided some new insight or instrumental development from the perspective of a practitioner, a user of that knowledge, a person who understood the importance and short- and long-term influence on the research and applications community. Something that probes deeper than the numbers embodied in “Impact Factor” and “H-Index”. This idea was embodied in *one key instruction* to the contributors, “For each paper [nominated] at least one simple sentence (a longer description is certainly welcome) is required to highlight the key point(s) that the scientist wants the students [readers] to focus on and grasp.” In other words, WHY is the nominated paper a “landmark” paper? What does it teach and how can the reader apply and use the key point, or points, to build on their knowledge of the field and guide their own research progress. It is important to understand that it is that aspect which one will find is of most value in this enterprise and it is what distinguishes it from a data base search outcome or a simple list of “important” published papers. Insights! Insights from people who have read and understood the content of the papers and can convey to the reader what they learned and why we should know it if we seek to understand the field and where the innovations in the field came from. That’s one of the things that makes this not just a compilation of key papers but a “Landmark Publication”.

The version that is this issue went through two rounds of internal review by all of the contributors. The second version of the manuscript grew in size and scope after the contributors received the first copy and, perhaps some, like me, realized the full magnitude of the endeavor and we were able to comment on and build on the core document. There was a lot of discussion by e-mail between George, Gary, and Nicolás and between contributors regarding a particular paper or group of papers identified with a device or concept as to how a particular innovation impacted the field and its practitioners. I am sure that George, Gary, and Nicolás must have spent hundreds of hours of discussion, editing, and refinement before the second revision was sent around for review by all the collaborators.

This “Landmark Publication” establishes a number of firsts for the Journal. In

the 78-year history of *Applied Spectroscopy*, to my knowledge, it is the first time that an issue has been totally devoted to a single paper. Also, it also sets a record for number citations for a single paper, 1294, and, with 48 co-authors, it sets the record for the largest number of authors on a single paper published in *Applied Spectroscopy*. Alex Scheeline confided to me, referring to the number of co-authors, that "... this paper would be the closest he would come to publishing a nuclear physics paper"! Other contributors told me how they viewed the project and their involvement:

"I'm just so proud of what we did here. Not just the article itself but the collective work represented in it. We did this as a community. The progress we made, the divergent paths we took, all seemed to come together with this great compilation and summary. So glad to have been a small part of it."

— David Koppenaal

"...[W]hat we started like a pony became a full-size horse. I think it will become the must read for every analytical chemist or analytical scientist."

— Detlef Güenther

"Hopefully this compilation will be stimulating for people at the beginning of their career! And what about me at the end of my career? I am so happy to see that in the family of authors of this article are so many best friends who have had a significant impact on my research and life!"

— Norbert Jakubowski

"I am glad that this pool of people could get together to effectively generate a time capsule for future generations; our collective legacy."

— Ken Marcus

American philosopher and educator John Dewey said, "Every great advance in science has issued from a new audacity of imagination. What are now working conceptions, employed as a matter of course because they have withstood the tests of experiment and have emerged triumphant, were once speculative hypotheses." (The Quest for Certainty: A Study of the Relation of Knowledge and Action (1929)) As you read this magnificent assembly of landmark papers and the insights provided by contributors you will recognize that many of them report "advances" that were conceived out of a "new audacity of imagination". The papers represent the foundation of the field of atomic spectroscopy. Bricks in a wall of knowledge added one at a time to form a magnificent collection akin to The Great Wall of China. A Landmark! Unlike the Great Wall though, this one continues to be built a brick at a time by the current generation of atomic spectroscopists, each adding a new row of bricks - an insight or application method or instrumental innovation to the wall. Each brick resting on one that preceded it. I hope that you will appreciate after reading through this single paper issue, why each of the papers identified and discussed in it have "... withstood the tests of experiment and emerged triumphant." Landmark Publications!

Michael Blades is Professor Emeritus in the Department of Chemistry at The University of British Columbia in Vancouver Canada. Over the past 15 years he has served as an Editor-in-Chief, Editor and Associate Editor for Applied Spectroscopy.

