Newsletter for the ChromaDex External Research Program Investigators (CERPI)

CERPI Communiqué

June 2021

Meet ChromaDex SVP, Dr. Andrew Shao

In This Issue

Reminder

Don't forget to submit your progress report every 6 months, or as stipulated in your MTA. An updated progress report is required when requesting additional material or submitting an MTA amendment.

Request forms at cerp@chromadex.com for:

- **Abstract, manuscript, poster, or presentation slides submissions**
- **Bulk or clinical material requests**
- **Requesting an amendment to your MTA.**

We caught up with Andrew Shao, PhD, Senior VP of Global Regulatory and Scientific Affairs for ChromaDex, to learn more about him and his vision for CERP™.

Please describe your role at ChromaDex and how it relates to CERP. I oversee the R&D, science, regulatory, and quality functions for the company. Each of these functions touches CERP in different ways. Team members from each function support CERP with everything from providing the Niagen® test material, ensuring the quality and consistency of that material, to providing input on study designs and critical feedback on manuscripts.

When did you join ChromaDex and why? I joined ChromaDex in August of 2019 and have been in the nutrition industry for over 20 years. I've known the ChromaDex founder, Frank Jaksch, for most of that time. So I've long been aware of the foundational role science and analytical work plays in ChromaDex's business. That, combined with the great promise I see in the potential for NR to help improve the lives of millions of consumers, led me to the decision to join the company.

What type of work were you previously conducting prior to joining ChromaDex? Before joining ChromaDex, I served in various R&D, scientific, regulatory, and government affairs leadership roles in different organizations, ranging from small ingredient suppliers to large multinational companies and even a non-profit. I also started my own consulting business—Global Nutrition Solutions, LLC. Most of these past roles focused on leveraging and translating science to meet business and market goals.

What is your vision for the CERP program? My vision for CERP is for the program to expand greatly, to include research in a nutritional context, and to examine NR's effect on fitness, energy levels, and overall quality of life. The hope is that the program expands to a point where we can support sound research in other ways, including establishing an extramural research program.

In your opinion, how does CERP contribute to the overall goals of ChromaDex? As a science-based organization, we seek to validate what we believe and find answers to key research questions that will help to unlock NR's benefit for patients and consumers alike. In short, we seek the truth. CERP is exemplary of this principle and represents what ChromaDex is all about—scientific inquisition and integrity.

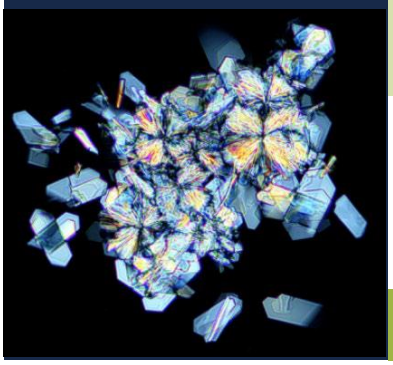
Please describe some of your service activities (service on boards, community service, etc.). I am a long-time active member of the American Society for Nutrition. I serve on the Tufts Nutrition Council and formerly served as President of the Tufts University Friedman School of Nutrition Science & Policy Alumni Association. I'm privileged to serve on the Editorial Board of several peer-reviewed scientific journals (including *Advances in Nutrition*, *Journal of Dietary Supplements,* and the *Journal of the International Society of Sports Nutrition*).

How do you like to spend your time outside of work? I am a fitness freak and exercise intensely seven days a week. I'm an active dad and husband. Together with my wife, Tara, of over 20 years, we support our kids' extracurricular activities and sports. I also enjoy mentoring colleagues and students, and I love to cook!

Your research is both novel & valuable. As such, it should be protected & rewarded.

Prior to submission of your abstract or manuscript, check for potential new intellectual property (IP).

The CERP Science Team will also provide a high level assessment for potential IP during the review of your abstracts, posters, slides, and manuscripts.



Quick Guide to Understanding Intellectual Property (IP)

Innovation begins with you. As leading research professionals, your role is to provide solutions for some of the most difficult research questions that challenge your respective fields. This work can include, but is not limited to:

- Discovering new product design;
- Innovating manufacturing processes; and
- Designing unique product applications.

ChromaDex understands that the knowledge you develop should be recognized and disseminated through high-impact publications and released to the public domain.

But do you wonder if your idea or discovery could also satisfy an unmet need for a product, process, or service in the marketplace?

Often, the most effective way of realizing the full benefit of your research is to protect it under Intellectual property (IP), in order to sell or license it to a company capable of transforming your inventions into new products or services.

IP protection allows creativity and innovation to be treated as an asset and can afford certain benefits to the inventorship team and their institution. This may be in the form of industrial collaboration, which can lead to additional funding, attracting talent, along with royalty sharing agreements, and even equity sharing participation in academic start-ups.
If you feel your inventions and discoveries may be considered novel, useful, and non-obvious (all the criteria required for IP protection), then we encourage you to consider reaching out to your patent or IP office.

Your institution will have a formal invention disclosure form (IDF), enabling you to fully document your invention. They can evaluate your disclosures on anticipated ability to patent, license, and market the invention before a patent decision is reached. The sooner you engage the IP team, the sooner they can start working with you to determine patentability. Inventor involvement is critical to the entire patenting and licensing process. It is **you** who will provide the technical support that your IP office needs to evaluate prior art in your field and ultimately to the writing, reviewing, and defense of your work in conjunction with your patent attorney.

Importantly, when seeking IP protection, we stress that confidentiality and keeping important results out of the public domain is critical to IP rights until your IP office performs an assessment.

Did you know? Patent laws can consider seminars, meetings, posters, abstracts, published theses, journal articles, website content, blogs, email messages, and oral presentations methods of publication that could obstruct your IP efforts? While this process may not prevent scientific publication or the communication of your research results, you should contact your IP office in advance of communicating results to allow them time to evaluate and draft a patent application for your innovations.

Your leadership and creativity will help power a culture of innovation. While you work so diligently to pursue pioneering research and mentoring the new generation of independent researchers, why not consider strengthening or adding IP protection to your research portfolio?

Paving the Way for Future NAD Research at ASN

When the ChromaDex Science Team realized that very few studies on nicotinamide adenine dinucleotide (NAD+) and its associated precursors were being presented at the American Society for Nutrition (ASN) annual meetings, they took swift action. Led by Andrew Shao, PhD, ChromaDex became an ASN Sustaining Partner, and the team presented three abstracts and hosted a satellite symposium at the virtual Nutrition 2020 meeting. For Nutrition 2021, ChromaDex hosted another satellite symposium and presented a poster to communicate the importance of NAD in health and identify some of the research gaps related to NR and optimal NAD status.

Yasmeen Nkrumah-Elie, PhD, Director of the ChromaDex External Research Program (CERP), stated,

> *"Nicotinamide riboside (NR) and other NAD+ precursors are being utilized as dietary supplements all over the world to promote cellular resilience and healthy aging. Over 200 preclinical studies have been published on NR and other NAD+ precursors, and there are over 50 studies registered on ClinicalTrials.gov. NAD+ precursors are used as dietary supplements; thus, nutrition community must also be actively involved in this research."*

ChromaDex is encouraging scientists to evaluate the role of NAD+ as an important component of cellular health that may impact health outcomes.

The satellite symposium titled "Optimizing NAD status: A Call to Action for Nutrition Research" was chaired and hosted by Mona Rosene, RD, MS, Director of Scientific Affairs from ChromaDex. The line-up included CERPI & ChromaDex Scientific Advisory Board (SAB) member, Dr. Bruce German from the University of California, Davis; CERPI Dr. Eija Pirinen from the University of Helsinki, and the newest addition to the SAB, Dr. David Katz from Diet ID, Inc. Highlights from this symposium included the potential impact of nicotinamide riboside on maternal health, the role of NR in the regulation of muscle homeostasis and gut microbiota, and the clinical and public health implications and benefits of mitigating declining NAD levels.

Top: Mona Rosene and J. Bruce German
Bottom: Eija Pirinen and David Katz

In addition to the symposium, Yusrah Ishtiaq, Scientific Affairs Specialist for ChromaDex, presented the poster, "Optimizing NAD Status: Establishing Recommended Intakes for the Novel NAD Precursor, Nicotinamide Riboside." The study identified data in support of establishing dietary recommendations for NR while highlighting important research opportunities. Shao served on the panel discussion, "A Database You Can Use to Research the Ingredients in Dietary Supplements," describing the NIH's Dietary Supplement Label Database. Nkrumah-Elie was one of four presenters for the ASN Sustaining Partner Forum: Your Nutrition Industry – Who We Are and What We Do, giving a talk entitled, "A Pathway to Research and Relationships with the Dietary Supplement Industry." ChromaDex definitely made its mark on Nutrition 2021.

We acknowledge that many studies were delayed due to COVID-19 closures. Please make sure your material has not expired or was exposed to the elements. We recommend using LC/MS to test the purity of your bulk material and animal chow.

Need to Request Additional Material for Your Study?

- Please use the Material Request Form and send to cerp@chromadex.com
- Submit your request at least 6 weeks in advance to ensure on-time delivery.

Science Communications Opportunity

For Your Junior Scientists

Are your junior scientists (graduate students, postdocs, and research associates) looking for opportunities to expand their CV and experience? Connect them with us to transform their scientific research into an education article for the general public on the site AboutNAD.com.

Request more information at cerp@chromadex.com

Thank you to our content contributors, editors, and reviewers:

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New CERP Publications for Q1 2021

- Yang B, et al. (2021) NAD+ supplementation prevents STING-induced senescence in ataxia telangiectasia by improving mitophagy. *Aging Cell* 20:e13329. https://doi.org/10.1111/acel.13329

- Harrison DE, et al. (2021) 17-a-estradiol late in life extends lifespan in aging UM-HET3 male mice; nicotinamide riboside and three other drugs do not affect lifespan in either sex. *Aging Cell* 20:e13328. https://doi.org/10.1111/acel.13328

- Seldeen KL, et al. (2021) Basic nutritional investigationShort-term nicotinamide riboside treatment improves muscle quality and function in mice and increases cellular energetics and differentiating capacity of myogenic progenitors. *Nutrition* 87:111189. https://doi.org/10.1016/j.nut.2021.111189

- Stocks B, et al. (2021) Nicotinamide riboside supplementation does not alter whole-body or skeletal muscle metabolic responses to a single bout of endurance exercise. *J Physiology* 599:1513-1531. https://doi.org/10.1113/jp280825

TARGETING METABESITY 2021 takes on some of the most critical issues in healthcare today:

- Focusing on chronic (not just acute) diseases
- Shifting the spotlight beyond treatment to prevention
- Going beyond disease-by-disease treatments to prevention of multiple diseases by addressing common root causes
- Shifting from addressing diseases to extending healthy lifespan—healthspan

Metabesity 2021 gathers together stellar speakers from multiple disciplines, including science and medicine, behavioral science, government regulation, policy, reimbursement, industry and capital markets, patient advocacy, boomer and senior lifestyle, digital health, age-technology, and many others.

Abstracts are due July 1 and September 1. **Click here for more information.**

REGISTER FOR FREE **https://www.metabesity2021.org/register.html**

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