

# CERPI Quarterly

## Meet the CERP Core Team



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## ChromaDex External Research Program

*"CERP is the foundation for the ChromaDex scientific portfolio and the cornerstone of how we make meaningful contributions to the global scientific community and healthy aging."*

- Matthew Roberts, ChromaDex CSO

## Welcome to CERP

In 2013, ChromaDex, Inc. developed its first material transfer agreement (MTA) with Dr. Brunie Felding and the Scripps Research Institute, initiating one of the most unique external research programs in the industry. As leaders in the acceleration of nicotinamide riboside (NR), we were intent on preventing our patents and licenses from hindering research by external scientists. Our MTA program served as a way for us to give back to the scientific community. For over six years, we provided complementary NR and other ChromaDex materials for nearly every request. In the summer of 2019, our MTA program was rebranded as the ChromaDex External Research Program (CERP), with the intent of strengthening our partnerships with investigators, streamlining the review process, and focusing our research collaborations. To improve support of our CERP Investigator (CERPI) community and maximize business interests, we have developed a multidisciplinary and cross-functional CERP Science Team. The team includes members from R&D, Scientific & Regulatory Affairs, and Leadership. As a result, we can provide more impactful peer-review, scientific and intellectual property

insight, recommendations to improve protocols, and initiate research collaborations between CERPIs. As a company, we believe in scientific integrity and constant improvements. We recognize that our program will continue to develop in order to maximize our commitment to quality scientific advancement. We hope these changes do not disrupt your research as we continue to be your committed partner in scientific discovery.

### In This Issue

- Welcome to CERP
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### CERP Stats

- **189 MTAs & 9 Sponsored Projects**
  - 154 Institutions World Wide
  - 9 NIH Studies
  - 66 Active Research Studies
  - 29 Clinical Studies
  - 154 Preclinical Studies
  - 5 Both Clinical & Preclinical
- **Scientific Impact**
  - ~70% of Registered NR Clinical Trials Use TRU Niagen®
  - 36 Published Peer-Reviewed Articles

## Your Partner in Scientific Discovery

## 2019 Awards



NutraIngredients-  
USA Ingredient of  
the Year:

Healthy Aging



Nutritional Outlook's  
2019 Best of the  
Industry:

Ingredient Supplier

ChromaDex  
**CELEBRATING  
20 YEARS OF  
SCIENCE**



Carles Canto (Nestlé Institute of Health Sciences), Charlie Brenner (University of Iowa & ChromaDex Chief Scientific Advisor) Frank Jaksch (ChromaDex Co-Founder & Executive Chair of the Board), & Matthew Roberts (ChromaDex Chief Scientific Officer & Senior VP of Innovation) at The FASEB NAD+ Metabolism and Signaling Conference, in Dublin, Ireland.

### CERPis in Ireland

In June, members of the ChromaDex Science Team joined NAD researchers from across the world for the bi-annual NAD+ Metabolism and Signaling Conference in Dublin, Ireland. We had a blast learning the latest in NAD+ research, sharing our own work in the poster session, and meeting all the talented scientists who drive the NAD+ field forward. And to top it off, we celebrated the success of CERP researchers at the historic Guinness Storehouse.



Matthew Roberts, ChromaDex CSO & CERPI Wilhelm "Will" Bohr from NIH's National Institute of Aging.

### Upcoming Events

We look forward to seeing you and your team at the [American Society for Nutrition](#) conference in Seattle, Washington, May 30<sup>th</sup> – June 2<sup>nd</sup>, 2020. Registration is open now and the abstract submission deadline of January 31, 2020 is rapidly approaching. We would like to encourage all our CERPis to submit abstracts to this meeting & consider ASN membership.

### Important Reminders

Don't forget to **submit your manuscripts, conference abstracts, and presentation slides to us prior to journal or conference submission** (see your MTA for required timeline). To help encourage this process, we are now providing detailed peer-review for these documents upon request and time allowance.

**Progress Reports are due every 6-months** (for most MTAs). To streamline this process, we will be sending out Progress Report Forms & reminders over the next few weeks. Check your mailbox.

**ChromaDex material cannot be shared with other investigators not covered in your MTA.** If you need to develop an amendment to your MTA to add collaborators or explore new research projects, please request an MTA amendment application.

**All materials must be destroyed when the MTA expires.** We are now providing instructions and a Certificate of Destruction to make this easier for everyone. Let us know if you have any questions.

### We Want to Help Promote Your Amazing Research!

At ChromaDex, we value your contributions to the field of NAD+ research and want to help get the word out about your work. Whether you are about to publish a new study or just want to share your research interests with the world, we are excited to collaborate with you and your research team. Here are just a few ways we can help you reach a broad audience.

1. Submit a blog post for AboutNAD.com. Check out a few examples of past posts:
  - [Heart Failure & Mitochondria Health](#)
  - [Postpartum NAD Levels](#)
2. Ready for your fifteen minutes of fame? Record a video or audio interview with a member of our science team to post on AboutNAD.com.
3. Our team can work with you and your institution's press office to develop a media pitch for your research. When you submit your manuscript for ChromaDex review, please also indicate if you would also like for us to initiate a PR strategy.

For more information, send an email to [cerp@chromadex.com](mailto:cerp@chromadex.com).



Several Members of the ChromaDex Science Team & Scientific Advisory Board.  
Back Row: Rebecca Idoine, Yasmeen Nkrumah-Elie, Frank Jaksch; SAB Members Charlie Brenner, Bruce German, & Brunie Feldman; and Matthew Roberts. Front Row: Liz Roth-Johnson and Yusrah Ishtiaq.

## The 2019 Scientific Advisory Board Meeting was a Success!

We ended 2019 with an amazing 2-day meeting with our Scientific Advisory Board (SAB) at our office in Westwood, California. Our SAB members were given homework to develop scientific strategies for bridging the preclinical benefits of NAD<sup>+</sup> to measurable physiological relevance in humans. ChromaDex company members from all divisions tuned in as our expert panel of scientific advisors highlighted key research areas that are showing the greatest promise, including cardiovascular, neuronal, kidney, and liver. Not surprisingly, these areas are critical to vitality and the WHO definition of healthy aging. Additional potential research areas were discussed, debated, and strategized. We are so grateful to have an esteemed SAB that wants to actively contribute to ChromaDex's success. Some SABs are just for prestige and optics, but our SAB really delivers (and they are CERPIs, too).

*We Love Our SAB!*

## Developing a Global NR CommUNITY

One of the goals of CERP is to help foster and develop community amongst the NR and NAD<sup>+</sup> precursor investigators. We want help build collaborative relationships amongst scientists, facilitate collaborations, and help propel NR research to new heights. To do this, we need your help. It is our goal to support our CERPIs at as many conferences and meetings that our budget will allow. Therefore, we need to know which conferences attract the most CERPIs and provide the most benefit to our company. Please let us know which conferences you are attending this year and how you feel we can build a stronger CERPI Community. **Watch your email mailbox for a survey in the next few weeks.**

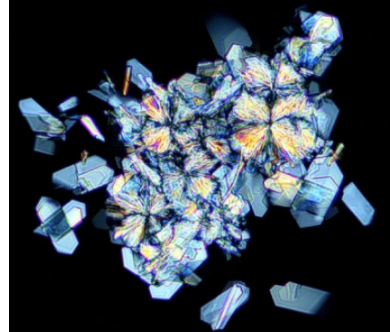
## CERP: A New Name & Now More Competitive!

Previously, we met all requests for material with exuberance. We put MTAs in place immediately and without question. Excitingly, this approach allowed for many of the early advancements in NR research. While we still greatly appreciate everyone's interest in research with our materials, we have moved to a selective application process. Applications are accepted on a rolling basis and are reviewed and scored by our CERP Science Team, an esteemed group of internal multi-disciplinary scientists. We recommend that protocols are fully-defined, IACUC & IRB approvals have been granted, and funding has been secured prior to submitting your application. Typically, we can provide a response, or request for additional information, within 60 days of receiving the application. If you or any of your colleagues are interested in applying for CERP, our applications can be found [here](#).



## Check Material Expiration Dates

Several of the clinical material lots will be expiring in March 2020. We highly advise against the use of expired material in your research studies. The use of expired materials may impact the reproducibility and integrity of your results. If you need additional product, please send an order request to [cerp@chromadex.com](mailto:cerp@chromadex.com). Most orders can be filled and shipped within 10 business days.





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

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Heather Van Blarcom

## Congratulations to Our CERPI Community for 18 NR Publications in 2019!

*Click the links, read the papers, and maybe find a new collaborator!*

1. [Kulikova, V, et al. Degradation of Extracellular NAD\(+\) Intermediates in Cultures of Human HEK293 Cells, 12 \(2019\)](#)
2. [Campbell, MTD, et al. Understanding the physicochemical properties and degradation kinetics of nicotinamide riboside, a promising vitamin B3 nutritional supplement, \(2019\)](#)
3. [Fang, EF, et al. NAD\(+\) augmentation restores mitophagy and limits accelerated aging in Werner syndrome, 1 \(2019\), pp. 5284](#)
4. [Dollerup, OL, et al. Nicotinamide riboside does not alter mitochondrial respiration, content or morphology in skeletal muscle from obese and insulin resistant men, \(2019\)](#)
5. [Shi, W, et al. High Dose of Dietary Nicotinamide Riboside Induces Glucose Intolerance and White Adipose Tissue Dysfunction in Mice Fed a Mildly Obesogenic Diet, 10 \(2019\)](#)
6. [Elhassan, YS, et al. Nicotinamide Riboside Augments the Aged Human Skeletal Muscle NAD\(+\) Metabolome and Induces Transcriptomic and Anti-inflammatory Signatures, 7 \(2019\), pp. 1717-1728 e6](#)
7. [Dollerup, OL, et al. Effects of Nicotinamide Riboside on Endocrine Pancreatic Function and Incretin Hormones in Nondiabetic Men With Obesity, 11 \(2019\), pp. 5703-5714](#)
8. [Dall, M, et al. Mitochondrial function in liver cells is resistant to perturbations in NAD\(+\) salvage capacity, \(2019\)](#)
9. [Spaulding, HR, et al. Nutraceutical and pharmaceutical cocktails did not improve muscle function or reduce histological damage in d2-mdx mice, \(2019\)](#)
10. [Conze, D, et al. Safety and Metabolism of Long-term Administration of NIAGEN \(Nicotinamide Riboside Chloride\) in a Randomized, Double-Blind, Placebo-controlled Clinical Trial of Healthy Overweight Adults, 1 \(2019\), pp. 9772](#)
11. [Pham, TX, et al. Nicotinamide riboside, an NAD+ precursor, attenuates the development of liver fibrosis in a diet-induced mouse model of liver fibrosis, \(2019\)](#)
12. [Petin, K, et al. NAD metabolites interfere with proliferation and functional properties of THP-1 cells, \(2019\), pp. 1753425919844587](#)
13. [Shi, W, et al. Transcriptional Response of white Adipose Tissue to Withdrawal of Vitamin B3, \(2019\), pp. e1801100](#)
14. [Smyrnias, I, et al. Cardioprotective Effect of the Mitochondrial Unfolded Protein Response During Chronic Pressure Overload, 14 \(2019\), pp. 1795-1806](#)
15. [Igarashi, M, et al. NAD\(+\) supplementation rejuvenates aged gut adult stem cells, \(2019\), pp. e12935](#)
16. [Jiang, R, et al. Nicotinamide riboside protects against liver fibrosis induced by CCl4 via regulating the acetylation of Smads signaling pathway, \(2019\)](#)
17. [Thomasson, R, et al. Alteration of performance in a mouse model of Emery-Dreifuss muscular dystrophy caused by A-type lamins gene mutation, \(2019\)](#)
18. [Ear, PH, et al. Maternal Nicotinamide Riboside Enhances Postpartum Weight Loss, Juvenile Offspring Development, and Neurogenesis of Adult Offspring, 4 \(2019\), pp. 969-983 e4](#)

If we missed your article, please let us know, and we will include it in our next newsletter.

*Wishing You A Scientifically Invigorating Year!!!*

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