

Dear colleague:

We write to you within our capacity as the industry relationship managers and Chair of the EUROCAROTEN network.

EUROCAROTEN is a scientific network supported by the COST action (CA) 15136 of the EU, which was launched on April 18, 2016 and which will last for four years.

The main objective of this initiative is to **coordinate and advance carotenoid research** and their applications in the European agro-food and health industries. Carotenoids, which are sourced from our diet (via consumption of fruits and vegetables) or from food supplements, already play a key role for industry. For example, they are used as natural colorants in the textile industry; animal feed industry (e.g. astaxanthin is used in the fish industry and lutein and zeaxanthin are used in the egg industry); human health (e.g. lutein, zeaxanthin and meso-zeaxanthin are used in the eye industry), and as vitamin A precursors, and these are just some examples of the potential of the more than 800 carotenoids that are available in nature. Indeed, a review of the literature shows that only approximately 10 of the 800 carotenoids have been thoroughly studied to date.

One of the goals of the CA 15136 is to examine and **exploit novel sources** of carotenoids, and most importantly, to determine their **role for human health**, and **potential for industrial applications**.

The activities of the action will be implemented by scientists and interested stakeholders from 31 European countries, divided into the following four Working Groups (WG) as presented below in the appendix:

For this purpose, the EUROCAROTEN consortium encourages **interested European industries** involved in either in the production or use of carotenoids - **to actively participate in this network by joining a WG or participating in networks meetings, events and training schools**.

Thus, they will have the opportunity to:

1. Meet scientists from diverse fields working on carotenoids exploitation;
2. Participate as partners in forthcoming HORIZON's research calls and;
3. Gain access to primary research data and developments in the field of carotenoid research.

Supporting Research:

The idea behind the EUROCAROTEN CA is to facilitate networking of researchers rather than actually conducting research. However, it was decided that in order to conduct some of the actions planned we **need to support a fulltime EUROCAROTEN scientist**, and that this scientist **will be supported by industry funding**. Therefore, we are **requesting sponsorship from carotenoid-interested industry partners**. Funds raised from the industry partners will be put aside to support the EUROCAROTEN researcher. We have already identified several tasks and goals for this particular research program, which include the development of standard protocols for measuring carotenoids *in vitro* and developing diverse carotenoid databases. However, one important point to make is that the industry partners that partner in this action can contribute directly to the actions and this research program. A total contribution of €12,000 annually over 3 years would be the cost for Industry to support a researcher and join this part of the action. If you are interested to discuss this opportunity please contact Professor John Nolan at jmnolan@wit.ie (or at the address above) and Dr. Antonio J. Meléndez-Martínez (ajmelendez@us.es).

Sincerely,

Professor John M. Nolan - Waterford Institute of Technology, Republic of Ireland;

Professor Serkos A. Haroutounian – Agricultural University of Athens, Greece;

Dr Anni Koskela - Arctic Flavours Association, Finland;

Professor Antonio J. Meléndez-Martínez – EUROCAROTEN Chair - Department of Nutrition and Food Science, Universidad de Sevilla, Spain.

Appendix:

Working Groups:

WG1 (PRODUCTION: DEVELOPING RESOURCES AND BIOSYNTHETIC PATHWAYS) consisting of different disciplines such as microbiologists, geneticists, molecular biologists, food scientists and technologists, chemists, bioinformaticians, plant scientists and biotechnologists, aiming to

- i) pinpoint new sources and/or technologies for the sustainable obtaining of carotenoids , with emphasis in aquatic ecosystems and the valorisation and the responsible management of by-products and waste;
- ii) identify and obtain scarcely studied carotenoids of interest;
- iii) generate a network map of biosynthetic pathways;
- iv) customize the production of carotenoids by cutting-edge chemical or biotechnological (e.g. synthetic biology) means.

WG2 (QUALITY ALONG THE FOOD CHAIN) consisting of food scientists-technologists, chemists, toxicologists and nutritionists, for the

- i) design and development of high-quality (safe, appealing, functional, sustainable) carotenoid-containing foods (CCFs);
- ii) assessment of data quality and development of harmonized protocols regarding assessment of carotenoids analysis in foods and bioaccessibility/bioavailability to ensure data intercomparability
- iii) assessment of consumers preferences and acceptability of CCFs
- iv) evaluation of the effect of processing and storage conditions in the carotenoid levels as a function of the matrix.

WG3 (NUTRITION AND HEALTH), consisting of nutritionists, clinicians, epigeneticists, molecular biologists and bioinformaticians, in order to

- i) shed light on obscure points concerning the health-promoting actions of carotenoids;
- ii) identify ignored beneficial actions;
- iii) identify new biomarkers;
- iv) provide science-based knowledge to establish dietary recommendations about carotenoid intakes to promote health to inform policy makers (e.g. EFSA);



- v) to establish meaningful protocols in order to achieve the approval of health claims.

WG4 (TRANSFER, DISSEMINATION AND EXPLOITATION), consisting of scientists, science communicators and representatives of industry, aiming to

- I. support the development of new products and/or technologies to increase the competitiveness of the European agro-food industry;
- II. improve the knowledge of the citizens about the importance of carotenoids in agro-food and their health benefits;
- III. help public authorities refine nutritional advice to promote the health and well-being of the citizens;
- IV. maximize the impact of EUROCAROTEN by means of customized communication and dissemination activities and materials.

For more information on these actions see http://www.cost.eu/COST_Actions/ca/CA15136
or visit our website www.eurocaroten.eu