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## **C50 CAROTENOIDS FROM THE CHEESE-RIPENING BACTERIA ARTHROBACTER ARILAITENSIS**

Daniele Giuffrida, Nuthathai Sutthiwong, Paola Dugo, Paola Donato,  
Francesco Cacciola, Mireille Fouillaud, Yanis Caro, Laurent Dufossé

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# ICS Utah 2014



## A Conference to Remember

The 17<sup>th</sup> International Carotenoid Symposium, being held in Park City, Utah from June 29 - July 4, is the triennial meeting of the International Carotenoid Society. This conference addresses the full spectrum of carotenoid biology and chemistry not only from "bench-to-bedside" but also from "microbes-to-mammals", bringing together the leading carotenoid researchers, young investigators, and students from academia, industry, and government for five days of intensive interactive presentations and discussions of the chemistry and physiology of carotenoids with particular emphasis on mechanisms of disease prevention from infancy to old age for these common constituents of the human diet and of widely consumed dietary supplements.

### **Come to Utah for ICS 2014!**

The conference will be very family-friendly, so bring yours! See [Excursions and Vacations](#) to start planning a family vacation or learn about our pre and post conference trips. Start to preview the [Conference Activities](#). There will be child care available, as well as many on-site activities for family members of all ages. Public transportation is available for activities all over Park City, including shopping both at Park City's Historic Main Street and a huge nearby designer outlet mall.

### **Registration is still open**

Advance registration fees are \$800 for attendees, this will be \$1200 for on-site registration. Advance registration for students is \$475, \$800 for on-site student registration. Students, check out how to get your special registration rate on the [Visa / Student Info](#) page before going online to register.

## Abstracts for Scientific Program

Abe, Katsuya <b>For a Poster</b>	Composition and accumulation of free- and ester-carotenoids in the aerial microalga <i>Scenedesmus</i> sp. (Chlorophyceae) cultured under stress conditions.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Katsuya Abe Daichi Sumida Nobuhiro Aburai	
Aburai, Nobuhiro <b>For a Poster</b>	A new approach to carotenogenesis up-regulated using inhibitors of fatty acid biosynthesis in aerial microalgae.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Nobuhiro Aburai Katsuya Abe	
Agócs, Attila <b>For a 15 minute talk</b>	NEW METHODS IN THE SYNTHESIS OF CAROTENOID GLYCOSIDES
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Agócs, A Hanaura, M. Deli, J. Nagy, V.	
Al-Babili, Salim <b>For a 30 minute talk</b>	Biosynthesis of Plant Carotenoid-Derived Signaling Molecules
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Salim Al-Babili	
Amaya, Elkin <b>For a 15 minute talk</b>	THE ANTIOXIDANT ROLE OF CANTHAXANTHIN FOR CHICK DEVELOPMENT: OVERVIEW FROM PUBLISHED STUDIES WITH HENS
<b>Session:</b> Biosynthesis and Metabolism I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> AMAYA, E.	
Ambati, Ranga Rao <b>For a Poster</b>	THE PROTECTIVE ROLE OF ASTAXANTHIN AND ASTAXANTHIN ESTERS FROM GREEN MICROALGA-HAEMATOCOCCUS PLUVIALIS ON UV-DMBA INDUCED SKIN CARCINOGENESIS RATS: POSSIBLE MECHANISM OF ACTION
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Ambati Ranga Rao H. N. Sindhuja Shylaja M. Darmesh Kadimi Udaya Sankar Ravi Sarada Gokare Aswathanarayana Ravishankar Phang Siew Moi	
Arathi, Bangalore <b>For a 15 minute talk</b>	UPLC-PDA AND TANDEM MASS SPECTRAL CHARACTERISTICS OF MAJOR LYCOPENE ISOMERS
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Arathi, B.P. Sowmya, P.R. Dilshad, P. Saikat, B. Gopal, V. Lakshminarayana, R.	
Autenrieth, Caroline <b>For a 15 minute talk</b>	STRUCTURE-FUNCTION RELATIONSHIPS OF THE RHODOPIN 3,4-DESATURASE (Crtd) OF RHODOSPIRILLUM RUBRUM
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Autenrieth, C. Ghosh, R.	
Bauerfeind, Jasmin <b>For a Poster</b>	Using photochemiluminescence to measure the lipophilic antioxidant capacities of carotenoid rich food products
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Bauerfeind, J Hintze, V. Kschonsek, J. Killenberg, M. Böhm, V.	
Beck, Warren <b>For a 30 minute talk</b>	Nonradiative Decay Dynamics and Intramolecular Charge Transfer in Peridinin and The Peridinin Chlorophyll A Protein
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Ghosh, S. Roscioli, J. D. Bishop, M. M. Frank, H. A. Beck, W. F.	
Berendschot, Tos TJM <b>For a 30 minute talk</b>	Lutein and inflammation
<b>Session:</b> Carotenoids in the Eye I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Berendschot TTJM Tian Y Kijlstra A	

## Abstracts for Scientific Program

Berendschot, Tos TJM <b>For a Poster</b>	The effect of a lutein-enriched egg-beverage on visual function in early age-related macular degeneration, a randomized trial
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Berendschot TTJM Kelly ER Kijlstra A van der Made SM Plat J	
Bernstein, Paul <b>For a 30 minute talk</b>	BIOAVAILABILITY OF A- AND B-CRYPTOXANTHIN IN SERUM, LIVER, AND OCULAR TISSUES OF JAPANESE QUAIL
<b>Session:</b> Carotenoids in the Eye II	<b>Scheduled for:</b>
<b>Authors:</b> Bernstein, P.S. Li, B. Vachali, P.P. Gorusupudi, A. Khachik, F.	
Bernstein, Paul <b>For a Poster</b>	HOW DOES THE HUMAN MACULA BECOME THE MACULA LUTEA? INACTIVITY OF HUMAN $\beta,\beta$ -CAROTENE-9',10'-DIOXYGENASE (BCO2) UNDERLIES RETINAL ACCUMULATION OF THE HUMAN MACULAR CAROTENOID PIGMENT
<b>Session:</b> Carotenoids in the Eye II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> Bernstein, P.S. Li, B. Vachali, P.P. Gorusupudi, A. Shen, Z. Sharifzadeh, H. Besch, B.M. Nelson, K. Frederick, J.M. Baehr, W.	
Blaner, William <b>For a 30 minute talk</b>	CARDIAC DYSFUNCTION IN $\beta$ -CAROTENE-15,15'-MONOOXYGENASE-DEFICIENT MICE IS ASSOCIATED WITH ALTERED CAROTENOID AND RETINOID METABOLISM
<b>Session:</b> Carotenoid Metabolism and Function I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> William S. Blaner Seung-Ah Lee Hongfeng Jiang Chad M. Trent Cynthia X. Wang Robert W. Curley Earl H. Harrison Mathew S. Maurer	
Böhm, Volker <b>For a 30 minute talk</b>	Lutein and zeaxanthin in patients with age-related macular degeneration: Supplement vs. oleaginous extract of kale
<b>Session:</b> Carotenoid Metabolism and Function II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Böhm, V. Arnold, C. Jentsch, S. Dawczynski, J.	
Bohn, Torsten <b>For a 15 minute talk</b>	BEFORE BIOACTIVITY THERE IS BIOAVAILABILITY - STATIC AND DYNAMIC IN VITRO MODELS FOR STUDYING CAROTENOID DIGESTION AND BIOACCESSIBILITY
<b>Session:</b> Carotenoid Metabolism and Function I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Bohn, T. Corte-Real, J. Almingier, M. Aura, A.-M. Dufour, C. El, S.N. Karakaya, S. McDougall, G. Requena, T. Santos, N.S.	
BONET PIÑA, MARIA LUISA <b>For a 30 minute talk</b>	RETINOIC ACID AND BETA-CAROTENE EFFECTS ON ADIPOSITY
<b>Session:</b> Carotenoid Metabolism and Function II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Bonet, M.L. Ribot, J. Palou, A.	
Borel, Patrick <b>For a 25 minute talk</b>	SINGLE NUCLEOTIDE POLYMORPHISMS INVOLVED IN CHYLOMICRON METABOLISM PLAY A SIGNIFICANT ROLE IN THE INTERINDIVIDUAL VARIABILITY OF LUTEIN BIOAVAILABILITY.
<b>Session:</b> Epidemiology, Genetics, and Nutrition I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Borel, P. Desmarchelier, C. Nowicki, M. Bott, R.	
Burri, Betty <b>For a 15 minute talk</b>	BETA-CRYPTOXANTHIN ABSORPTION AND METABOLISM
<b>Session:</b> Biosynthesis and Metabolism I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Betty J. Burri Michael R. La Frano Tami Turner Xiao Qiu Chenghao Zhu Erik Geertz Yimeng Cai	
Canas, Jose <b>For a 15 minute talk</b>	EFFECT OF A 2-WEEK INTENSE LIFE-STYLE INTERVENTION PROGRAM FOLLOWED BY 6-MONTH CAROTENOID SUPPLEMENTATION ON FAT DEPOTS, ADIPONECTIN AND PALMITOLEATE: A 6-MONTH DOUBLE BLIND PLACEBO-CONTROLLED PILOT STUDY IN OBESE CHILDREN
<b>Session:</b> Carotenoid Metabolism and Function II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Canas, J.A Lochrie, A Galena-McGowan, A Hossain, J Schettino, C Balagopal, P	
Caris-Veyrat, Catherine <b>For a 30 minute talk</b>	STABILITY IN THE PRESENCE OF IRON AND ANTIOXIDANT ACTIVITY IN A MODEL OF THE GASTRO-INTESTINAL TRACT OF REFERENCE AND BACTERIAL CAROTENOIDS.
<b>Session:</b> Chronic Disease Prevention and Treatment I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Caris-Veyrat, C. Sy, C. Borel, P. Dangles, O	

## Abstracts for Scientific Program

Cazzonelli, Christopher I. <b>For a 30 minute talk</b>	EPIGENETIC REGULATION AND FUNCTIONS FOR CIS-CAROTENOIDS; SIGNALING MOLECULES AND PLANT DEVELOPMENT
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Cazzonelli, C. Hou, X. Watkins, J. Holland, S. Shashikanth, M. Pogson, B.	
Cervantes, Braulio <b>For a Poster</b>	CAROTENOID AND CHLOROPHYLL COMPOSITION AND ANTIOXIDANT ACTIVITY OF RAW AND HEAT PROCESSED JALAPEÑO PEPPERS AT INTERMEDIATE RIPENING STAGES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Cervantes-Paz B. Ornelas-Paz J. de J.	
Chandrasekaran, Raghu <b>For a Poster</b>	MODULATION OF XANTHOPHYLLS IN DIATOMS BY LIGHT SPECTRUM AND INTENSITY
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Chandrasekaran, R. Barra, L. Giovagnetti, V. Corato, F. Ruban, A.V. Brunet, C.	
Chew, Emily <b>For a Plenary</b>	LUTEIN AND ZEAXANTHIN SUPPLEMENTATION AND COGNITIVE FUNCTION TESTING IN THE AGE-RELATED EYE DISEASE STUDY 2 (AREDS2)
<b>Session:</b> Carotenoids in the Eye and Brain	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Chew, E. Y. Clemons, T.E. Agrón, M.A. AREDS2 Research Group	
Cichon, Morgan <b>For a Poster</b>	Oxidative Metabolism of Lycopene
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Cichon, M. J. Riedl, K. M. Moran, N. E. Grainger, E. M. Erdman, J. W., Jr. Clinton, S. K. Schwartz, S. J.	
Clinton, Steven <b>For a 30 minute talk</b>	What We Know and Don't Know About Tomatoes, Lycopene, and Prostate Cancer
<b>Session:</b> Chronic Disease Prevention and Treatment I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Clinton, S.K.	
Cogdell, Richard <b>For a Poster</b>	The effects of lack of carotenoids on the light harvesting complexes of three species of purple photosynthetic bacteria
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Richard Cogdell Sarah Henry Lewis MacDonald Kirsty Hacking	
Corte-Real, Joana <b>For a 15 minute talk</b>	SETTING UP MODELS FOR STUDYING THE EFFECT OF DIETARY MINERALS ON BIOAVAILABILITY ASPECTS OF CAROTENOIDS
<b>Session:</b> Epidemiology, Genetics, and Nutrition II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Joana Corte-Real Elke Richling Lucien Hoffmann Torsten Bohn	
Craft, Neal <b>For a Poster</b>	EXTRACTION AND NORMAL-PHASE SEPARATION OF BRAIN CAROTENOIDS AND TOCOLS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Neal E. Craft	
Deli, József <b>For a Plenary</b>	Isolation and analysis of carotenoids from Zechmeister till today
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Deli, J	
Erdman, John <b>For a 30 minute talk</b>	LUTEIN AND THE BRAIN; APPLICATION OF THE NON-HUMAN PRIMATE MODEL TO EVALUATE LUTEIN BIODISTRIBUTION AND EFFECTS ON BRAIN FUNCTION
<b>Session:</b> Brain and Cognition	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Erdman, J.W. Sweedler, J.V. Rubakhin, S.S. Johnson, E.J. Neuringer, M. Kuchan, M.J.	

## Abstracts for Scientific Program

Eriksen, Jane Nygaard <b>For a 15 minute talk</b>	Optimized in vitro digestion system as screening tool to evaluate carotenoid accessibility – A potential model for human digestion
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Eriksen, J. N. Dragsted, L. O. Arrigoni, E.	
Ermakov, Igor <b>For a 30 minute talk</b>	Optical Detection Methods for Carotenoids in Human Skin.
<b>Session:</b> Epidemiology, Genetics, and Nutrition II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Ermakov, I.V. Ermakova, M.R. Sharifzadeh, M. Gellermann, W.	
Ermakov, Igor <b>For a Poster</b>	Optical Detection of Carotenoids in Human Bone and Surrounding Tissue.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Ermakov, I.V. Ermakova, M.R. Rosenberg, T.D. Gellermann, W.	
Ernawita, Ernawita <b>For a Poster</b>	EFFECT OF 1-METHYLCYCLOPROPENE ON CAROTENOIDS OF MINI TOMATOES (SOLANUM LYCOPERSICUM)
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Ernawita Kélin Schwarz Volker Böhm Joelem Mastrodi Salgado Julio Marcos Melges Walder	
Ernawita, Ernawita <b>For a Poster</b>	COMPOSITION AND CHARACTERIZATION OF CAROTENOIDS FROM JERUK TAKENGON (Citrus nobilis Lour.)
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Ernawita Volker Böhm	
Esquivel, Patricia <b>For a Poster</b>	CHARACTERIZATION OF CAROTENOIDS IN THE PEELS OF COFFEE (COFFEA ARABICA) VARIETIES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Patricia Esquivel María Viñas Ralf M. Schweiggert Maike Gruschwitz Eric Guevara Reinhold Carle Víctor M. Jiménez	
Esquivel, Patricia <b>For a Poster</b>	PROFILES AND BIOACCESSIBILITY OF CAROTENOIDS FROM RED- AND YELLOW-FLESHED MAMEY SAPOTE (POUTERIA SAPOTA) FRUITS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Patricia Esquivel Tania Chacón-Ordóñez Reinhold Carle Víctor M. Jiménez Ralf M. Schweiggert	
Fang, Nan <b>For a Poster</b>	Extraction, purification and partial characterization of a carotenoid binding protein (CBP) from the epidermis of the monarch butterfly larvae (Danaus plexippus)
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Nan Fang Lisandra Gonzalez Khoa Pham Jaroslava Miksovaka John T. Landrum	
Focsan, Alexandrina Ligia <b>For a 15 minute talk</b>	CALIBRATED ELECTROCHEMICAL MEASUREMENTS OF ASTAXANTHIN AND ITS ESTERS: INSIGHT INTO THE HEALTH AND PHOTOPROTECT MECHANISMS.
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> A. Ligia Focsan Wesley Potter Lowell Kispert	
Frank, Harry <b>For a Poster</b>	Investigation of the excited state spectra and dynamics of rhodopinal glucoside from Rhodoblastus acidophilus 7050 grown under low-light conditions
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Frank, H. A. Magdaong, N. Niedzwiedzki, D. M. LaFountain, A. M. Gardiner, A. T. Carey, A-M. Gibson, G. N. Cogdell, R. J.	
Ge, Zhiyuan <b>For a Poster</b>	HIGH CONCENTRATIONS OF KETOCAROTENOIDS IN THE HEPATIC MITOCHONDRIA OF A MOLTING RED SONGBIRD
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Ge, Zhiyuan Johnson, James D. Cobine, Paul A. McGraw, Kevin J. Garcia, Rosana Hill, Geoffrey E.	

## Abstracts for Scientific Program

Gellenbeck, Kevin <b>For a 15 minute talk</b>	MIXED CAROTENOID UPTAKE IN A HUMAN CLINICAL STUDY COMPARING CONVENTIONAL (IMMEDIATE) AND SEQUENTIAL RELEASE FORMULATIONS
<b>Session:</b> Food and Biotechnology I	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Gellenbeck, K.W. Venzon, D.S. Kazolova, V. Izzy, S. Intra, J.	
Ghosh, Robin <b>For a Poster</b>	HIGH-LEVEL PRODUCTION OF THE INDUSTRIAL PRODUCT, LYCOPENE, USING THE PHOTOSYNTHETIC BACTERIUM, RHODOSPIRILLUM RUBRUM
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Robin Ghosh Guo-Shu Wang Hartmut Grammel Khaled Abou-Aisha Ruedi Saegesser	
Giuffrida, Daniele <b>For a Poster</b>	NATIVE CAROTENOIDS COMPOSITION OF SOME FRUITS FROM PANAMA
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Giuffrida, D. Menchaca, D. Dugo, P. Donato, P. Cacciola, F. Murillo, E.	
Giuffrida, Daniele <b>For a Poster</b>	C50 CAROTENOIDS FROM THE CHEESE-RIPENING BACTERIA ARTHROBACTER ARILAITENSIS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Giuffrida, D. Sutthiwong, N. Dugo, P. Donato, P. Cacciola, F. Fouillaud, M. Caro, Y. Dufossé, L.	
Gonzalez, Daniel <b>For a Poster</b>	Zeaxanthin Aggregation: A Quasi-Reversible System
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Gonzalez, D. A. Babino, D. Ginory-Perez, J. Landrum, J. T.	
Gorusupudi, Aruna <b>For a Poster</b>	COMPARATIVE BIOAVAILABILITY AND BIOACCUMULATION OF XANTHOPHYLLS WITH $\beta$ -CAROTENE IN A TRANSGENIC MOUSE MODEL.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Gorusupudi, A. Vachali, P.P. Li, B. Shen, Z. Besch, B. M. Nelson, K. Bernstein, P.S.	
Hammond, Billy <b>For a 30 minute talk</b>	EFFECTS OF THE MACULAR CAROTENOIDS ON BEHAVIORAL AND NEURAL MEASURES OF BRAIN FUNCTION.
<b>Session:</b> Carotenoids in the Eye I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Billy R. Hammond, Jr. Emily R. Bovier Lisa M. Renzi	
Harrison, Earl <b>For a Plenary</b>	CAROTENOID METABOLISM IN ANIMALS INCLUDING HUMANS: FORMATION, OCCURRENCE AND FUNCTION OF APOCAROTENOIDS
<b>Session:</b> Carotenoid Metabolism and Function	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Earl H. Harrison Carlo dela Sena Jian Sun Sureshababu Narayanasamy Kenneth M. Riedl Robert W. Curley, Jr. Steven J. Schwartz	
Hashimoto, Hideki <b>For a 30 minute talk</b>	Ultrafast excited state dynamics of marine carotenoid fucoxanthin and its homologues
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Hashimoto, H. Kosumi, D. Fujii, R. Sugisaki, M. Iha, M. Sakaguchi, K. Katsumura. S.	
Hashimoto, Hideki <b>For a Poster</b>	Influence of Surrounding Environments on the Electronic and Vibronic Properties of Spheroidene
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Hashimoto, H. Tonouchi, N. Kosumi, D. Nango, M. Sugisaki, M.	
Hirschberg, Joseph <b>For a 15 minute talk</b>	MOLECULAR AND BIOCHEMICAL CHARACTERIZATIONS OF THE BACTERIAL PHYTOENE DESATURASE CRTI SUGGEST A DIVERGENT EVOLUTION OF THE CAROTENOID BIOSYNTHESIS ENZYMES IN PLANTS
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Hirschberg, J. Jubran, H. Filler, S. Dery, O. Enfissi, E.M. Fraser, P.D. Beyer, P.	



## Abstracts for Scientific Program

Hosokawa, Masashi <b>For a 15 minute talk</b>	METABOLIC CONTROL VIA UP-REGULATION OF PGC-1 REGULATORY FACTORS BY FUCOXANTHIN
<b>Session:</b> Carotenoid Metabolism and Function II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Masashi Hosokawa Riho Tateyama Ai Koide Kazuo Miyashita	
IP, Blanche <b>For a 15 minute talk</b>	Lycopene supplementation inhibits high saturated-fat diet-promoted hepatic tumorigenesis via differential mechanisms depending on beta-carotene-9',10'-oxygenase expression in mice
<b>Session:</b> Chronic Disease Prevention and Treatment I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> IP, B.C. Liu, C. Smith, D.E. von Lintig, J. Wang, X-D.	
IP, Blanche <b>For a Poster</b>	Lycopene and apo-10'-lycopenoic acid inhibited high saturated fat diet-induced liver steatosis in beta-carotene-9',10'-oxygenase knockout mice
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> IP, B.C. Liu, C. Lichtenstein, A.H. von Lintig, J. Wang, X-D.	
Ishiki, Manabu <b>For a 30 minute talk</b>	The impact of astaxanthin on glucose metabolism.
<b>Session:</b> Chronic Disease Prevention and Treatment II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Ishiki M Nishida Y Ishibashi H Wada T Takikawa A Sasaoka T Usui I Tobe K	
Jahns, Lisa <b>For a 25 minute talk</b>	SKIN AND PLASMA CAROTENOID RESPONSE TO A PROVIDED INTERVENTION DIET HIGH IN VEGETABLES AND FRUITS: UPTAKE AND DEPLETION KINETICS
<b>Session:</b> Epidemiology, Genetics, and Nutrition I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Jahns, L Johnson L.K Mayne, S.T Cartmel, B Picklo, M.J Ermakov, I.V Gellermann, W Whigham, L.D	
Jimenez, Victor M. <b>For a Poster</b>	THE ULTRASTRUCTURE OF MAMEY SAPOTE (POUTERIA SAPOTA) CHROMOPLASTS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Jiménez V.M. Chacón-Ordóñez, T. Schweiggert, R.M. Carle, R. Esquivel, P.	
Johnson, Elizabeth <b>For a 30 minute talk</b>	LOCALIZATION OF LUTEIN IN NON HUMAN PRIMATE BRAIN AND ITS POTENTIAL ROLE IN BRAIN HEALTH
<b>Session:</b> Brain and Cognition	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Elizabeth J. Johnson Emily S. Mohn Martha Neuringer Natalia Crivello John W. Erdman	
Juturu, Vijaya <b>For a Poster</b>	LUTEIN IMPROVES VISUAL FUNCTION IN EARLY-STAGE STREPTOZOTOCIN-INDUCED DIABETIC RATS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Deshpande J Reddy B G Shankaranarayanan J Bhattacharya A Juturu V	
Kaulmann, Anouk <b>For a 15 minute talk</b>	FRUIT AND VEGETABLE CONSUMPTION, CAROTENOIDS AND INFLAMMATORY SIGNALLING PATHWAYS
<b>Session:</b> Chronic Disease Prevention and Treatment II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Kaulmann, A. Bohn, T.	
Kaulmann, Anouk <b>For a Poster</b>	CAROTENOID AND POLYPHENOL PROFILES OF CABBAGE AND PLUM VARIETIES AND THEIR CONTRIBUTION TO TOTAL ANTIOXIDANT CAPACITY
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kaulmann,A. Bohn, T. Hoffmann,L. Schneider, Y.J.	
Kawashima, Yuki <b>For a Poster</b>	Development of PANAFERD-ZX: Zeaxanthin Enriched Dry Cell using Paracoccus carotinifaciens
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kawashima, Y. Nagai, H. Ikarashi, M. Maoka, T.	

## Abstracts for Scientific Program

Khachik, Frederick <b>For a 30 minute talk</b>	Synthesis of isotopically labelled carotenoids for metabolic studies
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Khachik, Frederick	
Kim, Youn-Kyung <b>For a Poster</b>	EXPLORING THE FUNCTION OF BETA-CAROTENE 15,15'-OXYGENASE IN RETINOID AND LIPID METABOLISM
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kim, Y.K. Dixon, J.L. Brinker, A. Zuccaro, M. Quadro, L.	
Kispert, Lowell <b>For a Poster</b>	Carotenoid Neutral Radicals in Photoprotection
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Lowell Kispert Adam Maygar Ligia Focsan Péter Molnár József Deli	
Koo, Sangho <b>For a 30 minute talk</b>	Synthesis of Unnatural Carotenoids, and Their Applications
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Koo, S. Oh, E.-T. Kim, Y. H. Lim, B. Choi, J. A. Park, M.	
Kopec, Rachel <b>For a Poster</b>	STABILITY OF CAROTENOIDS THROUGH THE DIGESTIVE PROCESS: IN VITRO STUDIES OF OXIDATION
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kopec, R. E. Borel, P. Desmarchelier, C. Carail, M. Caris-Veyrat, C.	
Kopsell, Dean <b>For a Poster</b>	Carotene Enhancement in Specialty Vegetable Crops through Exogenous Applications of Ionone Compounds
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kopsell, D. K. Goldman, I. L. Wiepz, R. Turman, D. L. Kopsell, D. E.	
Kucuk, Omer <b>For a 30 minute talk</b>	Lycopene in the prevention of genitourinary tumors
<b>Session:</b> Chronic Disease Prevention and Treatment II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Omer Kucuk Kazim Sahin Engin Yenice Mehmet Tuzcu Cemal Orhan Cengizhan Mizrak Ibrahim Ozercan Nurhan Sahin Karina Ciccone Chris Giardina	
LaFountain, Amy <b>For a Poster</b>	Investigation into the mechanisms of carotenoid coloration in avian plumage: A broad survey of carotenoid coloration from a diversity of feathers
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> LaFountain, A. M. Chen, X. Frank, H. A. Prum, R. O.	
Lakshminarayana, R. <b>For a Poster</b>	DETERMINATION OF POSSIBLE LUTEIN OXIDATION PRODUCTS IN RAT TISSUES AND OPTIMIZATION OF ANALYTICAL METHODS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Lakshminarayana, R. Sowmya, P.R. Arathi, B.P. Vijay, K Baskaran, V	
Landrum, John <b>For a 30 minute talk</b>	The Macular Pigment: Carotenoid Accumulation in the Developing Macaque Retina
<b>Session:</b> Carotenoids in the Eye II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> Landrum, J. T.	
Lee, Seung-Ah <b>For a Poster</b>	CARDIAC DYSFUNCTION IN BCMO1 KNOCKOUT MICE IS ASSOCIATED WITH ALTERED RETINOID AND LIPID METABOLISM
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Seung-Ah Lee Hongfeng Jiang Chad M. Trent Jason Yuen Robert W. Curley, Jr Earl H. Harrison Mathew S. Maurer William S. Blaner	

## Abstracts for Scientific Program

Li, Binxing <b>For a Poster</b>	Crystallization of the Human Ocular Carotenoid-Binding Proteins
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Li, B. Sharifzadeh, H. Horvath, M. Bernstein, P. S.	
Li, Binxing <b>For a Poster</b>	Long-Term Zeaxanthin Supplementation to the Mouse Retina
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Li, B. Vachali, P.P., Gorusupudi, A., Shen, Z. Besch, B. M. Nelson, K. Bernstein, P.S..	
Li, Xinli <b>For a Poster</b>	Dietary or circulating lycopene and stroke risk: a meta-analysis of prospective trials
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Xinli LI JiuHong XU	
Lietz, Georg <b>For a 30 minute talk</b>	Simplified approaches for estimating vitamin A stores and $\beta$ -carotene bioconversion in humans
<b>Session:</b> Epidemiology, Genetics, and Nutrition II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Lietz, G. Park, H. Oxley, A. Boddy, A. Berry, P. Wyss, A. Schalch, W. Green, M.H.	
Lietz, Georg <b>For a Poster</b>	Gender differences in retinol metabolism are independent of $\beta$ -carotene bioconversion
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Lietz, G. Oxley, A. Berry, P. Hesketh, J. Tourniaire, F. Boddy, A.	
Linnewiel Hermoni, Karin <b>For a 15 minute talk</b>	CAROTENOID DERIVATIVE INHIBIT NFkB IN BONE AND CANCER CELLS BY TARGETING KEY THIOL GROUPS
<b>Session:</b> Chronic Disease Prevention and Treatment II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Linnewiel-Hermoni, K Levy, J. Sharoni, Y	
Liu, Jianguo <b>For a Poster</b>	MASS-SCALE CUTIVATION OF UNICELLULAR GREEN ALGA HAEMATOCOCCUS PLUVIALIS FOR NATURAL ASTAXANTHIN
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Jian-guo Liu John P van der Meer Li-tao Zhang Yong Zhang	
Liu, Jianguo <b>For a Poster</b>	EFFECTS OF MICROALGAL ASTAXANTHIN AND CAROTENOIDS ON ACUTE RENAL INJURY PROPHYLAXIS IN MALE WISTAR RATS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Jianguo Liu Jun He Yong Zhang Yang Doris Liu Hong Gao	
Lokstein, Heiko <b>For a Poster</b>	CAROTENOID-CHLOROPHYLL INTERACTIONS IN PHOTOSYNTHETIC PIGMENT-PROTEIN COMPLEXES ELUCIDATED BY NON-LINEAR SPECTROSCOPY
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Heiko Lokstein Alexander Betke Klaus Teuchner	
Lorantfy, Bettina <b>For a 15 minute talk</b>	Integrated bioprocess development with extreme Halophiles for carotenoid production
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Lorantfy, B. Herwig, C.	
Magdaong, Nikki <b>For a Poster</b>	Optical spectroscopic investigation of native and recombinant peridinin-chlorophyll a-protein complexes
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Magdaong, N. M. Enriquez, M. M. Schulte, T. Niedzwiedzki, D. M. Hofmann, E. Hiller, R. Frank, H. A.	

## Abstracts for Scientific Program

Makuch, Krzysztof For a Poster	A MOLECULAR DYNAMICS SIMULATION STUDY OF LUTEIN AND ZEAXANTHIN ARRANGEMENTS IN THE PHOSPHOLIPID BILAYER
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Krzysztof Makuch Michał Markiewicz Marta Pasenkiewicz-Gierula	
Mares, Julie For a 25 minute talk	EPIDEMIOLOGICAL EVIDENCE FOR DETERMINANTS OF MACULAR PIGMENT RESPONSE TO THE INTAKE OF LUTEIN AND ZEAXANTHIN
<b>Session:</b> Epidemiology, Genetics, and Nutrition I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Mares, J.M. Meyers, K.J. Liu, Z. Johnson, E. Snodderly, D. M.	
Martinez, Ana For a Poster	ANTIOXIDANT, ANTIREDUCTANTS, ANTIRADICALS OR FREE RADICALS SCAVENGERS?
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Martinez, A. Sliwka, H.R. Partali, V. Zeeshan, M. Stinco, C.M. Melendez-Martínez, A.J.	
Martinez, Ana For a Poster	FINITE VALUES OF INFINITE POLYENES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Martinez, A. Sliwka, H.R. Partali, V. Zeeshan, M.	
Mayorga, Maria For a 30 minute talk	CAROTENOIDS FROM FATTY YEAST
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Mayorga, M. Laprade, L. Farrell, C. Houston, P. Grenfell-Lee, D. Trueheart, J.	
Mazeikiene, Asta For a Poster	THE ASSOCIATION OF SERUM CAROTENOID CONCENTRATION WITH SINGLE NUCLEOTIDE POLYMORPHISMS IN APOE, BCMO1, HL AND FABP GENES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Mazeikiene, A. Jakaitiene, A. Arasimavicius, J. Domarkiene, I. Uktveryte, I. Ambrozaityte, L. Kucinskiene, Z.A. Kucinskas, V.	
McGraw, Kevin For a 30 minute talk	Sex and disease in the city: links between carotenoid coloration, parasites, and urbanization
<b>Session:</b> Biosynthesis and Metabolism I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> McGraw, K. J. Giraudeau, M.	
McQuinn, Ryan For a Poster	IMPROVING STRATEGIES FOR THE ENHANCEMENT OF CAROTENOIDS IN CROPS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> McQuinn, R. Wong, B. Giovannonim, J.	
MELLENDEZ-MARTINEZ, ANTONIO J. For a Plenary	THE "INVISIBLE CAROTENOIDS" PHYTOENE AND PHYTOFLUENE.
<b>Session:</b> Food and Biotechnology	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Meléndez-Martínez, A.J.	
MELLENDEZ-MARTINEZ, ANTONIO J. For a Poster	Dietary sources of phytoene and phytofluene in Spain: Mediterranean Diet vs exotic foods
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Meléndez-Martínez, A.J. Stinco, C.M. Hernanz, D. Murillo, E. Benítez-González, A.M.	
Mendes Pinto, Maria Manuela For a Poster	INSIGHTS INTO MOLECULAR MECHANISMS UNDERLYING CAROTENOID ABSORPTION SHIFTS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Maria Manuela Mendes Pinto Bruno Robert	

## Abstracts for Scientific Program

Mendez, Vanesa <b>For a Poster</b>	A Virtual Model for Development of Macular Pigment in the Macaque Retina
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Vanesa Mendez Yisi Cao Martha Neuringer John T. Landrum	
Mendez, Vanesa <b>For a Poster</b>	Direct Observation of Differences of Carotenoid Polyene Chain cis/trans Isomers Resulting from Structural Topology
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Vanesa Mendez Emily R. Schenk Mark E. Ridgewa Melvin A. Park Francisco Fernandez-Lima John T. Landrum	
Mihály, Johanna <b>For a Poster</b>	REDUCED CAROTENOID AND RETINOID CONCENTRATIONS AND ALTERED ISOMER-RATIO IN SERUM OF ATOPIC DERMATITIS PATIENTS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Mihaly, J. Lowe, G Graham, D Szklenar, M Torocsik, D Ruhl, R	
Moore, Ana <b>For a Poster</b>	INVOLVEMENT OF CAROTENOIDS IN PHOTOSYNTHETIC REGULATION AND PHOTOPROTECTION
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Moore A. L. Moore, T. A. Gust, D.	
Moore, Thomas <b>For a 30 minute talk</b>	ARTIFICIAL PHOTOSYNTHESIS – HELPING NATURE REGAIN CONTROL OF THE GLOBAL CARBON CYCLE
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> Moore, T. A. Moore, A. L. Gust, D.	
Moran, Nancy <b>For a 15 minute talk</b>	13C-CAROTENOIDS FROM TOMATO CELL CULTURES FOR STUDIES OF HUMAN KINETICS AND METABOLISM
<b>Session:</b> Carotenoid Metabolism and Function I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Moran, N.E. Cichon, M.J. Novotny, J.A. Grainger, E.M. Rogers, R.B. Riedl, K.M. Schwartz, S.J. Erdman, Jr. J.W. Clinton, S.K.	
Moran, Rachel <b>For a 15 minute talk TBD</b>	The relationship between dietary intake of Lutein (L) and Zeaxanthin (Z) and their concentrations in serum: Introduction of a novel L/Z dietary screener
<b>Session:</b> Epidemiology, Genetics, and Nutrition I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Moran, Rachel Johnson, Elizabeth Stack, Jim Akuffo, Kwadwo Loskutova, Ekaterina Beatty, Stephen Nolan, John	
Murillo, Enrique <b>For a Poster</b>	PROVITAMIN A ACTIVITY OF $\beta$ , $\kappa$ -CAROTENOIDS USING PURIFIED RECOMBINANT HUMAN $\beta$ -CAROTENNE 15,15'-OXYGENASE (BCO1)
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Murillo, E. Reyna, G. dela Seña, c. Harrison, E. H.	
Neuringer, Martha <b>For a 30 minute talk</b>	LUTEIN AND ZEAXANTHIN IN THE MACULA AND BRAIN OF NONHUMAN PRIMATES: STRUCTURAL AND FUNCTIONAL ROLES
<b>Session:</b> Brain and Cognition	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Neuringer, M. Renner, L Johnson, E.J. Erdman, J.W.	
Ng, Mei Han <b>For a 15 minute talk</b>	PURIFICATION AND PRODUCTION OF PALM OIL CAROTENES USING SUPERCRITICAL FLUID CHROMATOGRAPHY
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Ng, M.H. Choo, M.H.	
Nguyen, Lori <b>For a 15 minute talk</b>	Evaluating the relationship between fruit and vegetable intake using plasma and dermal biomarkers and reported dietary intake in 4th-grade children
<b>Session:</b> Epidemiology, Genetics, and Nutrition I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Lori M. Nguyen Rachel E. Scherr Igor V. Ermakov Werner Gellermann Carl L. Keen Sheridan Miyamoto Francene Steinberg Heather M. Young Sheri Zidenberg-Cherr	

## Abstracts for Scientific Program

Niedzwiedzki, Dariusz <b>For a Poster</b>	Investigation of the Carotenoid-to-Bacteriochlorophyll Energy Transfer in the LH2 Complexes Containing Carotenoids With Conjugation Length From 9 to 15
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Dariusz M. Niedzwiedzki	
Niedzwiedzki, Dariusz <b>For a Poster</b>	Photophysical Properties of a Synthetic, Carbonyl-Containing (N = 6+C=O) Carotenoid Analogue
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Dariusz M. Niedzwiedzki	
Nolan, John <b>For a 30 minute talk</b>	SUPPLEMENTATION WITH THREE DIFFERENT MACULAR CAROTENOID FORMULATIONS IN PATIENTS WITH EARLY AMD: RESULTS AFTER 36 MONTHS OF SUPPLEMENTATION
<b>Session:</b> Carotenoids in the Eye I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Nolan, J. Stack, J. Akuffo, K. Howard, A. Beatty, S.	
Obana, Akira <b>For a 15 minute talk</b>	INFLUENCE OF CATARACTS ON AUTOFLUORESCENCE-BASED MACULAR PIGMENT IMAGING
<b>Session:</b> Carotenoids in the Eye II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> Obana A Gohto Y Seto T Ueno T Yoshino M Sharifzadeh M Gellermann W	
O'Donoghue, Adam <b>For a Poster</b>	Development of a high cis-lycopene tangerine tomato as a functional food for countering prostate cancer
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> O'Donoghue, A. MingXia, H. Fanning, K. Netzel, G. Walker, I. O. McGrath, D. J. Dillon, N. L. O'Hare, T. J.	
O'Hare, Tim <b>For a 25 minute talk</b>	ZEAXANTHIN BIOFORTIFICATION OF SWEET-CORN AND FACTORS AFFECTING ZEAXANTHIN ACCUMULATION AND COLOR CHANGE
<b>Session:</b> Food and Biotechnology I	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> O'Hare, T. J. Fanning, K. J. Martin, I. F.	
Ortiz, Darwin <b>For a Poster</b>	CHANGES IN THE CAROTENOID PROFILES OF BIOFORTIFIED CORN CULTIVARS AT PRE-HARVEST AND STORAGE STAGES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Darwin Ortiz Torbert Rocherford Bruce R. Hamaker Dominique Dufour Mario G. Ferruzzi	
Palmer, Amanda <b>For a 30 minute talk</b>	IMPACT OF PROTOVITAMIN A BIOFORTIFIED MAIZE FLOUR CONSUMPTION ON AFLATOXIN ADDUCT CONCENTRATIONS OF ZAMBIAN CHILDREN
<b>Session:</b> Epidemiology, Genetics, and Nutrition II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Palmer, A. Chileshe, J. Schulze, K. Siamusantu, W. Klemm, R. Barffour, M. Groopman, J. West Jr., K.	
Pintea, Adela <b>For a Poster</b>	EFFECT OF ESTERIFICATION ON THE ANTIOXIDANT ACTIVITY OF ZEAXANTHIN
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Pintea, A. Bunea, A. Socaci, S. Socaciu, C.	
Pogson, Barry <b>For a 30 minute talk</b>	
<b>Session:</b> Biosynthesis and Metabolism II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b>	
Polivka, Tomas <b>For a 30 minute talk</b>	TUNING SPECTROSCOPIC PROPERTIES OF CAROTENOIDS BY SMALL CHANGES IN CAROTENOID STRUCTURE
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> T. Polivka M. Fuciman V. Slouf G. Kesan M. Kabelac	

## Abstracts for Scientific Program

Polyakov, Nikolay <b>For a 15 minute talk</b>	Supramolecular chemistry of xanthophyll carotenoids.
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production I	
<b>Scheduled for:</b> Tuesday, July 1	
<b>Authors:</b> Polyakov N. E. Selyutina O. Yu. Apanasenko I. E. Suntsova L. P. Dushkin A. V. Magyar A. Kispert L.D. Vachali P. Bernstein P. S.	
Polyakov, Nikolay <b>For a Poster</b>	STABILIZATION OF XANTHOPHYLL CAROTENOIDS BY WATER SOLUBLE OLIGOSACCHARIDES AND POLYSACCHARIDES.
<b>Session:</b>	
<b>Scheduled for:</b>	
<b>Authors:</b> Polyakov N. E. Apanasenko I. E. Selyutina O. Yu. Suntsova L. P. Dushkin A. V. Kispert L.D. Vachali P. Bernstein P. S.	
Quadro, Loredana <b>For a Plenary</b>	THE ROLE OF BETA-CAROTENE AND ITS ASYMMETRIC CLEAVAGE ENZYME DURING MAMMALIAN EMBRYOGENESIS
<b>Session:</b> Epidemiology, Genetics, and Nutrition	
<b>Scheduled for:</b> Wednesday, July 2	
<b>Authors:</b> Quadro, L, Spiegler, E.	
Rafacho, Bruna <b>For a Poster</b>	THE EFFECT OF BETA-CRYPTOXANTHIN SUPPLEMENTATION ON HEPATIC STEATOSIS AND INFLAMMATION IN BETA-CAROTENE-9'10'-OXYGENASE KNOCKOUT MICE
<b>Session:</b>	
<b>Scheduled for:</b>	
<b>Authors:</b> Rafacho, B. P. M. Liu. C Dong, Y. M. von Lintig, J. Wang, X-D.	
Ravi Kumar, Sangeetha <b>For a 15 minute talk</b>	PROTECTIVE EFFECTS OF ASTAXANTHIN AND SQUALENE: INDIVIDUAL AND COMBINED EFFECTS IN HIGH-FAT FED KK-A <sup>y</sup> MICE
<b>Session:</b> Biosynthesis and Metabolism I	
<b>Scheduled for:</b> Monday, June 30	
<b>Authors:</b> Ravi Kumar, S. Miyashita, K. Hosokawa, M.	
Richer, Stuart <b>For a 15 minute talk</b>	The Scripps Institute Early Biomarkers of AMD (EBAMD) Study –Foveal Macula Pigment Depression Data and Analysis,– including serum carotenoids: IRB-11-5677
<b>Session:</b> Carotenoids in the Eye I	
<b>Scheduled for:</b> Monday, June 30	
<b>Authors:</b> Richer, S. P. Pratt, S. G. Blake, P. Roberson, D. Rutledge, G. Pratt, G. Podella, C.	
Robert, Bruno <b>For a 30 minute talk</b>	RELATING THE STRUCTURE OF CAROTENOID ELECTRONIC STATES TO THEIR FUNCTION
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis II	
<b>Scheduled for:</b> Friday, July 4	
<b>Authors:</b> Robert B. Mendes Pinto M. M. Galzerano D. Pascal A. A. Gall A. Illoia C.	
Rodriguez-Amaya, Delia <b>For a 25 minute talk</b>	Overview of current carotenoid research in foods: From analysis to processing effects and health implications
<b>Session:</b> Food and Biotechnology I	
<b>Scheduled for:</b> Thursday, July 3	
<b>Authors:</b> Delia B. Rodriguez-Amaya	
Rubin, Lewis <b>For a 30 minute talk</b>	RETINAL PIGMENT EPITHELIAL CELL MODELS FOR INTERROGATING PROTECTIVE FUNCTIONS OF XANTHOPHYLLS IN RETINOPATHIES
<b>Session:</b> Carotenoids in the Eye II	
<b>Scheduled for:</b> Friday, July 4	
<b>Authors:</b> Gong, X. Harrell, M.L. Mitchell, D.C. Sundin, O.H. Vachali, P. Gonzalez-Fernandez, F. Bernstein, P.S. Rubin, L.P.	
Rubin, Lewis <b>For a TBD</b>	"IT'S NOT ONLY AMD": RETINAL XANTHOPHYLLS IN PREVENTION AND TREATMENT OF RETINOPATHY OF PREMATURITY AND DIABETIC RETINOPATHY
<b>Session:</b>	
<b>Scheduled for:</b>	
<b>Authors:</b> Rubin, L.P.	
Rühl, Ralph <b>For a 15 minute talk</b>	BENEFICIAL EFFECTS OF LYCOPENE FOR ASTHMA ARE MEDIATED VIA ALTERED EICOSANOID / DOCOSANOIDS REGULATION IN ANIMAL ASTHMA MODELS
<b>Session:</b> Chronic Disease Prevention and Treatment II	
<b>Scheduled for:</b> Thursday, July 3	
<b>Authors:</b> Birta, E. Szklenar, M. Bohn, T. Bacsi, A. Rühl, R.	

## Abstracts for Scientific Program

Scholes, Greg <b>For a Plenary</b>	Ultrafast energy transfer and carotenoids in photosynthesis
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Scholes, G. D. Ostroumov, E. E.	
Sharifzadeh, Mohsen <b>For a Poster</b>	IMAGING OF MACULAR PIGMENT IN INFANTS AND CHILDREN
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Mohsen Sharifzadeh Paul S. Bernstein Werner Gellermann	
Sharoni, Yoav <b>For a 30 minute talk</b>	Mechanisms for the effects of carotenoids and their derivatives in cancer prevention and in bone health: the role of insulin-like growth factor and the NFkB transcription system.
<b>Session:</b> Chronic Disease Prevention and Treatment I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Yoav Sharoni Karin Linnewiel-Hermoni Othaila Waked-Adawi Joseph Levy	
Shindo, Kazutoshi <b>For a Poster</b>	NEW AND RARE CAROTENOIDS WITH CARBON 30 OR 40 SKELETONS, ISOLATED FROM MARINE BACTERIA AND THEIR ANTIOXIDANT ACTIVITIES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kazutoshi Shindo Norihiko Misawa	
Sliwka, Richard <b>For a Poster</b>	CAN CAROTENOIDS CONTRIBUTE TO GENE THERAPY?
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Hans-Richard Sliwka Vassilia Partali Christer. L. Øpstad, Emile Jubeli Michael D. Pungente	
Smith, Joshua <b>For a 15 minute talk</b>	SCREENING AND SELECTION OF HIGH LUTEIN AND ALPHA-TOCOPHEROL PRODUCING CARROT CELL CULTURE LINES FOR 13C ISOTOPIC LABELING AND IN VIVO BIOLOCALIZATION STUDIES
<b>Session:</b> Brain and Cognition	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Smith, J. W. Rogers, R. B. Rubakhin, S. S. Sweedler, J. V. Johnson, E. J. Neuringer, M. Kuchan, M. J. Erdman, J. W. Jr.	
Smith, Joshua <b>For a Poster</b>	FUNCTIONS OF CAROTENOID OXYGENASES: BEYOND CAROTENOID METABOLISM
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Smith, J. W. Ford, N. A. Clinton, S. K. Erdman, J. W. Jr.	
Socaciu, Carmen <b>For a 25 minute talk</b>	Nano- and micro-encapsulation of carotenoids: innovative technologies to improve stability and controlled release
<b>Session:</b> Food and Biotechnology I	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Socaciu, C. Pop, O. Sconta, Z. Pop, R.	
Sowmya, Poorigali <b>For a Poster</b>	CYTOTOXICITY AND ANTI-PROLIFERATION OF HELA CELLS BY CAROTENOIDS IS DEPEND ON SELECTIVE MODE OF DELIVERY VEHICLE
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Sowmya, P.R. Arathi, B. P. Vijay, K. Krishnamurthy, H. Baskaran, V. Lakshminarayana, R.	
Strzałka, Kazimierz <b>For a Poster</b>	DIADINOXANTHIN DE-EPOXIDASES OF TWO PHEODACYLUM TRICORNUTUM STRAINS: UTEX 646 AND CCAP 1055/1
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Kazimierz Strzałka Monika Bojko Monika Olchawa-Pajor Dariusz Latowski	
Taylor, Richard <b>For a 15 minute talk</b>	Regulatory Hurdles for Carotenoid Commercialization
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Taylor, R.F.	



## Abstracts for Scientific Program

Tripodo, Giusy <b>For a Poster</b>	BIOACCESSIBILITY OF PHYTOENE AND PHYTOFLUENE FROM ORANGES. EFFECT OF SQUEEZING AND DIETARY FAT
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Tripodo, G. Pumilia, G. Stinco, C.M. Vicario, I.M. Giuffrida, D. Dugo, P. Dugo, G.mo Melendez-Martinez A. J.	
Tripodo, Giusy <b>For a Poster</b>	STUDY OF THE CAROTENOIDS ESTERS IN DIVERSE CITRUS CULTIVARS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Tripodo, G. Giuffrida, D. Stinco, C.M. Dugo, P. Dugo, G.mo Vicario, I. M. Melendez-Martinez A. J.	
Tsuchida, Kozo <b>For a 30 minute talk</b>	THE MOLECULAR ANALYSIS OF TISSUE-SPECIFIC DELIVERY FOR CERTAIN CAROTENOIDS IN THE SILKWORM BOMBYX MORI
<b>Session:</b> Biosynthesis and Metabolism I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Kozo Tsuchida Takashi Sakudoh	
Uragami, Chiasa <b>For a Poster</b>	The Raman Spectroscopic Study on Siphonous Green Alga, <i>Codium intricatum</i> , Cultivated at Two Different Kinds of Light Condition
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Uragami, C. Galzerano, D. Gall, A. Shigematsu, Y. Meisterhans, M. Oka, N. Iha, M Fujii, R. Robert, B. Hashimoto, H.	
Vachali, Preejith <b>For a 15 minute talk</b>	SURFACE PLASMON RESONANCE (SPR)-BASED BIOSENSOR TECHNOLOGY FOR THE QUANTITATIVE CHARACTERIZATION OF PROTEIN-CAROTENOID INTERACTIONS.
<b>Session:</b> Carotenoid Metabolism and Function II	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Vachali, P.P. Li,B. Besch, B.M. Nelson, K. Bernstein, P.S.	
Vachali, Preejith <b>For a Poster</b>	RETINAL UPTAKE OF MACULAR PIGMENTS IN TRANSGENIC MOUSE MODELS.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Vachali, P.P. Li,B. Gorusupudi, A. Shen, Z. Besch, B.M. Nelson, K. Bernstein, P.S.	
Valmalette, Jean-Christophe <b>For a 30 minute talk</b>	A FIRST EVIDENCE OF CAPTURE OF LIGHT AND ATP SYNTHESIS BY INSECT
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis II	<b>Scheduled for:</b> Friday, July 4
<b>Authors:</b> Valmalette J. C. Dombrovsky A. Brat P. Mertz C. Capovilla M. Robichon A.	
Victoria, Claudia <b>For a Poster</b>	IN VITRO MICELLARIZATION OF FREE AND ESTERIFIED PIGMENTS FROM JALAPEÑO PEPPERS AT INTERMEDIATE RIPENING STAGES: THE EFFECT OF COMPLEX FOOD MATRICES
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Victoria-Campos, C. I. Ornelas-Paz, J. de J.	
Von Lintig, Johannes <b>For a 30 minute talk</b>	Symmetric versus eccentric cleavage of pro-vitamin A carotenoids in mammalian physiology
<b>Session:</b> Carotenoid Metabolism and Function I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> von Lintig, J. Palczewski, G. Widjaja-Adhi, N.A. Babino, D. Amengual, A.	
Von Oppen-Bezalel, Liki <b>For a Poster</b>	THE PHOTOPROTECTIVE AND SKIN LIGHTENING EFFECTS OF A FOOD SUPPLEMENT TOMATO POWDER RICH IN PHYTOENE AND PHYTOFLUENE, THE COLORLESS CAROTENOIDS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> von Oppen-Bezalel, L. Havas, F. Fishbein, D. Ben-Chitrit, O. Baron, A.	
Wang, Xiang-Dong <b>For a Plenary</b>	CAROTENOIDS AND CHRONIC DIESEASE PREVENTION VIA THE INTERACTION WITH SIRT1
<b>Session:</b> Chronic Disease Prevention and Treatment	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Wang, X.D.	

## Abstracts for Scientific Program

Wang, Xiang-Dong <b>For a Poster</b>	THE EFFECT OF LYCOPENE SUPPLEMENTATION ON TOBACCO CARCINOGEN INDUCED HEPATIC CYP2E1 EXPRESSION, STEATOHEPATITIS AND HEPATOCELLULAR CARCINOMAS IN FERRETS
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Wang, X.D. Aizawa, K Liu, C. Veeramachaneni, S Hu, K.Q. Smith, D.E.	
White, Wendy <b>For a Poster</b>	Soybean Oil in Salad Dressing and Bioavailability of Fat-soluble Micronutrients in Salads: a Dose-Response Study
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> White, W.S. Zhou, Y. Agustiana, A. Quadt, F. Dixon, P. Flendrig, L.	
Widjaja-Adhi, Ni Made Airanthi K. <b>For a 15 minute talk</b>	MOLECULAR COMPONENTS CONTROLLING CAROTENOID HOMEOSTASIS IN MAMMALS
<b>Session:</b> Carotenoid Metabolism and Function I	<b>Scheduled for:</b> Tuesday, July 1
<b>Authors:</b> Widjaja-Adhi, N.M.A.K. Lobo, G.P. von Lintig, J.	
Wijaya, Wahyu <b>For a Poster</b>	Stability of carotenoids in the crude extract of Rhodospseudomonas palustris
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Wijaya, W. Prasetyo, B. Limantara, L.	
Wuestenberg, Bettina <b>For a 30 minute talk</b>	Large Scale Production of Carotenoids
<b>Session:</b> Chemical Synthesis, Analysis, and Industrial Production II	<b>Scheduled for:</b> Wednesday, July 2
<b>Authors:</b> Wuestenberg, B Bonrath, W. Hitzfeld, A. Medlock, J. Mueller, T. Schaefer, C. Schierle, J.	
Wurtzel, Eleanore <b>For a Plenary</b>	ENGINEERING CAROTENIODS: A MULTI-DIMENSIONAL PUZZLE YET TO BE SOLVED.
<b>Session:</b> Biosynthesis and Metabolism	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> Eleanore T. Wurtzel Maria Shumskaya Jesús Beltrán Xiaoling Yao	
Yamano, Nami <b>For a Poster</b>	PHOTOSYNTHETIC PIGMENTS BOUND TO THE PIGMENT-PROTEIN COMPLEX IN ASTAXANTHIN PRODUCING LETTUCE
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Yamano N Fujii R Ifuku K Misawa N Hashimoto H	
Yamashita, Eiji <b>For a Poster</b>	BEAUTY SCIENCE BY ASTAXANTHIN INSIDE-OUT & OUTSIDE-IN TREATMENT.
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Yamashita, E Hongo, N Tominaga, K	
Yatsunami, Rie <b>For a Poster</b>	ANALYSIS OF THREE GENES FOR BACTERIORUBERIN BIOSYNTHESIS IN EXTREMELY HALOPHILIC ARCHAEON Haloarcula japonica
<b>Session:</b>	<b>Scheduled for:</b>
<b>Authors:</b> Yatsunami, R. Yang, Y. Ando, A. Miyoko, N. Takaichi, S. Nakamura, S	
Yoshizawa, Masayuki <b>For a 15 minute talk</b>	DYNAMICS IN LH1 COMPLEXES STUDIED BY REPUMP OF THE DARK EXCITED STATES OF CAROTENOID
<b>Session:</b> Photochemistry, Photophysics, and Photosynthesis I	<b>Scheduled for:</b> Monday, June 30
<b>Authors:</b> Sobue, K. Yoshimatsu, O. Abe, K. Sakai, S. Nango, M. Hashimoto, H. Yoshizawa, M.	
You, Hong <b>For a 15 minute talk</b>	Quantifying the Provitamin A Value of Beta-carotene-biofortified Sorghum
<b>Session:</b> Food and Biotechnology I	<b>Scheduled for:</b> Thursday, July 3
<b>Authors:</b> You, H. Zhang, Y. Zhao, Z-Y. Che, P. Albertsen, M.C. Glassman, K. White, W.S.	