

Beauty and Wellness at 360°

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Summary

Global beauty and wellbeing are obtainable with the use of appropriate cosmetics, combined with a healthy and balanced diet.

Beauty Inside Out is the leitmotiv that runs through the Meeting Wellness and Beauty Outside In: East & West Working Together Rome, 21-23 October, 2009

Riassunto

La bellezza globale si realizza attraverso l'uso di cosmetici appropriati da associare ad una corretta dieta e vivendo in un ambiente salubre.

La bellezza ottenuta dall'*interno* e dall'*esterno* è stato il motivo ricorrente del Congresso "Wellness and Beauty Outside In: East & West Working Together" tenutosi a Roma dal 21 al 23 ottobre 2009.

COSMECEUTICALS AND NUTRACEUTICALS

Cosmeceuticals and nutraceuticals are cosmetics and foods that can be formulated using natural or synthetic ingredients derived from mineral, animal or vegetable sources. Equally important are the studies conducted on these products that demonstrate their effectiveness and safety, especially in the sectors of cosmetics, special foods and food supplements, which unlike prescription drugs are consumed throughout ones lifespan. This particular problem was examined by *Lucio Andreassi*, director of the Dermatology Clinic of the University of Siena. He pointed out how natural ingredients of vegetable origin are often more effective than their synthetic counterparts. However much care has to go into the selection of the plants used for these ingredients, the extraction and standardization method to obtain a more strict quality control. (Fig.1).



Fig. 1 Prof. Lucio Andreassi - University of Siena.

Even the products of animal origin, as lanolin extracted from sheep's wool, use advanced extractive methods to obtain effective and safe materials. This was confirmed by *Carlo Gelmetti*, of the Institute of Dermatologic Science of the University of Milan, and *William Cannon* of the Croda UK. The lanolin currently on the market does not produce sensitivity (as

did the "golder" lanolins) if produced with modern methods, such as that used by Croda, the world's biggest producer (Fig.2).



Fig. 2 Prof Carlo Gelmetti from the University - of Milan confronting with Dr William Cannon from Croda of London.

The lanolin extracted from sheep's wool is very similar to human sebum excellent for its skin emulsifying and rehydration action. It's incomparable hydro-restoring property, which has been underestimated by a world in constant search of exotic novelties, continues to demonstrate surprising effects on skin conditions of the xerosis, psoriasis or atopic type, as well as for normal but dry and dehydrated skin. This subject was studied by Youan Hong Li and Xing-Hua Gao of the China Medical University of Shenyang (Fig 3).

Even silicon ingredients, indispensable for rendering cosmetics pleasing, are derivatives of silica, a microelement found throughout the human skin's supporting structure, according to Tony O'Lenick. But wellness, needed to better the quality of life can never be global without respect for the nature that surrounds us. This was discussed the first day of the World Meeting, organized by the International Society of Cosmetic Dermatology (ISCD) together with the Molecular Planning Department of CNR, Held in Rome in the austere setting of the CNR building.



Fig. 3 Prof. Xing-Hua Gao from the China Medical University of Shenyang.

The meeting began with an inaugural ceremony in the splendid hall of the Protomoteca of the Campidoglio in the presence of the two Meeting Presidents, Hong-Duo Chen Immune-dermatologist of China Medical University, representing the Orient and Rodolfo Paoletti, Rector of the University of Lugano, for the West, together with Pierfrancesco Morganti, organizer and President of the International Society of Cosmetic Dermatology, and the Event's promoter. Also present at the ceremony were the Vice Presidents of UNIPRO, Fabio Rossello, and of FEDERSALUS, Marco Fiorani and the Past President of SICC Elio Mignini, together with Adolfo Panfili, representing the Mayor of Rome (Fig. 4-6).



Fig. 4 The Meeting's Inaugural Ceremony. From right: M. Fiorani, P. Morganti A. Panfili, H.D. Chen, R. Paoletti, F. Rossello and E. Mignini.



Fig. 5 Campitulum Square.



Fig. 6 Particular view of the Protomoteca (hall in Campitulum).

A healthy environment, and a correct diet associated with care for one's body using cosmetics carefully formulated and tested for their effectiveness and lack of side effects, were the themes treated by the experts from various cultures during the three day meeting.

The nations representing the West were Portugal, France, Germany, Austria, Switzerland, Great Britain, Poland and Norway besides Italy together with the United States of America and Israel, and for the Orient were China, Japan and Indonesia. The representatives of the two cultures confronted each other on various subjects finding themselves in agreement on the importance of living in an environment close to nature and using *natural* foods. The doctors of ancient China have always pro-

fessed the strict relationship between diet and health. The doctor had the difficult job of accurately choosing the best foods for every individual, according to the ailment from which they were suffering. Food was considered so important that each food was considered for its therapeutic properties, pharmacologically tested, together with all the other elements of animal, vegetable and mineral origin that had known medicinal properties. Infact, in the famous ancient text of Nei Jing (2698-2598 B.C.) one can read: *Take five cereals as base nutrients, five fruits in addition, the five meats to invigorate, and the five vegetables as supplements and mix together the flavors (the Qi and the Wei) of the diet: this mixture is what benefits the mind and body.* Even today the Tao harmony is still an integral part of Chinese cooking which remains healthy , mainly thanks to this food philosophy. After these remarks by *Hong-Duo Chen*, the discussion between the speakers and the audience focused on the existing similarities between oriental cuisine, influenced fundamentally by ancient Chinese traditions, and Mediterranean cooking as represented by the food pyramid. (Fig7).

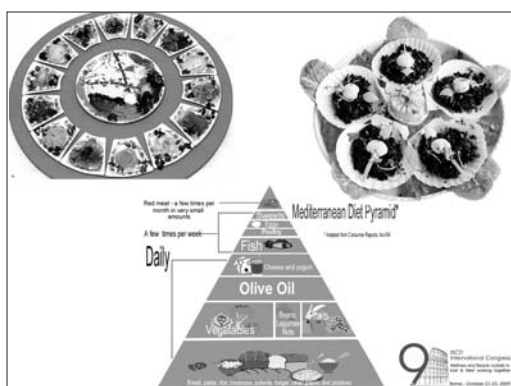


Fig. 7 Table set up with (from right) an Italian Dish and a Chinese one, together with the Food Pyramide.

Considering the importance food exerts on the quality of life, one has to agree with the words

of Sun Simiao from the IV century B.C.: *a good doctor first finds the cause of the illness, and after finding it, tries first to cure it with food, if the food doesn't give results then he prescribes medicine, because whatever helps the body can be considered medicine and at the same time nourishment.*

Relevant still today both in the East and West is the ancient Roman adage *mens sana in corpore sano* (a healthy mind in a healthy body). To reach this objective a healthy environment is of utmost importance, as are the products we eat and use to treat our bodies.

INNOVATION AND CULTURE

Innovation and culture, indispensable for sound progress, represent the basis of a Sustainable Chemistry which is ever more veering towards the Green Economy. This was the thesis of the Meeting's inaugural lecture.

Sustainable Chemistry

Chemical products considered sustainable certainly represent the biggest challenge launched by European industry for the near future. In fact, the production of these ingredients, though maintaining a competitive edge on the international scene even price wise, should contribute to saving natural resources while safeguarding the environment and man's health. This is the aim of Sustainable Chemistry as well as the REACH regulation of the European Union Parliament and Council. Through this new directive which will control all chemical substances produced over and above 1 ton, the EU can help protect and safeguard it's citizen's health as well as the environment. At the same time improving its own productive performance, thereby maintaining its highly competitive world leadership and forcing other producers to use similar production standards.

In this difficult and burdensome process of industrial readjustment it's necessary that even the governments of the EU Member States contribute to the industrial evolution determining resources and support to University and industrial research capable of innovating and adapting to the green economy principles. The EU in fact, with its solid cultural foundation and its production capability could surely drag world technology towards the development of biological and eco-sustainable chemical products. This was discussed by *Amilcare Collina*, responsible for scientific relations of Mapei and *Giordano Zappelli* of Solvay Italiana (Fig.8). This is the road that is being followed even to produce food, which must keep us healthy and promote wellness while being safe to eat.



Fig. 8 Prof. Amilcare Collina from Mapei SpA and Engineer Giordano Zappelli of Solvay Italia during their presentations.

THE MARINE WORLD A MINE OF INNOVATIVE INGREDIENTS

Patrizia Perego, of the department of Industrial Chemical Engineering of the University G.B. Bonino of Genoa, reported that the micro algae, of high nutritional content, could resolve world hunger, as well as eliminate excessive CO₂ in

the air, not to mention their use to produce bio-fuel. Many food supplements contain algae extracts rich in antioxidants and essential amino acids, that have been shown to reduce hyperglycemia and hyperlipidemia, as well as inflammation (fig.9).



Fig. 9 Prof. Patrizia Perego from the University of Genoa showing interesting data on the use of Algae.

There are many other ingredients of vegetable and animal origin from the sea with properties that can improve our quality of life. *Maria Letizia Ciavatta* of the Institute of Biomolecular Chemistry of the CNR of Pozzuoli, presented newly discovered molecules presently in use both in the pharmaceutical and cosmetic fields (Fig.10).

A peptide isolated from tropical sea microorganisms has been approved as a useful drug to alleviate chronic pain, while another one has been employed in the treatment of soft tissue sarcomas. Various other sea derivatives are presently being studied for the treatment of various tumors.

Much interest has risen in the cosmetic field about certain propionates with tissues regenerating properties, that are also being used as new generation sun blockers.



Fig. 10 Prof. Maria Letizia Ciavatta illustrates the numerous sea organisms from which new and interesting active ingredients can be derived..

The vegetable kingdom

Many active ingredients come from tropical forests as was reported by *Retno Tranggono* of the Ristra Laboratories of Giacarta, Indonesia, but many others are derived from Mediterranean plants (Fig.11). For example, lutein has shown an interesting photoprotective property towards skin as well as the mucosae of the eye, as reported by *Cecilia Anselmi*, of the Department of Pharmaceutical Chemistry of the University of Siena and *Samanta Maci* of the Kemin Health Europe, Lisbon, Portugal.



Fig. 11 Retno Tranggono from Indonesia speaking.

The role cosmetics play in global wellness

A healthy diet must always be accompanied by attentive body care through the use of cosmetic products with well demonstrated effectiveness. The effectiveness of a cosmetic product is tied not only to its active ingredients but also to the carrier employed that guarantees its bioavailability. There are already valid protocols *in vitro* and *in vivo*, to evaluate the efficacy and safety of cosmetics, as reported by Jacek Arct, of the Academy of Cosmetic Science, University of Warsaw (Fig.12).



Fig. 12 Prof. Jacek Arct eminent Polish Chemist.

If it's true that cosmetics play a decisive role in the upkeep of our skin's physiology, it's just as true that they must be applied to the skin with continuity and by expert hands. This is where the Spas come into play, as they are specialized in body care, with particular emphasis given to diet, physical activity and cosmetics. *Barbara Scorza* highlighted how the various Spas, attached to the ATA hotel chain, claim their aim to be the stimulation of mind and body to prevent skin aging caused by sun exposure and stress (Fig.13).



Fig. 13 Barbara Scorza of the ATA hotel chain describes the organization of their SPAs.

Culture at the basis of progress

In order to formulate and produce safe and effective cosmetics industrially, it's necessary to possess a wide cultural foundation to complete the notions received at University. Therefore the importance of post graduate education was highlighted by *Elio Mignini*, Past-President of SICC, which would allow recent graduates to acquire the in-depth knowledge of chemical-physics, biology, physiology, pharmacology and toxicology necessary to become good cosmetologists, integrated with the indispensable economic and marketing notions. For this the SICC has created the so-called cosmetic *itineraries* with the objective to enhance the culture of those who want to work in the difficult field of cosmetic chemistry (Fig.14).



Fig. 14 "Itinerari Cosmetici" of SICC being presented by the Past President Elio Mignini.

Innovation and Intellectual Properties

To increase knowledge it's necessary not only to invest in education, but also in the innovation of products and production methods. Industrial investments need adequate protection for intellectual properties that arise from research projects done. This calls into play the patent office.

Even if in Italy is not very prevalent, the patent office is extremely important because, apart from it's great limits, it spurs the growth of knowledge and technologic progress. It stimulates inventions especially in the fields of Medicine, Pharmacology, Nutrition and Health in general, guaranteeing the inventor as well as the company a return on the expenses incurred and a reward of profits for a relatively long period of time. Along with the patent, even the logo registration protects the company main interest: the protection of its image.

During a round table, dedicated to the protection of Intellectual Property, all these generally neglected topics were discussed. The session was opened by *Adriana Morganti*, specialized in the Intellectual Property sector of the Max Planck Institute of Munich, and by *Andrea Klein* of the roman Italian Patent office (*Società Italiana Brevetti*). They evidenced how a Logo should be easily recognizable if legal protection is desired. An indubitable recognizability can be obtained by the particular use of one or more colors &/or of personalized graphic design that gives originality to the logo itself, in case of legal controversy. Both the patent as well as the logo are of utmost importance not only to defend one's own intellectual property, but also to increment business. (Fig. 15).



Fig. 15 Lawyer Adriana Morganti and Dr. Andrea Klein during their presentation.

In fact Patents are indispensable for underlining a products qualities that derive from a particular productive process or for a particular image of the logo or type of packaging whose colors or graphics are important. This was also confirmed by *Stefano Borrini* and *Gabriella Rubino* of the Italian Patent Society of Rome. The session was closed by *Pier Luigi Roncaglia* (presented by *Diletta Binda*) whose talk centered on the legal strategies to adopt in case of counterfeiting. Counterfeiting in fact represents a substantial problem of our times, for which solutions are being sought, such as the use of electronically detectable logos. However the circulation in international markets of counterfeited goods represent a notable economical damage for many European and American companies who defend themselves with great difficulty and expense.

The importance of a correct diet

Choosing only foods of high quality is the policy of the Agriculture Commission of the Lazio region for the international promotion of their territory's typical products. In fact Lazio has wines and typical food dishes that go back to ancient Rome. This was reported by *Julio Soma* of the ARSIAL and *Marina Rabagliati*, director

of the food promotion office of the Agriculture Commissioner of the Lazio Region.

Special events

The three-day Meeting dedicated mainly to the relationship between environment, products and wellness was also characterized by special events.



Fig. 16 Coffee break offered by Caffè Morganti.

At the coffee breaks there was a typically Italian espresso coffee from Caffè Morganti (Fig.16) defined as designer coffee for its original aroma and taste. The cities of Veroli and Aprilia offered brunch of typical foods from their areas allowing all the participants to appreciate the particular flavors of Veroli's ancient land and of Aprilia's more modern cultivations, and to learn about their respective histories. The Mayor of Veroli, *Giuseppe D'Onorio*, with his Agricultural Commissioner *Simone Cretaro*, put up an area featuring special salamis, cheeses, breads, extra-virgin olive oil and various deserts, along with booklets on the city's history. Veroli is a pre-Roman city, who allied with the first settlers of ancient Roman and fought with them against the Latins and the Etruscans, Rome's first enemies. The mayor of Aprilia *Domenico*

D'Alessio, participated personally in the events together with his Commissioner *Massimo Troiani*, exchanging ideas with Hong-Duo Chen (Fig. 17,18).



Fig. 17 Typical foods and culture based on the ancient Veroli civilization.



Fig. 18 From the right: Professors P. Morganti and H.D. Chen with Dr. D'Alessio Mayor of Aprilia, an area famous for its production of wines , cheese and kiwis.

To crown the numerous scientific talks given that are viewable on the ISCD site (www.iscd.it), two important entertaining and cultural events were organized; a tour of the splendid Capitoline Museum generously offered by Solvay Italia, and a cocktail party at the Colonne Room of the Italian parliament organized by the Agricultural Commission of the Lazio region together with Arsiat, its operation branch (Fig 19,20).

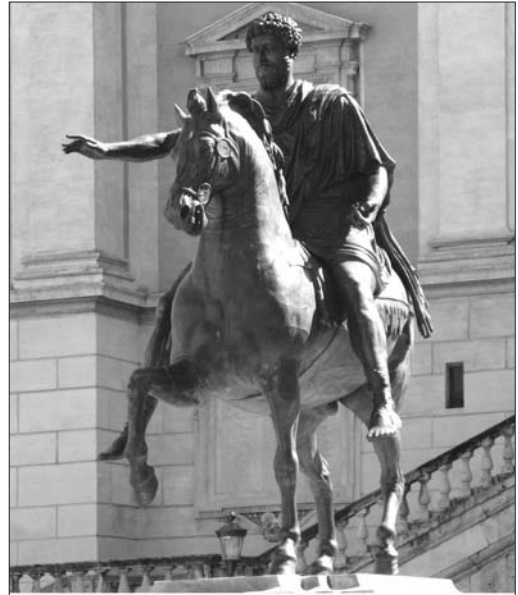


Fig. 19 Marco Aurelio and the capitoline wolf, symbols of Roma.



Fig. 20 Closing Ceremony in the Sala delle Colonne of the Italian Parlamento.

All the cultural and gastronomical events interspersed between the numerous scientific talks presented in this 9° International Meeting of the ISCD, wished to affirm the impossibility of improving the quality of life without adequate culture and correct diet. On the other hand the continuing progress of science and the resulting industrial production, can be considered true *progress* only if it's at the service of man and safeguards his environment.

This is another clear message that along with the NICE concept that characterizes innovative cosmetics of recent generation, reflects the intentions and the novelties presented in this important multidisciplinary Meeting (Fig.21).



Fig. 21 The NICE concept through the use of a new family of cosmetics.

Beauty at 360°

Cosmetic products join the beauty of our appearance to the healthy aspects of our body, contributing to our general well-being through the

joint intervention of our Nervous, Immune, Cutaneous and Endocrine Systems referred to as NICE. These are the conclusions of the studies conducted on cosmetics of recent generation presented at this Meeting by researchers *Junichi Hosoi* of the Shiseido research center, Japan, (Fig.22) *Paul Matts* of the P&G USA, *Karl Lintner* of the Sederma & *Veronique Fabien-Soulè* of Rousselot, both French companies.



Fig. 22 Junichi Hosoi from Shiseido: explaining the NICE concept and showing the results of his work.

What's happening in Italy?

The few Italian companies involved in studying the products relating to NICE were all present at this Meeting. The leading producers of raw materials of vegetable origin the INDENA of Milan highlighted the activity of the active ingredients contained in Chinese pepper from the Sichuan region. Some ingredients of this plant are able to reduce skin itching through the induction of neuro-transmitted messages, as was reported by *Christian Artaria* (Fig.23).



Fig. 23 Dr. Christian Artaria from Indena.

In the cosmetic department of MAVI Sud, various studies *in vitro* and *in vivo* demonstrated how some of its products of the Chromarom line, based on natural aromas and colors as well as the use of chitin nanofibrils, are able to interact with the messages exchanged between skin and keratinocytes and fibroblasts, due to the action of this natural polyglucoside. In fact, as the skin protects against the environment, it generates stimuli transmitted to the nervous system by way of mediators generated from keratinocytes.

On the other hand the continuous proliferation-migration of keratinocytes is controlled by specific growth factors and by messages coming from the *dermis* through the dermo-epidermic membrane. Data on this topic were presented by Francesco Carezzi, R&D of MAVI Sud and confirmed by Marco Palombo, CTO hospital of Rome, who related how chitin nanofibrils, in specific emulsions, can improve and accelerate skin regeneration phenomena by *laser resurfacing* treatments using pulsating light (Palomar) (Fig.24,25).

Relationship between NICE and diet?

Certainly present and needing further indepth

study are the connections that the NICE system can initiate through the use of food supplements appropriately formulated, as was affirmed by *Marco de Angelis*, of the University of Aquila. Also interesting was the talk presented by *Gian Luca Bertoja*, of the Italian Health Ministry, who demonstrated how Amarone wine (Tenuta S. Antonio of Verona) has NICE-like activity, through systemic mechanisms related also to taste and smell papilla present in nose and mouth mucosae (Fig.26).



Fig. 24 Dr. Francesco Carezzi from MAVI presenting the numerous data on the chitin nanofibrils' activity in line with the NICE concept.



Fig. 25 Plastic Surgeons Paolo and Marco Palombo describing their research on laser resurfacing.



Fig. 26 Prof. Gianluca Bertoja from the Italian Health Ministry demonstrates the effectiveness of NICE through the use of Amarone of the Tenuta S. Antonio, used topically and systemically.

NICE: the cultural bridge between East and West

The Meeting aimed to point out the easiest path for improving the quality of life. The two main philosophies were presented and confronted, the Western based fundamentally on the belief in molecular biology and the Eastern which considers man a complex biosensorial entity that follows the natural path of events in complete dependency on the universe. Studies undertaken with the new NICE system seem to point toward future progress based on holistic-biological studies capable of a harmonious union between the two cultures.

These are the conclusions that were reached after three intense days of the highest level of scientific presentations.

The success obtained was certainly flattering thanks to the numerous and innovative talks presented by experts from different parts of the world, followed always by ample debates demonstrating the profound interest roused in all the participants.

Sincere thanks go to all the speakers from the

University and Industrial world that made this Meeting possible; also thanks to the generous contributions of the principal sponsors among which we would like to list in alphabetical order Herbalife, Indena, Kemin Health Europe, MAVI Sud, Palomar-Technolux Italy, P&G, Rousselot SAS, Sederma, SIIT Manufacturing, Solvay Chimica Italia, Unipro, Wella Professionals.

Particular thanks go also to the Agricultural Commissioner of the Lazio region who together with the cities of Aprilia and Veroli, the Tenuta S. Antonio of Verona and the Caffè d'Autore Morganti of Rome, allowed all the participants to taste their culinary specialties contributing to the general well-being and to the promotion of the culinary world of the Lazio region.

Lastly we wish to thank the Italian Senate and Parliament as well as the Ministries of The Environment, Territorial Protection, Internal Affairs, Labor Social Affairs and Health, UCID (Catholic Union of Italian Entrepreneurs) and Academy of Historical Medicine, for giving their Auspices to this international congress, and the President of the Italian Republic for their best wishes for a successful meeting.