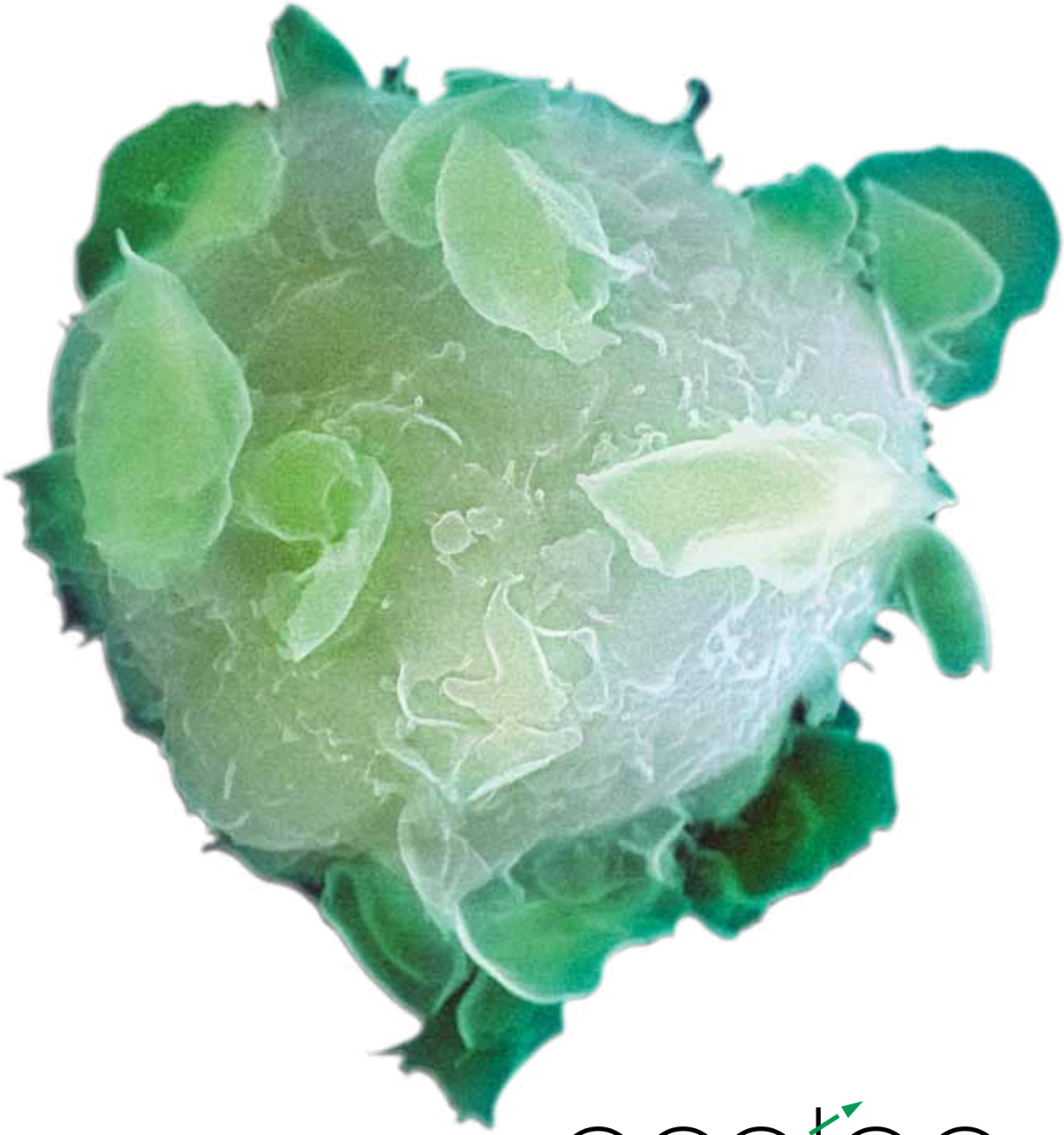

ecetoc

EUROPEAN CENTRE FOR ECOTOXICOLOGY
AND TOXICOLOGY OF CHEMICALS

ANNUAL REPORT 2008

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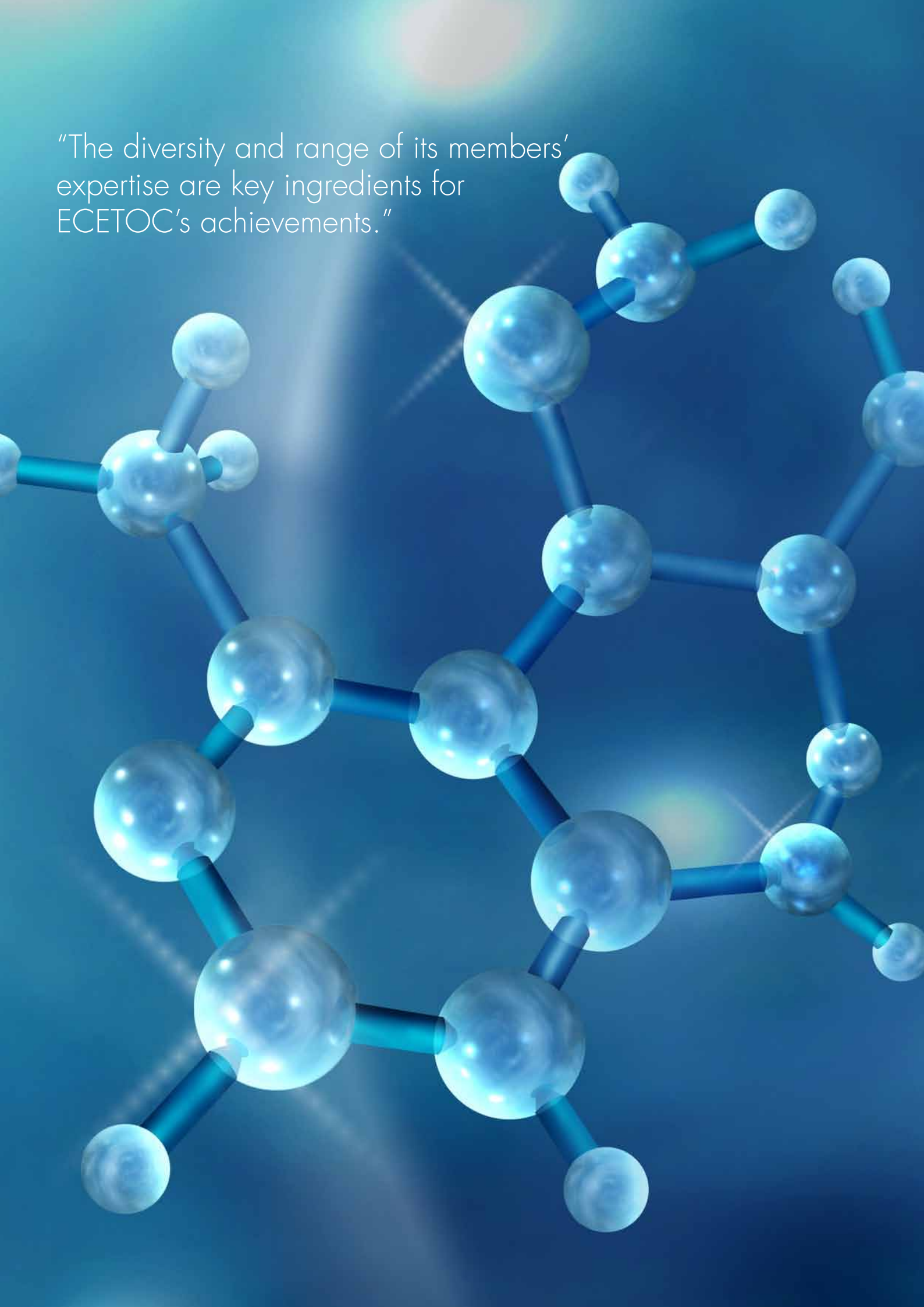
Cover Photo:

Stem cell, coloured scanning electron micrograph (SEM). Stem cells can differentiate into any other cell type. There are three main types of mammalian stem cell: embryonic stem cells, derived from blastocysts; adult stem cells, which are found in some adult tissues; and cord blood stem cells, which are found in the umbilical cord. The cell seen here is destined to become a blood cell. During blood cell development in adults, stem cells develop through a process known as haemopoiesis. Blood cells have short lifespans and are therefore constantly produced by the bone marrow.

"The diversity and range of its members' expertise are key ingredients for ECETOC's achievements."



INTRODUCING ECETOC

ECETOC was established in 1978 as a scientific, non-profit making, non-commercial association and currently counts 49* of the leading companies with interests in the manufacture and use of chemicals as its members. An independent organisation, it was established to provide a scientific forum through which the extensive specialist expertise of manufacturers and users could be harnessed to review, assess and publish studies on the ecotoxicology and toxicology of chemicals.

The Association's main objective is to identify, evaluate and through such knowledge help industry to minimise any potentially adverse effects on health and the environment that may arise from the manufacture and use of chemicals. To achieve this, ECETOC facilitates the networking of suitably qualified scientists from its member companies and co-operates in a scientific context with intergovernmental agencies, health authorities and professional institutions.

ECETOC is governed by a Board of Administration comprising up to twelve senior executives from member companies. The Board is responsible for the overall policy and finance of the organisation and appoints the members of the Scientific Committee which defines, manages and peer reviews the ECETOC work programme.

The outputs of its work programme are manifested as published reports, papers and specialised workshops. ECETOC also acts as a scientific representative for manufacturers and users of chemicals via presentations at specialist fora and takes a scientific role in the activities of international organisations and regulatory groups.

Vision

To be the leading European health and environmental science organisation addressing the safe manufacture, supply and use of chemicals, biomaterials and pharmaceuticals.

Mission

To use scientific evidence and expert judgement to ensure robust human and environmental risk assessment of chemicals, biomaterials and pharmaceuticals.

Approach

ECETOC pursues its vision and mission according to a 5-10 year issues-based strategy that was launched in 2007. The strategy is broken down into thirteen strategic science areas (see chapter entitled 2008 Science Programme), grouped according to five subjects:

- Presence of chemicals in humans
- Presence of chemicals in the environment
- Effects in humans and ecosystems
- Methods
- Science of risk assesment

* as of 1 January 2009

ECETOC MEMBER COMPANIES:

AT THE START OF 2009, ECETOC MEMBERSHIP COMPRISED THE FOLLOWING 49 COMPANIES:

3M
AKZO NOBEL
ALBEMARLE*
ARKEMA
AstraZeneca
BASF The Chemical Company
Bayer
BOREALIS
bp
Ciba
Clariant
Coca-Cola
COLGATE-PALMOLIVE
EVONIK INDUSTRIES | degussa.
DOW CORNING
Dow Living. Improved daily.
DSM
DUPONT The miracles of science
ExxonMobil
Roche
Givaudan
Henkel
Honeywell
HUNTSMAN Enriching lives through innovation
INEOS
IFF International Flavors & Fragrances Inc.
L'ORÉAL
Lucite International Going further
MERCK
nanogate*
Nestlé
NOVARTIS
NYCOMED
CEPSA*
POLIMERI EUROPA
P&G
RECKITT BENCKISER
REPSOL
Rhodia
ROHM AND HAAS
sasol
SC Johnson
Shell Chemicals
SOLVAY
StatoilHydro
syngenta
TOTAL
Unilever
WACKER

* = Associate member companies

MEMBERSHIP BENEFITS

Manufacturers and users of chemicals can become either a Full or Associate Member of ECETOC according to the proportion of their turnover derived from chemicals, (see www.ecetoc.org/membership). Membership of ECETOC demonstrates the practical commitment of a company to the principles of Responsible Care® via their active scientific and technical contribution to initiatives supporting the safe manufacture and use of chemicals, pharmaceuticals and biomaterials through sound science.

The diversity and range of its members' expertise are key ingredients for ECETOC's achievements in the pursuit of this objective. ECETOC's success depends on member company employees being able to dedicate their time to furthering projects within the framework of an ECETOC task force or workshop organising committee.

In so doing, member company employees benefit from access to a high quality network of scientific expertise and ECETOC is able to leverage this pool of knowledge in order to represent and promote the European chemical industry's science in its relationships with European and international institutions.

ECETOC member companies benefit from being in a position to influence its scientific agenda. They can propose subjects to be tackled by the work programme and can have a representative on the Scientific Committee.

In addition, any member company employee can request a login to the ECETOC members' site: http://members.ecetoc.org where they can download any ECETOC report and stay informed about progress of the work programme.

All ECETOC member companies receive complimentary printed copies of each new ECETOC report and are entitled to request additional printed versions as and when needed.

MESSAGE FROM THE CHAIRMAN

SAILING A STURDY SHIP THROUGH ROCKY WATERS

On introducing last year's report for ECETOC, I referred to impending storms in the context of REACH. At that time, very few observers anticipated the much larger storm hiding just below the horizon. Now this storm, which started in the financial markets, has broadened and deepened to cover the entire industrial landscape. Compared to some sectors, the chemical industry was in the beginning less impacted.

However, as demand for products everywhere in the downstream manufacturing processes slackens, the consequences have also been felt in the chemical industry. Of course the ECETOC definition of 'chemical industry' is wide, encompassing many sectors which are impacted in varying degrees, but all companies are feeling the pinch. The effects of their rigorous tightening of budgets have already been felt at ECETOC. Some companies are restricting travel to meetings; others have gone further and cancelled their membership.

The current view is that things will get worse before they get better. Companies will, of course, keep a tight rein on costs during these times. But hopefully this will not impinge too much on ECETOC's ability to make progress with its work in hand or new projects.

High productivity in spite of the environment

Despite the inauspicious business environment a lot was achieved by ECETOC in 2008: task forces continued to produce reports for the JACC series as well as documents on testing methods for reproduction and sensitisation. A record number of workshops were held on a variety of topics from genetic toxicology, through marine risk assessment to socio-economic analysis. ECETOC sessions again were feature of the programmes of the European Environmental Mutagen Society (EEMS) and Eurotox annual meetings.

Valued by regulators

The productivity of ECETOC in 2008 remained high and the output, highly valued. An indication of this value is the recognition it receives from outside bodies and the meetings and committees to which it is invited. ECETOC has been asked to nominate representatives to two key committees which will be intimately involved in the operation of REACH. These committees: the Member State Committee (MSC) and the Risk Assessment Committee (RAC) will be the two bodies consulted by ECHA (European Chemicals Agency) in the application of the REACH legislation.

ECETOC is the unique voice in Europe to communicate the expertise of industry's health and environmental scientists to European Institutions. Often we are there in a leadership role, sometimes in a consultative role and sometimes only as observers. In all cases, we are there to represent the consensus views of member company scientists. So long as our input continues to be based on the strong scientific expertise provided by member companies, we can expect to maintain this recognition.

Making sure every member's voice is heard

These activities are as important in bad times as in good times. The companies which are most heavily involved in supporting ECETOC activities recognise this fact. Scientists who are at ECETOC workshops are not in the office writing dossiers on company products. However, when looking at what they have achieved, I believe a good deal of satisfaction and benefit should

be reaped from their ECETOC work. I would like to use this opportunity to encourage member companies who have not participated so frequently in the past, to review their approach and allocation of resources to ensure that they have their voice heard in task forces and workshops and to benefit from this work.

Involving younger talent

Looking to the future with more optimistic eyes, we should consider the younger talent in our companies. In last year's address to the Annual General Meeting, I announced that an event would be organised specifically for younger scientists. The 2009 Annual Technical Meeting will be that event: Scientists in the early stages of their scientific careers will have the opportunity to present their work to an audience of their peers and more experienced scientists.

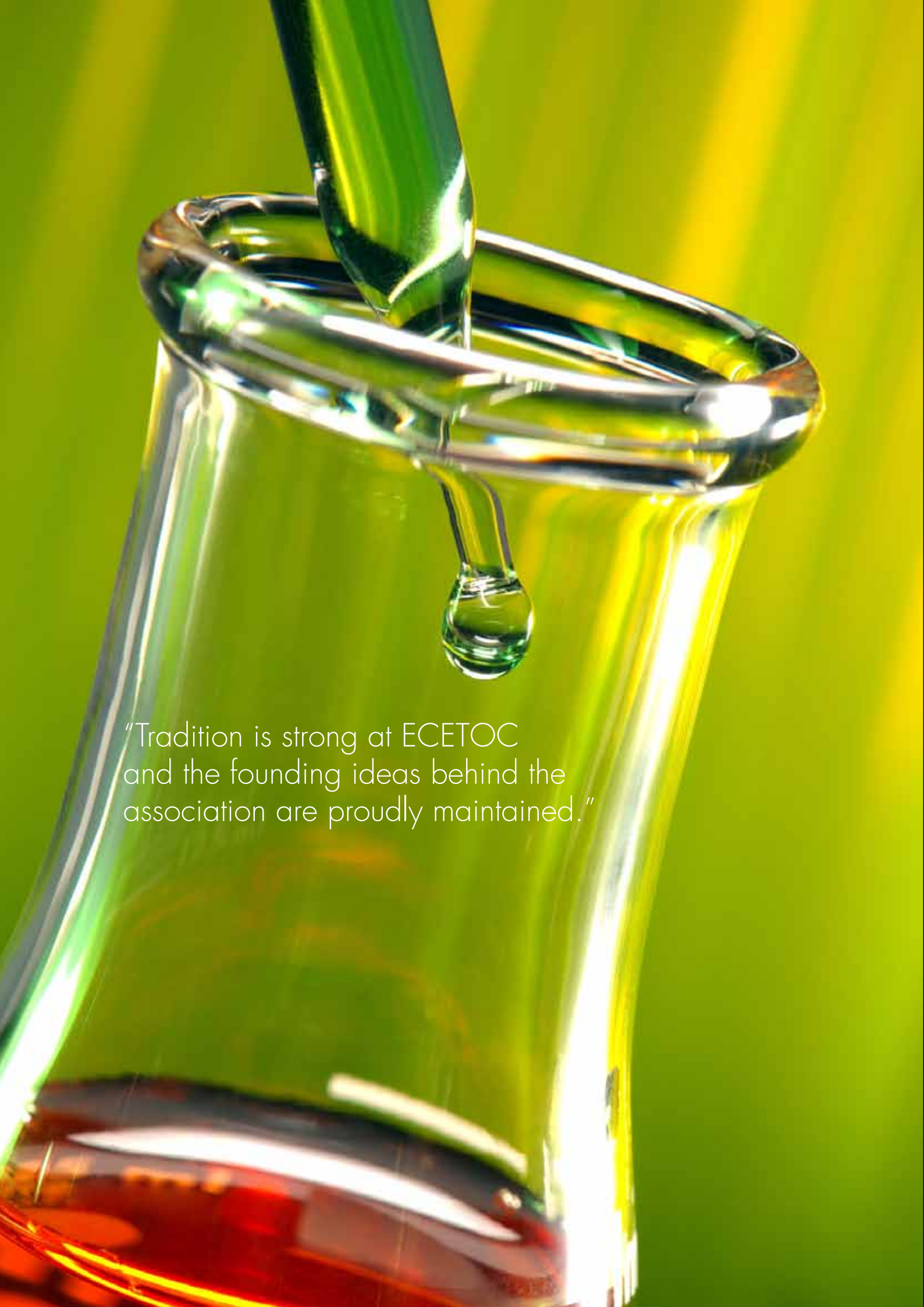
There will be further opportunities for young scientists to participate in ECETOC activities throughout the year since 2009 is planned to break records again with numbers of members' workshops and the scope of the subjects covered. In the environment area in particular, a full programme is starting just now with several new task forces underway. It seems that the enthusiasm and willingness of company scientists involved in our scientific committee and task forces remains undiminished.

A farewell word

Finally, I would like to add a personal note. This will be my last contribution to an Annual Report as I shall be retiring from the Board of ECETOC at the 2009 Annual General Meeting. I retired from my company last year but remained as Chairman at ECETOC to allow a smooth transition. I am sure that my successor will enjoy the encouragement and support which I have received and which has made this role so rewarding, and I thank you very much for your continuous support throughout the years.

In the end, organisations like ECETOC depend not only on money and competence, they also require goodwill and personal involvement from all of the contributors who give their time to make it work. I have enjoyed my involvement with ECETOC throughout the years and I wish all of you: member companies, board, secretariat and interested observers, all possible success in the future.

Jochen Rudolph
Chairman of the Board of Administration


"Tradition is strong at ECETOC
and the founding ideas behind the
association are proudly maintained."

ECETOC BOARD OF ADMINISTRATION

The Board of Administration is empowered by the Annual General Meeting with the management and administration of ECETOC and delegates these tasks on a daily basis to its Secretary General.

The Board is composed of at least six Members representatives. Since the start of 2006, two further Members are entitled to represent the Associate members A category and the Associate members B category respectively.

Members may propose candidates for the Board; these candidates must have managerial duties within their company and possess scientific and technical experience.

ECETOC Board Members as of end December 2008

Jochen Rudolph, Evonik Degussa, *Chairman*

Martin Kayser, BASF, *Treasurer*

Hans Bender, Procter & Gamble

Julia Fentem, Unilever

Mireille Quirina, DuPont de Nemours

Steve Rumford, AstraZeneca

On the occasion of the 2008 Annual General Meeting, ECETOC delegates accepted the resignations of Charles Murray of Procter & Gamble and David Gartside of AstraZeneca from the Board due to their retirement from their respective companies. Proposed new board members: Hans Bender of Procter & Gamble, Julia Fentem of Unilever and Steve Rumford of AstraZeneca were endorsed.

REPORT FROM THE SECRETARY GENERAL

1978-2008: 30 years of ECETOC

ECETOC celebrated its 30th anniversary this year. In these times of austerity, there was no extravagant celebration, instead, we commemorated the occasion by combining our December Scientific Committee meeting, Christmas dinner and 30th birthday party in one small event. On this occasion, the Scientific Committee Chairman gave a short speech on the history of the organisation which led to some reflections on my part:

The first ECETOC Monograph appeared in October 1979 and ran to twenty pages; the subject was GLP. There were 40 member companies listed in the membership at that time and of that original founding group, nearly half have now disappeared. Mergers, acquisitions and company break-ups have been responsible for most of this. These days, we are slightly larger, with around 50 members; nevertheless, the process of industry consolidation continues and our membership is constantly changing.

Tradition is strong at ECETOC and the founding ideas behind the association are proudly maintained. These days our product is still good science in the form of documents, journal publications and workshops. Between 1978 and 2008, we published 104 Technical Reports, 37 Monographs, 54 JACC Reports and 46 Documents. In addition, we published various other types of documents and workshop reports, not to mention journal articles in the open literature. Our 2007 JACC Report No. 53 on Cyanides of Hydrogen, Sodium and Potassium, and Acetone Cyanohydrin ran to two volumes and over 500 pages.

The Chairman of the Scientific Committee Dr John Doe, has seniority over me by virtue of being Chairman of the task force responsible for Technical Report No. 4 on Glycol Ethers that was published in 1982. Involvement in the task force that prepared Monograph No. 6 was my first exposure to ECETOC, 25 years ago. I was on the task force entitled 'Acute Toxicity tests, LD_{50} determinations and alternatives.' The subject of 'alternative methods' is still as topical now as it was then and ECETOC is still heavily involved in the issue. Our Document No. 45, published in 2008, deals with an alternative approach to reproductive toxicity testing by a flexible protocol using only as many animals as would be triggered by 'alerting criteria.' Incidentally our 1983 Monograph No. 5 was called 'Identification and assessment of effects of chemicals on reproduction and development'- some topics are clearly perennial.

Increasing emphasis on dialogue via workshops

The work of ECETOC has always been appreciated by its member companies. Over the years, as its reputation has grown, its work has become more widely accepted and its role as a key stakeholder in public affairs, more established. This reputation has been as beneficial for member companies as for regulators by providing the possibility for industry/regulator dialogue on science issues relating to safe use and risk assessment of chemicals.

The forging of these relationships has translated into many of the events of 2008. We held a record number of workshops with participation of colleagues from both the academic and regulatory community. In some cases these meetings were organised in partnership with other organisations (HESI, ECVAM, Cefic etc). This format seems to be increasingly popular for subjects amenable to an intensive discussion and scientific consensus building. Similarly, we have built on partnerships with organisations like Eurotox and the European Environmental Mutagen Society (EEMS) to organise ECETOC sessions at their annual meetings.

Using technology to increase our reach

The 'green-backed' reports remain a key product of ECETOC and the workshops have also resulted in the publication of ECETOC branded reports. At the end of 2007, all ECETOC reports became electronically available free of charge as downloadable PDF files. In the

summer of 2008, as a feature of the new public website, we introduced a system to register before downloading these documents. In the last six months of the year about 500 users registered to download our documents. It seems likely that the trend to electronic reporting is now well established and brings significant efficiency benefits as well as cost savings.

Increased diversity of topics

Topics covered last year were more diverse than in the early days of ECETOC. Task forces and workshops spanned a wide range of subjects including reproductive toxicity, biomarkers, probabilistic risk assessment, nanoparticle toxicology and socio-economic analysis. At the same time, we continued working on traditional activities, assembling the state of the science concerning single chemicals and groups. Several JACC reports were issued completing the recent series of JACC updates on HFCs.

Overall, ECETOC has evolved in the range of its activities in 30 years and now uses different technologies and formats than in the early years. It is, nevertheless, still recognisably the same organisation. Its core values and the reasons it was formed are still as valid today as in 1978. The scientific expertise of our member companies is still at the heart of everything we do and a rigorous and critical approach is still our method. That will not change in the future.

Dr. Neil Carmichael
Secretary General

SCIENCE PROGRAMME

Foreword from the Scientific Committee Chairman

So REACH has finally arrived, and with it the founding of the European Chemical Agency (ECHA). It is probably the single piece of legislation which has had the greatest impact on ECETOC's work programme since it was founded in 1978, and vice versa. We will never know the full extent of the impact ECETOC achieved through its projects, workshops and participation in countless REACH related activities over the last 5 years, but we know that without the efforts of our experts, the legislation would not have such a sound science basis. The flagship example must be the Targeted Risk Assessment concept and web tool, which is being adopted by ECHA, but there is much in the way in which REACH will be implemented that would have been different, and less scientifically valid, if ECETOC had not made its contribution.

Our science strategy continues to guide the work of ECETOC, and this annual report reflects the volume and range of our work, all aimed at achieving our mission to use scientific evidence and expert judgement to ensure robust human and environmental risk assessment of chemicals, biomaterials and pharmaceuticals.

I would like to single out one area of work which could have far reaching impact. During 2008, we have spent time and energy addressing a recurring dilemma: How can the classification of chemicals be reconciled with a philosophy-based on risk assessment?

Risk assessment demands accurate hazard characterisation – a description of the effects of a chemical or substance and the doses and their duration which lead to those effects. These can then be compared with the predicted or measured exposure and the risk assessed. Classifying a material solely by identifying its potential to cause one particular effect, and to do so without taking into account the relevant doses, seems at first sight to be against the concept of risk assessment.

However, we must acknowledge that we will not be able to carry out a comprehensive risk assessment on most chemicals because we won't have a full set of data. Classification should serve to highlight those chemicals which need careful consideration before they are used.

It is important that when a substance is classified as say a carcinogen that it should be flagged as a substance which may cause cancer in a wide enough range of situations to make it necessary to think through its use carefully. Unfortunately, sometimes classification only means a substance has the potential to cause the effect in circumstances which are unlikely to actually occur. This devalues the impact of classification; it's like the boy crying wolf too often. If the unhelpful classification is then fed into blanket risk management policies, which ban substances from certain uses based on their classification, we then have unnecessary restrictions.

So, we discover that chemical classification is actually part of how risk is communicated, in terms of the risk phrase such as "May cause cancer". That phrase is designed for risk managers but is likely to be the 'sound bite' picked up by policymakers, the media and the general public. It therefore becomes part of 'science in society', another one of our ECETOC strategic science areas.

ECETOC is addressing three key areas of classification; carcinogenicity, endocrine disruption and PBTs. Our role is to examine the underpinning science and see if we can find ways to flag up only the appropriate substances to those who have to consider risk management options. Science has developed in the 30 years since ECETOC was founded, we now know so much more about the ways that chemicals induce cancer, both in laboratory animals and in humans. The challenge is to find ways to incorporate this knowledge into how we do risk assessment and classification. We have made progress in 2008 and we will be sharing our insights widely in 2009 in the expectation that they be incorporated into the guidance on classification which is being developed.

Looking back over the last 30 years, we can see that ECETOC has helped society to benefit from the use of chemicals by bringing good science into the decision making on their use. I am confident that this will continue over the next 30 years.

John Doe, Syngenta
Chairman of the Scientific Committee

MATRIX OF THE 2008 SCIENCE PROGRAMME

Presence of chemicals in humans

Chemicals in human tissue

ECETOC will seek to ensure that the results of biomonitoring studies are placed into appropriate context in the human health risk assessment process.

- Progression of an ECETOC task force to develop an interpretation framework for human data established in May 2007
- Organisation of a workshop on the use of markers for improved retrospective exposure assessment in epidemiology studies in June 2008
- Monitoring of 4 LRI projects concerning biological guidance values
- Monitoring of 3 LRI projects concerning key biomarkers

Chemicals in indoor air

The aim is to address approaches to assess the impact of chemicals found in indoor air on human health.

Mixtures

ECETOC will contribute to the development of a pragmatic, realistic, and science based framework for the risk assessment of chemical mixtures.

- Organisation of a scoping meeting on the ecological risk assessment of mixtures in the environment in October 2008
- Progression of the TTC values for industrial chemicals ECETOC task force (monitoring of a project with Fraunhofer Institute ITEM), which was established in June 2006

Presence of chemicals in the environment

Exposure issues

The overall aim of the strategic science area is to achieve recognition by regulators and non-governmental organisations that decisions on the acceptability of the presence of chemicals in the environment require a risk assessment involving both their hazardous concentrations and exposure concentrations.

- Progression of an ECETOC task force on biodegradation kinetics
- ECETOC involvement in the EU 6th Framework Programme: NORMAN Project Advisory Committee
- ECETOC involvement in the EU 6th Framework Programme: RISKBASE Project Advisory Committee
- Monitoring of an LRI project on the integrated environmental fate and human food chain bioaccumulation model for polar and non-polar organic substances
- Monitoring of 2 LRI projects concerning cross taxonomic biotransformation potential
- Monitoring of an LRI project on relationships of biotransformation across organisms

Presence of chemicals in the environment

- Selection of an LRI project on the environmental relevance of laboratory bioconcentration test
- Selection of an LRI project on applying and verifying PBT/POP models through comprehensive screening of chemicals
- Selection of an LRI project on applying and verifying PBT/POP models
- Selection of an LRI project on the influence of microbial biomass and diversity on biotransformation

Effects in humans and ecosystems

Sensitive sub-populations

Certain sub-populations, notably children, may be assumed to be more sensitive than healthy adults. The overall aim of this strategic science area is to provide a focused scientific opinion for regulatory decision making that is targeted at or affects sensitive sub-populations. Currently, this area comprises mainly children's health outcomes. In the future, it may also address the sub-population of the elderly.

- ECETOC involvement in the EU Consultative Forum on the Health and Environmental Action Plan
- Selection of an LRI project on normal variability and chemically-induced epigenetic modifications
- Selection of an LRI project on the review of neurodevelopmental function tests in children

Reproductive health

In the public debate, the topic 'reproductive health' is often associated with exposure to chemicals. The overall aim of this strategic science area is to ensure that the methods and the testing strategy to identify and characterise developmental and reproductive toxicants are appropriate and optimised.

- Launch of an ECETOC task force to develop guidance on interpreting endocrine disrupting effects within the constraint of REACH and the revised 91/414 Pesticide Directive
- Publication of Document No. 45 in March 2008 and Workshop Report No. 12 in August 2008 by the ECETOC task force to develop triggering/waiving criteria for the extended one-generation reproduction toxicity study
- ECETOC involvement in the working group on reprotoxicity potency of the ECB C&L Health Effects Group
- Monitoring of an LRI project entitled: signal transduction pathways and development of alternative approaches to reproductive toxicity testing
- Monitoring of an LRI project entitled: male reproductive health and endocrine toxicity: application of toxicogenomics
- Selection of an LRI project on normal variability and chemically-induced epigenetic modifications

MATRIX OF THE 2008 SCIENCE PROGRAMME

Effects in humans and ecosystems

Biodiversity and ecosystems

The objective of this strategic science area is to identify the key science issues relevant to risk assessment of chemicals in the environment in a way that is relevant to the potential impact on biodiversity of aquatic and terrestrial ecosystems.

- Organisation of a scoping meeting in April 2008 to build upon ECETOC task force activities and highlight further actions that ECETOC and/or Cefic LRI can take to advance the scientific basis for PBT, vPvB, POP chemical risk assessment
- Co-organisation of a workshop on fish alternatives in environmental risk assessment with HESI in March 2008
- Organisation of a workshop to discuss the potential use of probabilistic techniques in marine environmental hazard assessment, data requirements and restrictions in June 2008
- Monitoring of an LRI project about population dynamics modelling for ecotoxicology

Methods

Intelligent testing strategies (ITS)

The overall aim of this strategic science area is to contribute to a more effective approach to hazard and risk assessment. This should also support the further development and application of alternative approaches to hazard assessment and thereby improve the workability of REACH. Good ITS approaches can reduce costs and the use of animals while providing best quality data for the risk assessment process.

- Progression of an ECETOC task force to develop an interpretation framework for human data, established in May 2007
- Organisation of a session entitled 'ITS: Current status and the way forward' at Eurotox 2008 Annual Meeting in October 2008
- Progression of an ECETOC task force on cardiac sensitisation test methods, established in January 2007
- Progression of an ECETOC task force to review cyanide antidotes, established in January 2007
- Progression of an ECETOC task force to enhance the ECETOC online targeted risk assessment tool at the start of 2007
- Progression of the assessment and management of dermal risks from industrial chemicals ECETOC task force, which was established in March 2007
- Publication of Document No. 45 in March 2008 and Workshop Report No. 12 in August 2008 by the ECETOC task force to develop triggering/waiving criteria for the extended one-generation reproduction toxicity study
- ECETOC involvement in the EU 6th Framework Programme: OSIRIS Project Advisory Committee
- Selection of an LRI project concerning (Q)SAR prediction models based on *in vitro* and *in vivo* metabolism
- Selection of an LRI project on tools for probabilistic uncertainty analysis; in environmental risk assessment
- Selection of an LRI project concerning the reference/ validation chemical set for persistence benchmarking
- Selection of an LRI project on the development and validation of abbreviated *in vivo* Fish Concentration Test

Methods

'Omics' & related technologies

The emerging technologies of genomics, proteomics and metabonomics are already available for hazard if not risk evaluation. This area requires industry involvement to ensure that these technologies are used in an appropriate manner and exploited to their full potential.

- Monitoring of an LRI project on signal transduction pathways and the development of alternative approaches to reproductive toxicity testing
- Monitoring of LRI projects concerning a RepDose database, extended RepDose for reprotox and use of RepDose for TTC
- Monitoring of an LRI project concerning a BCF database
- Monitoring of an LRI project on fish cell line & embryo assays
- Monitoring of an LRI project about the environmental relevance of laboratory bioconcentration test
- Publication of Workshop Report No. 11 on the December 2007 ECETOC workshop about the application of 'omic' technologies in toxicology and ecotoxicology

Risk assessment of innovation

The purpose of this activity is to develop a series of approaches for addressing the health and environmental risk assessment for innovative products.

- Submission of comments from an ECETOC task force established in September 2007 to a review of the OECD test guidelines for nanomaterials
- Launch of a committee to organise a symposium at EEMS/ ICEM 2009 on the nano(geno)toxicity of nanoparticles
- Selection of an LRI project looking at the tiered approach to testing and assessment of nanomaterial safety to human health
- Selection of an LRI project on the assessment of nanoparticles specific effects in environmental toxicity testing

Science of risk assessment

Role of chemicals in the causality of disease

This strategic science area aims to put the presumed associations between chemicals in the environment and disease into its proper scientific perspective. The focus is particularly directed towards rigorous methodology in observational methodology.

- Progression of an ECETOC task force to critically review the data on the carcinogenicity of formaldehyde, established in November 2007
- Progression of an ECETOC task force on cardiac sensitisation test methods, established in January 2007

MATRIX OF THE 2008 SCIENCE PROGRAMME

Science of risk assessment	
 **Risk, hazard and precaution** The precautionary principle can lead to unrealistic worst case assumptions based on an evaluation of hazard. It is important to use all available scientific tools to adequately characterise the real risk. This implies increased emphasis on exposure and dose response information	• Launch of an ECETOC task force to develop guidance on interpreting endocrine disrupting effects within the constraint of REACH and the revised 91/414 Pesticide Directive • Publication of ECETOC Document No. 46 concerning potency values from the local lymph node assay and their application to classification, labelling and risk assessment • Progression of an ECETOC task force to enhance the ECETOC online targeted risk assessment tool at the start of 2007 • Progression of the TTC values for industrial chemicals ECETOC task force (monitoring of a project with Fraunhofer Institute ITEM), which was established in June 2006 • Progression of an ECETOC task force to prepare guidance for carcinogen classification guidelines under GHS in April 2007 • Progression of an ECETOC task force to develop an interpretation framework for human data established in May 2007 • Progression of an ECETOC task force to critically review the data on the carcinogenicity of formaldehyde, established in November 2007 • Progression of a task force to critically review the data on linear polydimethylsiloxanes, established in 2008 • Organisation of a workshop to discuss the potential use of probabilistic techniques in marine environmental hazard assessment, data requirements and restrictions in June 2008 • Organisation of a symposium on thresholds for genotoxins in risk assessment at EEMS Annual Meeting in September 2008 • Organisation of a workshop on DNA adducts in September 2008
 **Science in society** ECETOC will seek out activities to promote the use of science in EU decision making to enhance the acceptance of science by the general public. Specifically, ECETOC will promote the use of data-based risk assessment.	• Organisation of a workshop entitled 'Counting the costs and benefits of chemical controls: 'The role of environmental risk assessment in socio-economic analysis' within the framework of ECETOC's Annual Technical Meeting in June 2008 • Organisation of a session entitled: 'Role of science in society and industry sponsorship of environmental and health research' at the Eurotox Annual Meeting in October 2008

ECETOC ESTABLISHED THE FOLLOWING NEW TASK FORCE:

Guidance on identifying endocrine disrupting effects

REACH has indicated that substances (e.g. intermediates, raw materials and formulation inerts) having endocrine disrupting properties will require further investigation. In the draft revision of the 91/414 pesticide directive, active substances in a plant protection product considered to have endocrine disrupting properties that may be of toxicological significance in humans or non-target organisms will not be approved.

For both chemicals and pesticides, a definition of endocrine disruption is not supplied in either of these documents. Therefore, there is a significant possibility that different interpretations of what is or is not an endocrine disruption effect would lead to inappropriate classification of chemicals/pesticides as endocrine disruptors. This would have a serious impact on the registration, use and movement of such substances and, hence, it is critical that the term 'endocrine disruption' is defined in a scientifically sound way. Moreover, clear guidance is needed on the nature and quality of technical data required to conclude that a chemical induces an endocrine disruption leading to adverse effects through modes of action relevant to humans and non-target organisms.

In 2008, ECETOC launched a task force to provide guidance on the nature and quality of data required to conclude the induction of endocrine disruption and causation of any adverse effects. The task force will provide guidance on the nature and quality of data required to conclude the induction of endocrine disruption and causation of any adverse effects. This should include the ability to evaluate the potency of any endocrine disruption observed.

ECETOC CONCLUDED THE FOLLOWING TASK FORCES:

Development of triggering/ waiving criteria for the extended one generation reproductive toxicity study

The extended one-generation reproduction toxicity study has been proposed as a substitute for two-generation reprotoxicity testing; its application will result in substantial savings in the number of test animals. An OECD test guideline on this study is currently subject of discussions in an OECD expert group. The ECETOC/ ECVAM task force that was formed in mid 2007 developed triggering and waiving criteria for the different modules of the extended one-generation reprotoxicity study (i.e. for the need to test in a second-generation, for developmental neurotoxicity, prenatal developmental toxicity and developmental immunotoxicity). This is published as Document No. 45. It was submitted for consideration to the OECD expert group, together with the report of the related workshop (see under workshops) and, subsequently, the paper that was accepted for publication *in Alternatives to Laboratory Animals* (April 2009). Task Force members continue to be engaged in the detailed discussions that are being held to finalise the OECD test guideline.

Nanomaterials and OECD Test Guidelines

This task force was set up to provide input to the OECD 'Working Party on Manufactured Nanomaterials', in particular to their review of the existing OECD test guidelines with respect to their suitability for nanomaterials. The project developed a lot faster than originally expected which was, however, for the benefit of the testing of nanomaterial reference materials that has now begun under the auspices of the OECD and involves many organisations and countries. The task force pulled together specific comments and submitted them via BIAC which is the official representation of industry at the OECD. The task force concluded that OECD test guidelines are generally applicable to nanomaterials unless the mentioned test programme on the reference materials would show this differently for a certain nanomaterial or a particular guideline test. Importantly, it was pointed out that testing of nanomaterials in biological samples (mammalian or eco-toxicological models) and for environmental fate testing needs careful sample preparation due to the particular physico-chemical properties of nanomaterials. When the report of this OECD project is finalised by the OECD working party, it will be communicated to the ECETOC membership via our e-newsletter and our website.

Potency values from the local lymph node assay: Application to classification, labelling and risk assessment

Building on the work done by a previous ECETOC task force, a new activity was started in mid 2007 to: a) determine whether an EC3 potency value can be used as a cut-off criterion for the classification and labelling of both substances and preparations; b) to evaluate LLNA data in risk assessment approaches for skin sensitisation and, by taking into account potency considerations, provide a rationale for using concentration responses and corresponding no-effect concentrations.

The conclusion on the first remit is that although skin sensitising chemicals having high EC3 values may be regarded to represent only relatively low risks for human health, it is currently not possible to define an EC3 value below 100% that would serve as an appropriate threshold for classification and labelling of substances as R43. Further, the task force analysed the experience to date with the LLNA. Hence, the previously made recommendation for four sub-categories of skin sensitisation potency, i.e. 'extreme', 'strong', 'moderate' and 'weak' to reflect differing skin sensitisation potency based on derived EC3 values, was endorsed.

To address the second remit, recently published approaches for a quantitative risk assessment of skin sensitising chemicals based on the relationship between the calculated exposure to a sensitising chemical and the acceptable exposure level were also reviewed by the task force. The first step in the quantitative risk assessment process is to establish a no expected sensitisation induction level (NESIL). The task force concluded that LLNA EC3 values are well suited for the determination of a NESIL because the proliferation of cells in draining lymph nodes is related causally and quantitatively to the extent to which skin sensitisation will be acquired (potency). All this is published as ECETOC Document No. 46.

Fluoroalkanes

ECETOC published a technical report with toxicity profiles of possible impurities and by-products in commercial fluorocarbons. Most of the commercial fluorocarbons are not toxic (many are used as refrigerants), but the presence of a highly toxic compound, even at a modest level, could alter their toxicity. The technical report on impurities and by-products has been produced to accompany the series of reviews on fluorocarbons under the ECETOC Joint Assessment of Commodity Chemicals (JACC) programme.[1]

The JACC review series on fluoroalkanes was completed in the reporting year by the publication of a report on Difluoromethane (HFC-32). The latter report updates an earlier ECETOC review and presents a critical evaluation of the available data on the ecotoxicity, toxicity, environmental fate and impact of difluoromethane (HFC-32). The report includes results of recent and unpublished studies conducted by the Programme for Alternative Fluorocarbon Toxicity Testing (PAFT). The task force on fluoroalkanes has over the course of 7 years successfully produced 7 JACC reports and the above technical report.

[1]This part of the ECETOC programme on specific substances is devoted to the preparation of comprehensive, critical reviews of all available toxicological and ecotoxicological data on specific substances, predominantly those having widespread and multiple uses (Joint Assessment of Commodity Chemicals, JACC). The resulting hazard/risk assessments, including possible gaps in knowledge, are published in the ECETOC series of reports. In some cases, the format is further extended, e.g. in support of EU or other international risk assessment, or setting of an occupational exposure limit value.

ECETOC ORGANISED THE FOLLOWING WORKSHOPS AND SYMPOSIA

Fish alternatives in environmental risk assessment

4-6 March 2008, Paris, France

The replacement of traditional whole animal tests with assays that reduce, refine, or replace (the 3R's) animal use has been a long-term goal in mammalian toxicity testing and environmental toxicology. This issue has been primarily driven by European legislation, including the UK Animal Protection Act (Defra, 2006), the 7th Amendment to the EU Cosmetics Directive, selected legislation in Germany, and REACH, which often require additional ecotoxicity data and promote non-animal testing and alternative strategies. Current guidelines concern the use of fish within OECD include acute toxicity to juvenile fish (OECD 203), fish short term toxicity to embryo and sac fry (OECD 212), chronic toxicity early life stage test (OECD 210), and bioaccumulation (OECD 305). In this current regulatory environment, there is a clear need to develop alternatives that are faster and utilise fewer animals, without impairing or increasing the uncertainty in risk assessment. The fish embryo test (FET) and related fish eleutheroembryo test (FEET) are two such alternatives.

Based on these concerns, ECETOC and ILSI Health and Environmental Sciences Institute (HESI) held an international workshop 4-6 March 2008 in Paris, France to examine the application of the FET as an animal alternative method in hazard and risk assessment. The workshop was attended by 41 scientists and regulators from 10 countries in North America, Europe, and Asia. The goals of the workshop included a review of the state of the science regarding the investigation of fish embryonic tests, pain and distress in fish; emerging approaches using fish embryos, and the use of fish embryo test data in hazard and risk assessment; effluent assessment; and international classification and labelling of chemicals.

Although the participants were divided regarding their acceptance of the FET as a replacement for the OECD 203, it was agreed that it is a viable alternative and has the potential to provide additional data in the future. The development of a 'gold standard' database of FET data in various species and a broad array of chemical classes would be extremely useful. Experimental research priorities identified by the participants included characterisation of chorion differences among fish species, application and adaptation of the FET/FEET to additional species (rainbow trout, marine species, etc.), identification of additional endpoints that can be measured by expansion into the FEET, and further examination of the role that the FET/FEET can play in WET/WEA (Whole Effluent Toxicity testing/ Whole Effluent Assessment).

Triggering and waiving criteria for the extended one-generation reprotoxicity study workshop

14-15 April 2008, Ispra, Italy

The outcome of the task force on the said topic (also see task forces concluded) was discussed with regulators, academics and industry at a workshop held jointly with ECVAM and co-sponsored by the Cefic LRI and that took place in Barza d'Ispra, Italy in April. About 40 participants, first divided into three breakout groups and later discussing in plenary, addressed specific questions on the study conduct of the extended one-generation reproduction toxicity study and on the validation criteria for the module approach. The conclusions are detailed in Workshop Report No. 12, and summarised together with the task force's work in the publication in *Alternatives to Laboratory Animals* (April 2009).

Counting the costs and benefits of chemical control.

The role of environmental risk assessment in socio-economic analysis

4 June 2008, Brussels, Belgium

Under REACH there are provisions to use socio-economic analysis (SEAs) to save highly hazardous chemicals from no authorisation (Art 60) and SEAs are to be used in decisions about restrictions (Art 68). Similar provisions are used as derogations in the EU water and environmental liability legislation. Also under the Existing Substances Regulation, SEAs could have been undertaken to support a particular chemicals' use but to date only few quantitative SEAs were carried out, which is mainly due to the lack of an agreed methodology.

In the framework of the 2008 Annual Technical Meeting, a workshop was held to address cost-benefit/socio-economic analysis and thus help member companies to build an understanding of the topic for which expertise will be needed in the future. Presentations from natural and economic scientists provided background and case studies on valuation of human lives in CBAs and SEAs. Then, the workshop participants were asked to evaluate whether and how ECETOC can contribute to defining the role of environmental risk assessment on which less experience exists.

The workshop recommendations were summarised as five themes on which ECETOC would aim to make a contribution, namely, by:

- Appropriately quantifying changes in impact associated with proposed risk reduction strategies;
- informing the valuation of impacts of chemicals on health and ecosystems by enabling and encouraging collaboration between natural scientists and economists;
- supporting the process of socio-economic analysis, for example by facilitating the creation of multi-disciplinary teams;
- developing one or more exemplary case studies – learning by doing through a task force;
- playing an active role in cross-disciplinary networking and capacity building.

The full outcome is published as ECETOC Workshop Report No. 13 and agreement of the formation of a task force was reached by the Scientific Committee at its December meeting.

Probabilistic approaches for marine hazard assessment

18-19 June 2008, Oslo, Norway

In order to discuss the potential use of probabilistic techniques in marine environmental hazard assessment, a workshop was organised by ECETOC in June 2008 together with the Environment Agency for England and Wales.

Nearly 40 scientific experts from industry, academia and European governmental agencies participated in the meeting that was hosted by the Norwegian Pollution Control Authority and held in Oslo. Seven plenary sessions were followed by four syndicate sessions which concluded that the probabilistic approach is beginning to be applied for marine (and freshwater) procedures and guidelines worldwide. However, some questions still remained and were related to the combination of data from marine and fresh water, extrapolation from one climatic zone to another, segregation of data by groups (fish versus invertebrates) and the combination of data based on different endpoints.

Resulting from the workshop was the publication of ECETOC Workshop Report No. 15 and a paper to be submitted in the open literature. The workshop recommendations have been expected to stimulate scientific research and specific task force work at ECETOC.

Use of markers for improved retrospective exposure assessment in epidemiology studies

24-25 June 2008, Sodehotel La Woluwe, Brussels

The number of epidemiology studies looking at adverse health effects from long-term occupational and environmental exposure to chemicals and pesticides has significantly increased in recent years. These studies are often limited by the absence of good data on the exposure to the chemical in question. Rapid advances in molecular biology techniques and modelling have led to the emergence of molecular

epidemiology as a new discipline concerned with the use of biomarkers in epidemiologic study design. The workshop, therefore, was organised to address the extent to which historical exposure to chemicals might be quantified by application of these new techniques.

The workshop, organised in association with, and sponsored by ECPA, involved approximately 30 invited participants, discussed the problems associated with retrospective biomonitoring and looked for opportunities from other areas of novel biomarker discovery and modelling techniques that could be developed and applied to the problem. A report of the workshop has been published as Workshop Report No. 14.

ECETOC Symposium at European Environmental Mutagen Society (EEMS) 2008 Annual Meeting: Thresholds for genotoxins and their application in risk assessment

25 September 2008, Cavtat, Croatia

For the 7th occasion since 1998, ECETOC supported EEMS, the European Environmental Mutagen Society with the organisation of a symposium on the last day of its 2008 annual general meeting. Cefic's Long-range Research Initiative (LRI) kindly sponsored the event.

Although the subject matter is one which can elicit doubt, the tone of the symposium was very positive. However, the involvement of speakers from a regulatory background, along with the sound defensible science presented by all speakers, resulted in a very successful consideration of the subject. This was also reflected in the nature of the questions posed to speakers and responses given.

The presentations clearly demonstrated the existence of thresholds for DNA damaging mutagens as well as aneugens, thus changing the paradigm that 'one molecule is sufficient to cause cancer' even for classes of genotoxins (such as alkylating agents) for which linear dose response relations have been considered to be the norm. Yet, for some compounds there appears to be no clear threshold, or none which will be relevant for risk assessment. If the underlying biological mechanism can be explained satisfactorily, the genotoxic threshold may be extrapolated with confidence to estimate a safe dose for man.

However, this may not be possible for all compounds. Expert judgement on a case-by-case basis is necessary at this stage of knowledge of the biological basis of genotoxicity thresholds. Although the symposium showed that there is clear progress in using thresholds in risk assessment, and growing acceptance of the principle by regulatory authorities, more research is needed to develop a better understanding of the underlying mechanisms.

The symposium was well attended by over 300 (out of a total of 400) registered conference participants, mostly from academia, government, contract research organisations and the pharmaceutical/chemical industry. Participants of a subsequent ECETOC workshop on DNA adducts (Cavtat, 25-26 September) were also in attendance. The audience, including many key and young scientists, showed a high interest in the practical application of genotoxic thresholds in chemical risk assessment.

The biological significance of DNA adducts: Part II

25-26 September 2008, Cavtat, Croatia

This workshop was organised in association with ILSI/HESI, sponsored by an industrial consortium of sector groups from Cefic and ACC and followed the ECETOC symposium on thresholds for genotoxins.

It was long thought that DNA adducts were synonymous with genotoxicity as many compounds exhibiting genotoxicity caused adducts and vice versa. In the last few years a significant programme of research has been commissioned by industry to investigate the reality behind this supposition.

The workshop was a forum for the presentation of the findings of this research and a debate on the interpretation of the results. The meeting was attended by top scientists from academic institutions in Europe and the USA and experts from key regulatory agencies.

Data was presented showing that the dose response characteristics for adduct formation and mutagenicity may have different shapes. The meeting agreed a series of consensus statements which will form part of a summary report to be published in a special issue of Mutation Research.

ECETOC Symposia at EUROTOX 2008 Annual Meeting:

8-9 October 2008, Rhodes, Greece

Intelligent testing strategies: Current status and the way forward

The role of science in society and industry sponsorship of environmental and health research

On the occasion of the annual Eurotox meeting in Rhodes 5-8 October 2008, ECETOC organised two sessions corresponding to two priority science areas: Intelligent testing strategies and Science in Society.

The 'Intelligent Testing Strategies' symposium was chaired by Guiseppe Malinverno of Solvay and Watze de Wolf of DuPont de Nemours, both members of ECETOC's Scientific Committee. Four speakers presented their views on critical issues related to the implementation of REACH.

This session was attended by ca. 300 participants from the Eurotox meeting. Feedback from the audience was overall positive, including from the newly appointed scientific advisor to the board of ECHA who actively participated in the ensuing discussion. Although the content of the presentations provided nothing new to those closely involved with REACH, it was mostly unknown to the majority of the academics in the audience, and, thus, gave them an insight into the challenges industry has with REACH.

The session on 'Science in Society' was chaired by ECETOC's Secretary General and Prof. Corrado Galli, outgoing president of Eurotox. Based on the fact that allegations are frequently made that the outcome of research is impacted by its source of funding, the invited speakers had been selected such that they would represent industry, governmental and academic organisations. They spoke about the importance of scientific rigour in research and avoiding conflict of interest.

Considering the interest raised, the high attendance and the engaged debate during the final panel discussion, it was suggested to hold a similar session at a future Eurotox meeting.


"Looking to the future with more
optimistic eyes, we should consider
the younger talent in our companies."

SCIENCE AWARDS

With the objective to recognise young scientists, ECETOC has been active in the provision of an annual Science Award to outstanding works of science since 2003.

The 1st Science Award was accorded on the occasion of its ECETOC's 25th Anniversary to recognise the achievements of three promising European investigators in the fields of science relevant to its mission of supporting the safe manufacturing and use of chemicals, pharmaceuticals and biomaterials through sound science.

Since then the format of the Award may have varied, however the objectives have remained the same.

In 2008 ECETOC sponsored two awards for young scientists:

Environmental science related award

The ECETOC Young Scientist Award at the Society of Environmental Toxicology and Chemistry (Setac) Europe Annual Congress (Warsaw, Poland, 25-29 May 2008) went to: Ms Emma Schymanski of the UFZ-Helmholtz Centre for Environmental Research in Germany for her platform presentation, entitled 'The use of MS classifiers and structure generation to assist in the identification of unknowns in effect-direct analysis.'

Human health related science award

The ECETOC Young Scientist Award at the European Societies of Toxicology (Eurotox) Annual Congress (Rhodes, Greece, 5-8 October 2008) went to: Ms Nathalie Lambrecht of CARDAM VITO in Belgium for her poster, entitled 'Pathway analysis of dendritic cell markers for skin sensitization.'

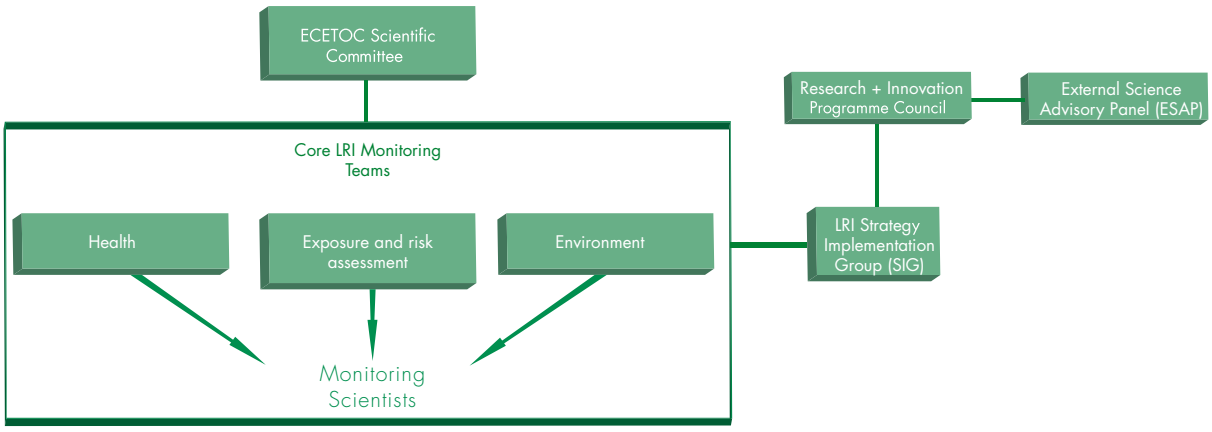
The winners have been encouraged to use the awarded prizes for the advancement of their careers.

LONG-RANGE RESEARCH INITIATIVE

The Cefic Long Range Research Initiative is a strategic research programme to identify and fill gaps in our understanding of the hazards posed by chemicals and to improve the methods available for assessing the associated risks. Since the establishment of the programme in 1998, ECETOC has been a partner organisation. In the early days, all requests for proposals (RfPs) were written following STOTS (state of the science reviews.) As LRI has developed, so the role of ECETOC has evolved. It is now slightly different, but remains key to the programme's success.

Within the LRI, ECETOC has the responsibility of maintaining three 'core teams' consisting of industry scientists, who manage the scientific evaluation of applications for funding, recommend the best research proposals and monitor the progress of selected LRI projects. In particular they are responsible for the:

- Development of topics for research to be considered by the LRI Strategy Implementation Group (SIG). (A core team may organise a workshop with academic, government and industry scientists for this purpose.)
- Drafting of 'requests for proposals' (RfPs) based on ideas submitted by Cefic and ECETOC stakeholders in the LRI process.
- Setting up selection teams of industry and external experts to choose the best research proposals in response to published RfPs and making recommendations to LRI SIG for the funding of the proposals.
- Establishment of scientific liaison with the selected institutions and 'monitoring' the scientific quality and progress of the projects.



Health Effects Monitoring Team (HEMT)

The remaining on-going projects under phase II of the LRI health effects programme were all successfully completed in 2008. These addressed the former priority areas, i.e. 'chemical carcinogenicity' (addressing the biological significance of chemically-induced DNA adducts) and 'immunotoxicology, respiratory toxicology and allergy' (addressing inter-individual differences in susceptibility to chemical allergy).

Under the new priority areas (phase III), the two projects that were already on-going prior to 2008 are running according to schedule and four new projects were initiated with the support of specially recruited selection teams. The current research portfolio under the health effects programme looks as follows:

- Theme 'Intelligent testing strategies':

  Evaluation of signal transduction pathways in model organisms as critical mediators of developmental toxicity

  Overcoming current limitations in metabolism prediction of industrial chemicals

- Theme 'Acceptance of new technologies and products':

  Characterisation of testicular toxicity using traditional and omic tools

  Tiered approach to testing and assessment of nanomaterial safety to human health

- Theme 'Health impact of complex environments':

  Reprogramming of DNA methylation during mammalian development and environmental impact of endocrine disruptors

  Review of neurodevelopmental function tests in children

Human Exposure and Tiered Risk Assessment (HETRA) Monitoring Team

Eleven ongoing HETRA projects were further progressed in the reporting year 2008. Four of these concerned the development of guidance values for use in the interpretation of human biological monitoring data. Three other studies were completed on the background incidence and variations of key biomarkers in the general population. Another investigation looked into the nature of accidental misuse of chemicals and chemical products. Finally, a new database 'FeDTex' was constructed to enable the evaluation of reproductive toxicity data. The 'FeDTex' database is related to the existing 'RepDose' inventory of repeated dose toxicity data that presents NOEL and/or LOEL values on more than 500 chemicals. Similarly to RepDose, FeDTex contains NOELs/LOELs on fertility and developmental effects of presently 100 chemicals. Both databases will enable the development and improvement of (Q)SARs, e.g. to predict toxicity, and conduct human risk assessment.

Environment Monitoring Team (EMT)

Subjects, which recent LRI funded environment activites have tackled included cross taxonomic biotransformation potential, a BCF database, a strategy to predict acute fish lethality using fish cell lines and fish embryos, QSARs, the bridge between environmental fate & human health effects modelling, biomagnification, PBTs, omics, biodegradation & persistence and mode of action. In 2008, five new environmental projects secured funding. One was on the influence of biomass and diversity on biotransformation, another concerned the validation and reference of chemical set for persistence benchmarking, another concerned the application and verification PBT/POP models through comprehensive screening of chemicals, another the development and validation of abbreviated *in vivo* fish bioconcentration test and another was on the assessment of nanoparticule in the environment.

COMMUNICATION

PUBLICATIONS

ECETOC's primary outputs are its published state of the science reports that are compiled as a result of the scientific partnerships formed in the framework of ad-hoc issues-based task forces. These take the form of both ECETOC's own publications and the publication of articles in peer-reviewed journals.

In 2008 ECETOC's own publications comprised of the following:

- JACC Reports (Joint Assessment of Commodity Chemicals) are comprehensive reviews of toxicological and ecotoxicological data on individual chemical substances.
- Documents are scientific briefing papers, addressing emerging issues.
- Monographs are comprehensive reviews of generic topics or issues fundamental to the application of sound science in evaluating the hazards and risks of chemicals to human health and the environment.
- Special Reports are compilations of data targeted to specific regulatory issues/demands.
- Technical Reports address specific applications of the science in evaluating the hazards and risks of chemicals to human health and the environment.
- Workshop Reports are summaries of the discussions and conclusions derived from ECETOC sponsored scientific workshops.

Reports published by ECETOC

JACC Reports

No. 54 Difluoromethane (HFC-32) CAS No. 75-10-5 (Second Edition) (Published June 2008)

Documents

No. 45 Triggering and Waiving Criteria for the Extended One-Generation Reproduction Toxicity Study (Published March 2008)

No. 46 Potency Values from the Local Lymph Node Assay: Application to Classification, Labelling and Risk Assessment (Published December 2008)

Technical Reports

No. 103 Toxicity of Possible Impurities and By-products in Fluorocarbon Products (Published December 2008)

Workshop Reports

No. 11 Workshop on the Application of 'Omics in Toxicology and Ecotoxicology:
Case Studies and Risk Assessment
6-7 December 2007, Malaga (Published July 2008)

No. 12 Workshop on Triggering and Waiving Criteria for the Extended One-Generation Reproduction Toxicity Study
14-15 April 2008, Barza d'Ispra (Published August 2008)

No. 13 Counting the Costs and Benefits of Chemical Controls: Role of Environmental Risk Assessment in Socio-Economic Analysis
4 June 2008, Brussels (Published September 2008)

Complementary ECETOC publications are provided on publication and by request to member companies, the academia, national and supra-national organisations, and a wide range of industry observers such as non-governmental organisations. In addition, ECETOC publications are requested by a range of commercial non-member organisations, who value their contents.

Articles published in peer-reviewed open literature

The use of biomarkers for improved retrospective exposure assessment in epidemiological studies: summary of an ECETOC workshop.
Paul Scheepers, Research Lab Molecular Epidemiology, Department of Epidemiology, Biostatistics and HTA, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands
Biomarkers, 13:734-748, 2008

Chemical pollution, respiratory allergy and asthma: a perspective
Gareth S. Evans, Health and Safety Laboratory; David Cadogan, ECPI Cefic; Andreas Flueckiger, F. Hoffmann-La Roche; Christa Hennes, ECETOC; Ian Kimber, Syngenta
Journal of Applied Toxicology Vol 28, Pages 1-5.

ONLINE COMMUNICATION

ECETOC launched a new public website and began work to re-develop its members' site, including document management system and database. This is due for launch in 2009.

EXTERNAL REPRESENTATION

Representation at specific meetings or input to specific projects:

- NC3Rs (UK National Centre for the Replacement, Refinement and Reduction of Animals in Research) meeting on: 'Toxicokinetics and the 3Rs'
  London, United Kingdom
  29 May 2008
  This meeting was chaired by Neil Carmichael of ECETOC
- ICCA/LRI Workshop on 'Twenty-first approaches to toxicity testing, biomonitoring and risk assessment'
  Amsterdam, The Netherlands
  16–17 June 2008
  Christa Hennes and Malyka Galay-Burgos participated on behalf of ECETOC

- WHO International Public Health Symposium on Environment and Health Research: Science for Policy, Policy for Science: Bridging the Gap
  Madrid, Spain
  20–22 October 2008
  ECETOC was represented by Neil Carmichael of ECETOC

- ECHA Workshop on 'Applying socio-economic analysis as part of restriction proposals under REACH'
  Helsinki, Finland
  21– 22 October 2008
  ECETOC was represented by Christa Hennes of ECETOC

- SETAC Europe Special Science Symposium on REACH
  Brussels, Belgium
  23–24 October 2008
  ECETOC was represented by Neil Carmichael of ECETOC (see also Poster Presentations)

- European Partnership for Animal Alternatives (EPPA) Annual Meeting
  Brussels, Belgium
  3 November 2008
  ECETOC was represented by Christa Hennes of ECETOC

- International Conference on Risk Assessment (organised by DG SANCO)
  Brussels, Belgium
  13– 14 November 2008
  ECETOC was represented by Neil Carmichael of ECETOC

- SCHER, SCCP, SCENIHR under DG SANCO:
  ECETOC provided comments on two preliminary reports: 'Risk assessment methodologies and approaches for mutagenic and carcinogenic substances'
  'Use of the threshold of toxicological concern (TTC) approach for the safety assessment of chemical substances'

Representation in on-going expert groups:

ECHA Member State Committee (MSC)
David Owen of Shell and Neil Carmichael of ECETOC represented ECETOC

ECHA Risk Assessment Committee (RAC)
Watze de Wolf of DuPont de Nemours and Chris Money of ExxonMobil represented ECETOC

WHO/IPCS Harmonization Project Core Group
ECETOC was represented by John Doe of Syngenta

Consultative Forum on Environment and Health organised by European Commission
ECETOC was represented by David Owen of Shell

ECVAM Scientific Advisory Committee
ECETOC was represented by David Owen of Shell

ECB TC C&L - Expert Group on Reproductive Toxicity Potency
ECETOC was represented by Steffen Schneider of BASF

6th Framework Programme Co-ordination Action Project 'RiskBase'
ECETOC was represented in the Advisory Panel by Andrew Riddle of AstraZeneca

6th Framework Programme Co-ordination Action Project 'NORMAN'
ECETOC was represented in the Advisory Panel by Watze de Wolf of DuPont

6th Framework Programme Integrated Project 'OSIRIS'
ECETOC was represented in the Advisory Panel by Watze de Wolf of DuPont

Posters and Presentations

- SETAC European Annual Congress, 25-29 May, Warsaw, Poland

Members of the ECETOC Biodegradation Task Force: J. Snape (AstraZeneca); A. Sharpe (Astrazeneca); C. Lee (ExxonMobil); N. Rehman (Unilever); C. van Ginkel (Akzo Nobel); T. Wind (Henkel KGaA); M. Holt (ECETOC); M. Galay-Burgos (ECETOC), presented a poster entitled: **Is there a correlation between marine and freshwater biodegradation kinetic data?**

- 1st SETAC Europe Special Science Symposium (on REACH), 23-24 October, Brussels, Belgium

Susanne Bremer on behalf of members of the ECETOC extended one-generation reproductive toxicity study task force: N. Moore (Dow Europe); S. Bremer (JRC – ECVAM); C. Hennes (ECETOC); G. Daston (Procter & Gamble); M. Dent (Unilever SEAC); W. Gaoua-Chapelle (Arkema); N. Hallmark (ExxonMobil); B. Holzum (Bayer HealthCare); U. Hübel, (Nycomed); L. Meisters (DuPont); S. Schneider (BASF), presented a poster entitled: **Extended one-generation reproduction toxicity study as a substitute for standard two-generation testing**

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SCIENTIFIC COMMITTEE MEMBERS

ECETOC Scientific Committee members as of end December 2008

John Doe, Syngenta, *Chairman*
David Owen, Shell Chemicals, *Vice Chairman*
Remi Bars, Bayer Cropscience
Peter Calow, Roskilde University *
Watze de Wolf, DuPont
David Farrar, Ineos Chlor
Andreas Flükiger, F. Hoffmann La Roche
Helmut Greim, Technical University Munich*
Giuseppe Malinverno, Solvay
Fraser Lewis, Syngenta
Stuart Marshall, Unilever Research
Chris Money, ExxonMobil
Mark Pemberton, Lucite International
Carlos Rodriguez, Procter & Gamble
Dan Salvito, RIFM
Gerard Swaen, Dow
Johannes Tolls, Henkel
Saskia van der Vies, Vrije Universiteit Amsterdam*
Ben van Ravenzwaay, BASF
Eckhard von Keutz, Bayer HealthCare
Hans-Jürgen Wiegand, Evonik Degussa

*Academic members

The Scientific Committee met 6 times in 2008 and welcomed Dan Salvito of RIFM and Fraser Lewis of Syngenta as new members.

MEMBERS OF THE SECRETARIAT

The ECETOC Secretariat is responsible for the co-ordination and management of the scientific work programme, ensuring that the tasks allocated by the Scientific Committee are accomplished in a timely fashion.

ECETOC's continued success relies greatly on its Secretariat. This team of dedicated professionals supports the scientists engaged in the work of the ECETOC programme in meeting the objectives set by the Scientific Committee.

Neil Carmichael, *Secretary General*

Christa Hennes, *Health Sciences Manager*

Henk Vrijhof, *Chemicals Programme Manager*

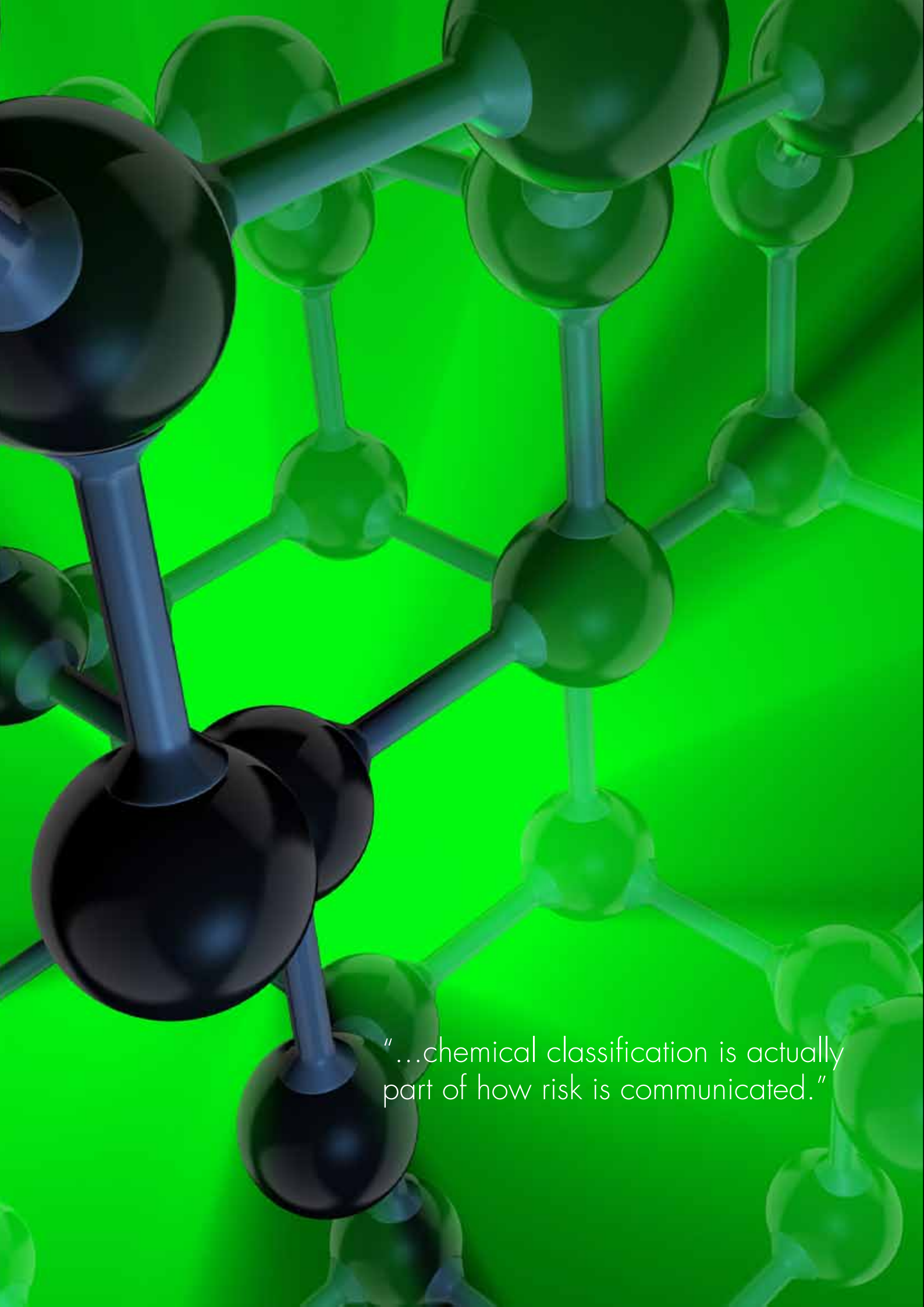
Malyka Galay-Burgos, *Environmental Sciences Manager*

Charlotte Amiri, *Web & Media Manager*

Geneviève Gérits, *Office Manager*

Christine Yannakas, *Secretary*

Anita Jennings, *Secretary*


"...chemical classification is actually
part of how risk is communicated."

FINANCE ACTUALS 2008 IN EURO

INCOME

Subscription	
Full Members	1.417.500
Associate members	48.000
Total Subscription Income	**1.465.500**
Bank interest	135.818
Document sales	605
Project-related	314.198
Total Income	**1.916.121**

EXPENDITURE

Salaries (and related expenses)	971.334
Office running expenses	212.593
Travel expenses on mission	15.980
Meetings and consultants	429.605
Professional services	13.044
Bank charges	6.103
Capital expenditure	3.850
Publications	24.116
Miscellaneous	8.303
Website	41.876
Total Expenditure	**1.726.804**

BALANCE SHEET AND RESERVES

Balance Sheet	
Income	1.916.121
Expenditure	1.726.804
Operating margin	189.317
Reserves[1]	
Opening	1.660.747
Operating margin	189.317
Closing reserves	1.850.064

[1] Estimated Reserve Required: 700.000

GLOSSARY OF ABBREVIATIONS

3Rs	Replacement, Refinement and Reduction of Animals in Research
ACC	American Chemistry Council
BCF	Bio-Concentration Factor
BIAC	Business and Industry Advisory Committee to the OECD
CAS	Chemical Abstracts Service
CBA	Cost Benefit Analysis
CEFIC	European Chemical Industry Council
DG SANCO	European Commission Directorate General for Health and Consumers
DNA	Deoxyribonucleic acid
ECB	European Chemicals Bureau
ECHA	European Chemicals Agency
ECPA	European Crop Protection Association
ECPI	European Council for Plasticisers and Intermediates
ECVAM	European Centre for the Validation of Alternative Methods
EEMS	European Environmental Mutagen Society
EMT	Environment Monitoring Team
EU	European Union
EUROTOX	Federation of European Toxicologists and European Societies of Toxicology
FEET	Fish Eleutheroembryo Test
FET	Fish Embryo Test
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HEMT	Health Effects Monitoring Team
HETRA	Human Exposure and Tiered Risk Assessment Monitoring Team
HFC	Hydrofluorocarbon
ICCA	International Council of Chemical Associations
ICEM	International Conference on Environmental Mutagens
IFF	International Flavors and Fragrances
ILSI-HESI	International Life Sciences Institute – Health and Environmental Sciences Institute
ITEM	Institute of Toxicology and Experimental Medicine

JACC	Joint Assessment of Commodity Chemicals
LLNA	Local Lymph-Node Assay
LOEL	Lowest Observed Effect Level
LRI	Cefic's Long-Range Research Initiative
MSC	Member State Committee
NC3Rs	National Centre for the Replacement, Refinement and Reduction of Animals in Research
NESIL	No Expected Sensitisation Induction Level
NOEL	No Observed Effect Level
OECD	Organisation for Economic Cooperation and Development
PAFT	Programme for Alternative Fluorocarbon Toxicity Testing
PBT	Persistent Bioaccumulative Toxic
POP	Persistent Organic Pollutant
(Q)SAR	(Quantitative) Structure Activity Relationship
RAC	Risk Assessment Committee
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RfP	Request for Proposals
SCCP	European Commission's Scientific Committee on Consumer Products
SCENIHR	European Commission's Scientific Committee on Emerging and Newly Identified Health Risks
SCHER	European Commission's Scientific Committee on Health and Environmental Risks
SEA	Socio-Economic Analysis
SETAC	Society of Environmental Toxicology and Chemistry
SIG	LRI Strategy Implementation Group
STOTS	State of the Science reviews
TC C&L	Technical Committee for Classification and Labelling
TTC	Threshold of Toxicological Concern
vPvB	very Persistent very Bioaccumulative
WEA	Whole Effluent Assessment
WET	Whole Effluent Toxicity Testing

ECETOC, European Centre for Ecotoxicology and Toxicology of Chemicals, was established in 1978 as a scientific, non-profit making, non-commercial association, financed by 49 of the leading companies with interests in the manufacture and use of chemicals. A stand-alone organisation, it was established to provide a scientific forum through which the extensive specialist expertise in the European chemical industry could be harnessed to research, review, assess and publish studies on the ecotoxicology and toxicology of chemicals.

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