

IUPAC Advisory Committee on Crop Protection Chemistry

Meeting including members, nominated members and invited participants*

August 3rd and 4th 2011

Sheraton Hotel at the Convention Centre, San Juan, Puerto Rico

Chair: Dr. John Unsworth

Participants: Irene Baptista de Alleluia, Elizabeth Carazo, Verónica Cesio, Wenlin Chen, George Cobb, Jairo Arturo Guerrero Dallos, Horácio Heinzen, Gijs A. Kleter, Rai Kookana, Jan Linders, Laura McConnell (secretary), Karina Miglioranza, Yoshiaki Nakagawa, Kenneth D. Racke, Amy Ritter, Keiji Tanaka, David Volz, Scott Yates



Wednesday, August 3, 2011

Morning Plenary Session

J. Unsworth, Chair of the Subcommittee, called the meeting to order. Apologies for absence were received from the majority of committee members who were unable to attend, but were not read individually in order to save time. The attendees introduced themselves giving a brief description of their affiliation and interests. J. Unsworth provided a description of the purpose and activities of the committee to those attending for the first time.

Some first-time attendees were present due to participation in the IUPAC World Chemistry “Advanced physico-chemical techniques to solve environmental science challenges”. Dr. G. Cobb from Baylor University; S. Yates of USDA-ARS; Dr. E. Ulrich of US EPA; K. Miglioranza of Universidad Nacional de Mar del Plata; and R. Kookana of CSIRO Australia.

Dr. D. Volz of University of South Carolina also attended as part of the task group of the IUPAC project “Global Framework for Implementing Consistent Ecological Risk Assessment of Pesticides for Sustainable Agriculture”. Dr. A. Ritter of Waterborne attended as well due to her involvement with J. Linder’s project “Environmental Risk Assessments for the Registration of Pesticides used in Rice Paddy Fields”.

The agenda was reviewed and minor changes were made. The minutes of the last meeting of the division in Melbourne Australia were briefly reviewed, but most of the relevant topics were already included in the agenda to be discussed. Major outcomes since the Melbourne meeting:

- A website has been opened for subcommittee members
- A one-page brochure on the group has been prepared indeed for the IUPAC website
- An appendix with information related to the Melbourne Pesticide Congress has been drawn up
- Project proposals have been submitted while a number of other projects have been finished. A number of items are to be discussed in further detail during the meeting.

The chair acknowledged the past chair, Dr. Ken Racke and thanked him for his continued leadership and contributions to the committee.

General Discussion Topics

A brief review of recently completed projects was carried out. A list of all recently completed projects is provided in the Appendix. E. Carazo passed around a very attractive prototype of the Spanish translation of the textbook "Pesticides in the Environment" by G. Stephenson and K. Solomon, which was a product of the IUPAC project "Title of project". Printing is expected to be carried out in September 2011.

Outcomes from the IUPAC Division of Chemistry and the Environment annual meeting held on July 29 and 30 were announced. The proposal by D. Wauchope on the Footprint database was approved for \$5000 in funding; \$1500 in additional funding for the workshop in Delhi India in 2012 was approved. The proposal on the history of agrochemicals was not funded, but members may pursue this effort regardless of funding. It was mentioned that proposals from C. Harris on MRLs have just recently been submitted to the IUPAC Secretariat but may be funded prior to the end of the 2011 when the Division VI meets via phone conference if reviews are positive. See appendix for list of results from the DCE meeting.

A discussion among the group identified the need to make products of previous projects more readily available to the public. S. Yates indicated that many journals now are making an open access option available for a fee. G. Kleter indicated that pre-print versions of manuscripts can be posted without copyright problems. Many of the older publications were in Pure and Applied Chemistry which are freely available. Future publication projects should consider the availability of content to the public. K. Racke suggested that at least a short summary of each publication should be developed that can be posted on the Global Information on Agrochemical website (pesticides.iupac.org).

A description of the IUPAC project proposal system was provided by J. Unsworth, L. McConnell and K. Racke.

- Project proposals are reviewed by IUPAC Division of Chemistry and the Environment or other IUPAC Committees.
- Group members from different countries preferred
- Budget usually around \$5,000 (maximum of \$10,000)
- Additional funding from other organizations welcomed but not required
- Certain types of projects not fundable such as original research or literature research
- Previous projects can be found on the website
- Timeline: proposal to be ready two months at least before division meetings; procedure can take up to a year
- Sample formats of project proposals to be put on the members' website
- Three independent referees to be provided in the proposal

L. McConnell mentioned that projects with an educational focus or at least an educational component would be valuable.

H. Heizen and V. Cesio provided a brief report on outcomes from the IUPAC-sponsored, 3rd Latin American Pesticide Residue Workshop (LAPRW) in Montevideo Uruguay.

- Besides residues in food, also those in the environment were at the focus of the congress
- International participation and speakers
- Successful exhibition with well-known companies
- Workshop on risk assessment held in parallel with 77 participants (hosted by R. Parker)
- Poster sessions, young scientists were the focus

Please see the written report in the Appendix. The next in this series of conferences will be held in 2013 in Bogota, Colombia and will be led by committee member J. Dallos.

A general discussion on opportunities for strategic collaborations was carried out by the group. Opportunities to work with ACS-AGRO International Affairs committee, chaired by K. Racke; LAPRW; SETAC Chemistry Advisory Group, 2012 Chair, E. Ulrich; continue to be expanded as we move towards the IUPAC Congress of Pesticide Chemistry to be held in 2014. It was suggested that we utilize the Pesticide Congress to strengthen collaborations with other groups by including them as entities in program planning.

A review of results from the survey of committee members was presented by L. McConnell (see Appendix for details). Toxicological risk and environmental fate are the prime interests (other interests, e.g. regulatory issues, analysis, etcetera).

The list of topic areas currently included on the committee brochure was reviewed. The group suggested that "Food Safety and Contaminant Residues in Food" be added to the list. Other topics of interest for the future were:

- Transgenic Crops – GM pesticides; environmental impact of changed management practices; and the need for regulatory harmonization.
- Nanopesticides and nanotechnology approaches (delivery and formulation) to pest management –

need for harmonization crop and veterinary medicine

Opportunities for Interaction and Cooperation:

- K. Racke mentioned that ACS AGRO now has an International Activities Committee that could partner with the committee.
- Perhaps use the IUPAC travelling chemist program to reach out to Africa or partner with SETAC Global or USDA Borlaug program. Connect with groups that have experience in Africa such as Royal Society of Chemistry.
- Continue to support cooperation with South America/Latin American and with Asia (India/China)
- Development of educational materials from past project publications
- SETAC: involved in UN chemicals management program with different educational projects; same educational outreach may be desired for other global regions.
- NSF workshop near Buenos Aires (atmospheric processes at the agriculture/city interface)
- IUPAC Congress – would like representatives from all the different groups and be ACTIVE. Organize a symposium or workshop, so it feels like equal representation instead of all ACS planning everything. Highlight activities of their groups within Congress. (Could be end up being equal in expense and income with respect to funding but generates collaborative effort – put money in someone else's conference with expectation that they will fund our conference). IUPAC funding mainly supporting scientists from developing countries. A lot of funding also comes from industry (donation to NGO). Groups will then be listed in the program.

There was a short discussion on the inactive food chemistry subcommittee. It was suggested that food-related proposals could come under the purview of this committee since we have an agriculture focus. The new MRL project proposals do have a food component inherent. This may be a way to revive the food chemistry area in the division without have a separate committee.

Action Items from First Plenary Session:

- Post past publications on Google website (L. McConnell)
- Investigate open access of IUPAC project papers or at least more freely available (K. Racke).
- Update bibliography of publications on Global Information website (J. Unsworth)
- Update committee brochure with new topic area (J. Unsworth)
- J. Unsworth to contact D. Wauchope regarding plans for Footprint Database (J. Unsworth)
- Put past successful proposals on Google site (L. McConnell)
- Invite new members to Google Site (L. McConnell)

Afternoon Plenary Session

J. Unsworth gave a demonstration and overview of the website pesticides.iupac.org and mentioned that the site is currently not able to be edited because of a bot attack. Restoration of access has been difficult because there has been no response from personnel who host the IUPAC site. Members are invited to add content to the site and provide summaries of past projects.

Action Items:

- Follow up with IUPAC Secretariat and external developer on status of website (J. Unsworth)

Breakout Sessions

Project 1

Global Framework for Implementing Consistent Ecological Risk Assessment of Pesticides for Sustainable Agriculture (Unsworth) –

- J. Unsworth provided background on the project.
- Project is divided into 8 “sections”
- Who is the audience? Risk Assessors
- Discussion section – extrapolation to native species and/or soils? Add safety factor?
- Tier 1 – algae, daphnia, fish should be sufficient. May need other species for higher tiers.
- Where would you put Tier 2 and 3? Discuss higher tiers but detail Tier 1. Chapter 6 – safety factors/uncertainties.
- If flunk Tier 1 then what direction? Point to OECD guidelines. If don't have money, go with safety factors.
- Problem formulation is missing in book. Know where to go next if have problem formulation. Helps set goal of what you want to protect. Can add to Chapter 2. X case in ECOFRAM reference. Mode of action, organisms exposed, application rate, protective goal.
- Examples or case studies would be best. Example for each country would be good.
- Use Tier 1 species and note that higher tier can use local species (do NOT use for Tier 1).
- Exposure should be country specific.
- Chapter 8 – should have developing country people contribute because the problems from country to country are not the same
- Add new section (3) “Problem Formulation”
- Change title of Section 2 to “Evolution and Principles of Risk analysis”

Action Items:

1. Introduction (emphasis on the need for consistent ERA practices within emerging economies) – J. Unsworth.
2. Evolution and Principles of risk analysis – J. Linders
3. Problem Formulation (include country specific case studies) – G. Cobb
4. Ecological Hazard Identification (and associated uncertainties) – D. Volz (*draft available*)

5. Environmental Exposure Assessment (and associated uncertainties) – R. Parker (*draft available*)
6. Screening-level (Deterministic) Ecological Risk Characterization – W. Chen.
7. Uncertainties in Risk Estimation (and use of safety factors and probabilistic risk assessment to address these uncertainties) – J. Linders.
8. Ecological Risk Communication, Perception, and Management – V. Cesio, E. Carazo, K. Miglioranza, J. Zhou.

Action Items:

- J. Unsworth to contact Junying Zhou to see if it is possible to organise a workshop in Nanjing in September 2012
- J. Unsworth will edit sections as they become available to ensure consistency

Project 2

Progress on Environmental risk assessments for the registration of pesticides used in rice paddy fields (Linders)

- J. Linders provided an overview of the project status
- Chapter 2 – Rice and pest management – so far solely on Brazil. Move to an appendix for the time being and possibly delete. Need shorter text, right now about 15 pages.
- Chapter 5 – 5.2 Rotational Crops. A. Ritter and K. Tanaka will help write. Due end of September 2011.
- A. Ritter will give rice expert contact information to J. Linders. US rice experts can help with writing Chapter 2 general practices.
- Shooting to be done at the end of the year.

Action Items:

- J. Linders will provide new draft before end of 2011 after taking care of items mentioned above. New draft will circulate early 2012 for comments among authors.
- Final paper to be presented in Delhi Conference in February 2012. J. Linders will also add a section on Conclusions and Recommendations.

Project 3

Evaluation of food and feed safety implications of (altered) residues of pesticides applied on transgenic (GM) crops (Kleter) –

- The background of the ongoing project is explained based on the handout with the slides of presentation given the day before
- For the follow-up work on insecticidal proteins in genetically modified crops, it is recommended to describe different regulations pertaining to insecticidal proteins in transgenic crops, as well as those that pertain to biopesticides in general
- With regard to safety, it is also recommended to describe issues related to behavior of the newly expressed proteins in gastrointestinal tract after consumption
- Seed treatment with pesticides, such as systematic herbicides in herbicide-resistant crops, is an interesting new development exploiting the

herbicide resistance trait, which should be further explored with regard to the possibility to initiate a study on this relatively new practice

- The list of team members to be extended (with Heinzen, Kookana, Volz)

Action Items:

- An outline of the report/article is to be developed by the team leader and feedback to be received from the team members within the coming months
- Ask for data/summaries of local data not accessible via Internet and/or in different languages, particularly for biopesticides
- Prepare presentation for Beijing, September 2012 (presentations also to be given in Amsterdam, December 2011, and Delhi, February 2012)

Project 4

Dietary risk assessment and MRL harmonization

This is one of both break-out sessions held in parallel

Two proposals on similar issues have been submitted:

1. Dietary risk assessment: data harmonization and approaches (calculations).

Aims: review with recommendations; harmonization of models

2. MRL harmonization: inventory of different MRL regimes around the world and discrepancies with Codex alimentarius. OECD statistical approaches
- Additional candidate partners to be approached
 - E.g. from government and industry
 - A. Ambrus
 - Others e.g. from DG SANCO of the European Commission
- Recent developments: countries like Japan, Hong Kong and Russian Federation
- Other issues of potential interest:
 - Residues of biopesticides
 - Processing factors

Action Items: None. Two proposals have been submitted by C. Harris and are awaiting a decision by the DCE.

Thursday, August 4, 2011

Morning Plenary Session

The chairman reconvened the subcommittee meeting with a brainstorming session on new project proposal ideas.

1. Harmonized approach to definitions and regulation of Nanopesticides and Nanodelivery systems
 - Review of products and possible effects
 - Regulations
 - Seek additional funding e.g. from ACS, issue that can attract a lot of interest, aim for \$25,000
 - Organize symposium, e.g. in 2014

Team members: R. Kookana (leader), K. Racke, G. Kleter, S. Yates, K. Miglioranza, K. Tanaka, H. Heinzen, E. Carazo, J. Guerrero, J. Linders, W. Chen
2. Genetically Modified Pesticides
 - Which categories are there (e.g. GM Bt, RNAi, GM viruses)? Which information exists on these pesticides?

- How are they regulated and assessed? As biopesticides and/or GMOs?

Task members –G. Kleter (leader), Y. Nakagawa, E. Carazo, J. Unsworth, W. Chen, V. Cesio

3. Impact of GMO crops on Ag Management Practices
- Extends upon previous project on environmental impacts of altered pesticide use

Task members – G. Kleter (leader), K. Tanaka, H. Heinzen, J. Unsworth, K. Miglioranza

4. Post-Application Volatility – Soil Moisture and Temp affecting Pesticide Volatilization in relation to Risk Assessment

- Measures such as border buffers (for large-scale operations)
- Issues differently approached by different governments; recent examples of residues in organic products

Task members – S. Yates (leader), L. McConnell, K. Tanaka, K. Miglioranza, K. Racke, E. Carazo, W. Chen, G. Cobb, E. Ulrich, A. Ritter

5. Extrapolating sorption data from data rich to data poor regions (e.g., tropical regions) based comparison of existing data collected through literature review and an exploration of the possibility to apply certain statistical methods for this purpose.

Task members – R. Kookana (leader), W. Koskinen, D. Wauchope, V. Cesio, E. Carazo, A. Ritter, J. Linders, W. Chen, S. Yates, J. Guerrero

6. Agrochemical guide to educational materials on pesticides –

- Slides associated with different projects such as Pesticides in the Environment – perhaps in different languages.
- Seek assistance from Crop Life Latin America.
- Utilize course from J. Linders and K. Solomon. Resources from IAEA.
 - Follow up on Ian Ferris work.
 - E-learning modules. Survey potential customers to define greatest needs.
 - Possibly do a Chinese translation of Pesticides in the Environment.
 - Seek funds from Education Committee.

Task members – E. Carazo, (leader) Everybody!!!! and Ian Ferris if available.

7. Good Modelling Practice for ecological risk assessment

Task group: R. Parker (leader), J. Linders plus EU group members, J. Guerrero, A. Ritter, W. Chen, S. Yates

Action Items:

- Draft proposals will be developed using the IUPAC Project Form by Sept 30, 2011 and submitted to J. Unsworth. (Team leaders)
- These drafts will be sent out to the group for ranking and for comments. (J. Unsworth)
- Leaders will provide near final drafts by end of December for comments.
- The top three will be selected for submission to the division by Feb 29, 2012.

Wenlin Chen made a presentation of newly funded project on pesticide sorption

Project 2010-018-2-600: Quantitative review and analysis of pesticide sorption and its effect on degradation in relation to soil and climate

- Relation between sorption (e.g. as a function of moisture, temperature), degradation (as a function of sorption, moisture, and temperature), and chemistry (QSAR)
- Data have been collected, including IUPAC name, soil type, humic content, Koc, Kd, half-life
- Paper and public searchable database to be developed
- Details of data to be collected: e.g. sorption: pH effect; degradation: moisture and temperature effects; QSAR model to be developed
- Additional participants can jump in
 - Ritter joins, as well as Guerrero, Miglioranza (plus another colleague of hers, Mariana)
- Comments can still be submitted

Action items: None at present

Afternoon Plenary Session

Ken Racke and Laura McConnell provided a presentation on preparations for the IUPAC International Congress of Pesticide Chemistry

New dates have been fixed: August 10-14, 2014 (dates changed)

- San Francisco is conveniently located, well-facilitated
- In parallel with ACS meeting
- Symposia to be developed through a competitive proposal process
- Develop a variety of theme-based publications instead of single proceedings
- Competition for PhD students
- Outreach activities
- Approved by IUPAC, AGRO and ACS (seed money from ACS)
- Co-organizers Racke and McConnell
- Initial website: www.iupac2014.org
- Possibility to list for emails
- Volunteers, e.g. organizing committee members to be selected from proposal participants and ACS
- Experiences from Melbourne can be taken into account
- To be developed: circular, development committee, advancement of scientific program involving a proposal submission procedure (including proposals from partner organizations, e.g. ACS ENV, SETAC, PSSJ, Beijing Pesticide Society), finding sponsors
- Contacts:
 - PSSJ: K. Tanaka
 - Soil Science Society of America (S11): S. Yates
 - SETAC: E. Ulrich
 - ACS ENV: G. Cobb (and T. Williams, chair-elect), ACS ANAL? AGFD (J. Seiber)?
 - LAPRW – J. Guerrero, H. Heinzen, V. Cesio
 - FLPRW – S. Lehotay
 - European Pesticide Residue Workshop Vienna – S. Massinger
 - Piacenza Symposium – E. Capri

- Latin American Chemistry Congress – V. Cesio, Montevideo, etc.
 - Society of Toxicology – J. Clark
 - British Crop Protection – Crop World Conferences
 - Beijing Pesticide Society
 - Korean Pesticide Society
 - IARC- India –N. Shakil
 - Plant Pathology Society
 - ABQ – Brazil
 - Belgium conference – J. Linders
 - Royal Society of Chemistry – J. Unsworth
 - Global minor use – J. Baron
 - International Society of Horticultural Science – H. Heinzen
- How to structure the congress different from Melbourne with more focus on poster sessions?
 - Various ideas presented, e.g. consumptions offered in same room, short oral presentations of the posters, moderations, etcetera

Cambodia – K. Tanaka provided a presentation on a project currently on-going in Cambodia. There is a strong need for technology transfer in Cambodia for safe pesticide use. A problem is illiteracy among the population and a lack of experts in the country. He is planning to return this year and will report back to the committee.

Update on 2012 conference in India (Dr. N.A. Shakil, Indian Agricultural Research Centre, Delhi, February 2012)

- \$7500 in funding available for IUPAC speakers – organizers providing hotel. Appears this group is interested in MRLs and Ecological Risk Assessment

Action Item: Need to make sure IUPAC marketing materials and bibliography available at the conference

Update on 2012 conference in China (Prof. X. He, China Agriculture University, Beijing, China, September 2012).

- J. Unsworth proposes to hold the next subcommittee meeting in Beijing, but need to have additional funding to have a substantial group for a meeting. Will need to put in a project proposal to request funding to support travel.
- Alternative location could be ACS Fall Meeting 2012 in Philadelphia
- May be able to coordinate L. McConnell visit in October 2011 to Beijing
- J. Unsworth, W. Chen and J. Linders, K> Miglioranza agreed to be on Program Committee
- Action: Investigate if we can move up the conclusion of the China portion of the Global Framework project then we could organize the workshop in Nanjing (J. Unsworth, W. Chen).

Progress on planning the 4th Latin American Pesticide Residue Workshop in Colombia (J. Dallos, National University of Colombia, Bogota, June 2013)

One problem with obtaining IUPAC sponsorship is that Colombia is not an NAO.

Action Item

J. Guerrero will investigate to see if Colombia will become at least an Associate member of IUPAC in order to receive sponsorship. In the meantime can also prepare a Project proposal to obtain some funding.

Possibilities for workshops in Africa

- Need to look into IUPAC CCE to cost-share visiting scientists rather than workshop
- Could link with Cambodia project.
- J. Linders has contact in South Africa who is interested in working with IUPAC. E. Carazo also said she has some contacts from South Africa.
- Scientist from Kenya Dr. J. O. Lalah, from Kenya, is interested in organizing a workshop
- G. Cobb interested in investigating combined efforts of ACS/IUPAC/SETAC. SETAC has strong interest in Africa. K. Racke suggested trade aspects are very important and driving efforts on MRLs.
- Investigate cooperative agreement with SETAC
- Need to investigate needs in the region
- K. Racke and J. Linders will send contacts to John, we can put them in contact with each other and ask for them to come up with some priorities and ideas for further work

Action Item: J. Linders, R. Kookana, J. Unsworth, G. Cobb, K. Miglioranza, E. Carazo will work towards building some contacts and activities for the future in Africa

Discussion on the IUPAC international award in crop protection chemistry, to be awarded next in 2012 (sponsorship, nomination procedure)

- Distribute copies of announcement to all committee members and attach to minutes
- Will be presented either in Philadelphia or Beijing

Next meeting – Beijing September 2012 (proposed)

Membership additions: R. Kookana, K. Miglioranza, A. Ritter, S. Yates, D. Volz – Add E. Ulrich and G. Cobb as Affiliates

RECENTLY COMPLETED PROJECTS

Project Name (No.)	Leader	Status
Spray Drift Assessment and Mitigation (2001-023-1-600)	Unsworth	<u>Project completed.</u> Report and recommendations approved. Published in J. Env. Sci. and Health Part B <u>45</u> 889-911(2010) – abstract in: http://www.ncbi.nlm.nih.gov/pubmed/20981606
Crop Protection Chemistry in Latin America: Harmonized Approaches (2003-013-1)	Carazo	<u>Project completed.</u> Printing of the Spanish translation of the IUPAC “Pesticide Glossary” and the “Pesticides in the Environment” textbook is currently ongoing <i>via</i> Univ. of Costa Rica Press.
Critical review of available methods to predict VOC emission potentials for pesticide formulations (2006-011-1)	McConnell	<u>Project completed.</u> Report and recommendations approved. Published in Atmospheric Environment, <u>45</u> 2404-2412 (2011) – abstract in: http://www.sciencedirect.com/science/article/pii/S1352231011001397

ACTIVE PROJECTS

Project Name (No.)	Leader	Status
Evaluation of food and feed safety implications of (altered) residues of pesticides applied on transgenic (GM) crops (2006-015-3)	Kleter	Project <u>initiated.</u> Paper has been accepted by Pest Management Science, should be in press late 2011/early 2012.
Environmental risk assessments for the registration of pesticides used in rice paddy fields (2006-044-2)	Linders	Project <u>initiated.</u> Task group meeting and symposium held Oct-2007. Second task group meeting held in Nov-2009. Draft report has been prepared, with finalization scheduled during the next task group meeting, August 2011
Global Availability of Information on Agrochemicals (2008-041-1)	Unsworth	<u>Continuation</u> of earlier project (2001-022-1) to provide for website maintenance and expansion.
Development of a Pesticide Ecological Risk Assessment and Training Module (2008-011-2-600)	Parker	<u>Continuation</u> of earlier project (2004-011-1) to advance a training initiative with national regulatory authorities for the IUPAC project-related materials that have been developed.
Quantitative Review and Analysis of Pesticide Sorption and Its Effect on Degradation in Relation to Soil and Climate: (2010-018-2-600)	Chen	Project <u>initiated.</u> This project evolved from Quantitative Review of Pesticide Environmental Fate Parameters and (2010-018-1-600) following comments from the DCE. Task group has been formed, with first task group meeting scheduled for August 2011
Global Framework for Implementing Consistent Ecological Risk Assessment of Pesticides for Sustainable Agriculture: (2010-056-1-600)	Unsworth	Project <u>initiated.</u> This project evolved from Ecological Risk Assessment Harmonized Guidance for Brazil and Uruguay (2010-016-1-600) and Development of Guidance to Promote Consistent and Transparent Pesticide Ecological Risk Assessment in China (2010-017-1-600) following comments from the DCE. A telephone conference was held in March 2011, two draft chapters have been prepared. Task group meeting to be held August 2011.

A Support Team for Enhancing, Maintaining and Ensuring the Future of the Pesticides Properties Database (PPDB) (2010-060-1)	Wauchope	Proposal approved for funding July 2011. Task group prepared to initiate project during 2011.
---	----------	---

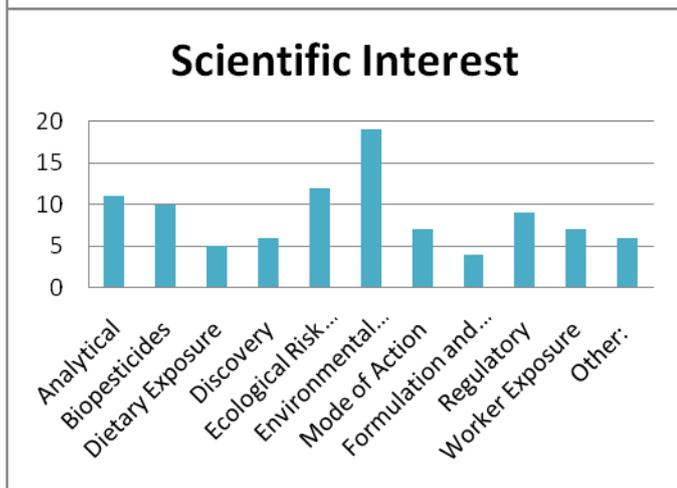
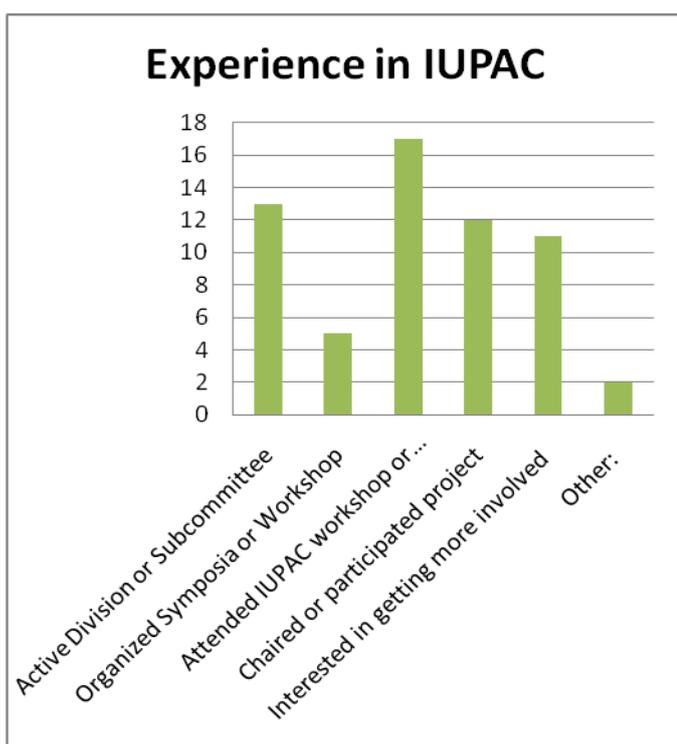
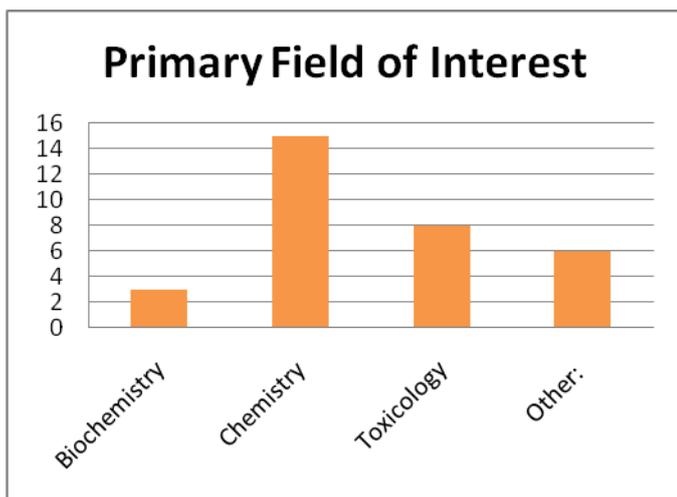
NEWLY PROPOSED PROJECTS

<i>Project Name (No.)</i>	<i>Leader</i>	<i>Status</i>
Crop Protection through the Ages: (2011-001-1)	Unsworth	Proposal submitted and awaiting DCE review and approval. Task group prepared to initiate project during 2011. Proposal was not funded by the division but will continue informally without funding.

PROJECTS SUBMITTED

<i>Project Name (No.)</i>	<i>Leader</i>	<i>Status</i>
Critical review of approaches to dietary risk assessment for pesticides	Harris Caldas	In Review
How harmonised are Maximum Residues Limits (MRLs)?	Harris Caldas	In Review

**Results of Subcommittee Membership Survey
– July 2011**



What two or three issues/opportunities related to crop protection chemistry and of international significance would you most like to see IUPAC initiate project activities around?

- Biopesticides
- Presence of pesticide residues used for crop protection in the final product after an industrial procedure.
- Drift test methods
- Worker (not applicator), bystander and resident exposure
- Formulation of bio-pesticides
- Volatilization of pesticides
- Behavior of adjuvants (fate and (eco-)tox)"
- Create Awareness on efficient usage of pesticides in agriculture and public health vector control in East Africa.
- Finance a conference on pesticide usage, fate, environmental fate and risk assessment in Kenya."
- Genetically modified crops and pest management
- Selective toxicity of agrochemicals
- Chemistry towards new targets
- Environmental fate of new compounds
- Developing of news Biomonitoring as a tool for environmental evaluation-
- Pesticide dissipation in rotative agriculture systems
- Influence of pesticides applications techniques on water quality.
- World-wide harmonization of testing guidelines.
- World-wide bridging of e-fate study data.
- Environmental impact
- Data issues - scope, quality and availability
- Transgenic crops
- International harmonization / mutual recognition of regulatory issues and assessments of crop protection chemicals, such as maximum residue limits
- Impacts of new developments / technologies on crop protection management"
- The management (internationally) of active ingredients and formulations, from delivery of the formulation to long term storage prior to use, is of major interest to the many stakeholders involved. We are aware that in many cases around the world pesticides products are not managed anywhere near as well as they should be. I don't know what specific issues the project would address
- I like the activities related with environmental fate and environmental and food contamination.
- Risk classification criteria;
- Risk mitigation measures."
- stereochemistry
- Strengthening statistical and computational methods to deal with spatial variability in regional-scale assessments of environmental fate; Harmonization of methods used in risk assessments at a world-wide scale; Improvements in the

way small-scale farmers in developing countries handle, store and use pesticide products.

Adoption of modern risk assessment practices in developing and emerging economies; impacts of global agricultural trends on public health

Worldwide process for sharing pesticide data from registration and unpublished studies

Environmental fate in tropics and sub-tropics"

To establish international MRL for using in agricultural products trading

To know the environmental fate of pesticides

Harmonization of regulations fro biopesticides

From historical aspects I would like to review how chemicals contribute to the crop protection all over the world?

Fate and effects of pesticides in tropical environments

Tools to extrapolate data from data rich to data poor regions

Development of multi residue analysis method in agri-food

Application for metabolomics studies

Pesticide registration regulations; Data requirements; Test technologies;

Ecological risk assessment and risk management.

An interesting topic would be: Forecasting environmental risks in a changing climate. Organizations woul dinclude government agencies, industry partners and academic institutions.

TERI, green pesticides

Are there specific crop protection chemistry-related conferences or workshops already planned in your region during the next 2-3 years that IUPAC should consider co-sponsoring?

LATIN AMERICAN PESTICIDE WORKSHOP 2013, COLOMBIA., LATIN AMERICAN PESTICIDE WORKSHOP 2013, COLOMBIA.

The International Symposium on Crop Protection (ISCP) is held every year at the Ghent University, Belgium. Apart from the impact of the many scientific papers (ca.200) that are presented by researchers, extension workers, and companies (ca.500), the organizing committee, of which I make part of, emphasizes the importance of this annual event as a forum for crop protection specialists worldwide.

Proposed idea to have a conference next year on pesticides in Nairobi, Kenya, which IUPAC should consider

5th Pan Pacific Conference on Pesticide Science (Tsukuba, Japan) in 2012

Latin American Pesticide Residue Workshop

LAPRW 2013 in Colombia.

Exactly crop protection chemistry is not planned to carry out in my country, but I m going to organize the 4th Lationo American Pesticide Residue Workshop in 2013 in Colombia and this is related with environmental and contamination issues.

The IUPAC project "Global Framework for Implementing Consistent Ecological Risk Assessment of Pesticides for

Sustainable Agriculture" has planned a workshop in May 2013 in China.

Chirality in Agrochemicals and Agrochemicals in the Environment at SERMACS 2012 (Raleigh, NC, November 2012)

The Annual Western Canada Trace Organic Workshop.

The Annual General Meeting and Conference SETAC - Prairie Northern Chapter

there will be a "conference" in Australia in coming years for Great Barrier Reef paddock, river and marine water quality science, including a focus on herbicide runoff and effects, based on a large program now running

5th Pan Pacific Conference on Pesticide Science(Original planning is now reconsidering)

XV International Congress on Molecular Plant-Microbe Interactions

Are there any organizations that IUPAC could work with to collaboratively organize a new crop protection chemistry-related conference or workshop? If so, what organization(s) do you suggest and what topics would be of greatest interest?

"LAPRW 2013 in Colombia at the organizing committee with Dr. Jairo Arturo Guerrero.

Congreso Latino Americano de Quimica Analitica Montevideo 2013, LAPRW 2013 in Colombia at the organizing committee with Dr. Jairo Arturo Guerrero.

Congreso Latino Americano de Quimica Analitica Montevideo 2013"

Our department of Crop Protection is used to organize the above mentioned conference every year. Next to the official one day conference a workshop can be added and or included in the programme easily. A symposium of a week means more organisational aspects. Our department exist of three major groups: phytopathology, entomology and crop protection chemicals.

Kenya Polytechnic University College
Nairobi
Kenya."

I think that with SETAC

The IAEA has regional projects in LA and other regions around the world, the projects are related to environmental pesticide fate, pesticide residues (regional capacity building), etc.

SCI

OECD, e.g. on the use of biotechnology, such as insect-resistant transgenic crops and insecticidal micro-organisms, for crop protection in agriculture (as part of OECD's environmentally focused activities)

The WHO and FAO Pesticide Evaluation Group, the JMPs and CIPAC - some members of these committees may be interested in some involvement. The IUPAC should have working or collaborative links with the AOACI. A topic of interest for many would be "the direction that

development of new compounds is going in and the specific reasons for, or background to, this development."

Organization: Nanjing Institute of Environmental Science, MEP

Society of Environmental Toxicology and Chemistry (SETAC), Society of Toxicology (SOT), and/or Society for Risk Analysis (SRA)

the above conference will involve The Australian Government, The Government of the State of Queensland, CSIRO and various Universities.

American Chemistry Society -AGRO division

Ministry of Agriculture, Forestry and Fisheries (MAFF) of Cambodia

The Project of Capacity Building for the Quality Standard Control of Agricultural Materials (Chemical Fertilizers and Pesticides) (QCAM Project) "

SETAC Asia Pacific

Society of Pesticide Science India

RAMSAR"

What do you consider to be the major threat to food production in the next 10 years ?

The continuous use of synthetic pesticides can lead to the development of serious pest resistance, the continuous use of synthetic pesticides can lead to the development of serious pest resistance

Residues

plant protection products are not in my list, but due to public awareness they are still number one. As partner of the Veg-i-Trade EU project we are working on this issue.

<http://www.veg-i-trade.org/>

After the EHEC outbreak in Europe it is well illustrated that micro-organisms and mycotoxins become of major importance.

Related to pesticides they say that generic products with less performing adjuvants or illegal products containing the wrong products within the packages (internet sell)."

For example, Inadequate instruments to address food security issues such as storage and improvement in agriculture in Kenya.

Pest and climate related stresses

water supply.

decline of the labor force in agriculture "

Lost of soil structure, monoculture, Use of so much pesticides without control

Pest control/resistance.

Few pesticide new molecules in the market.

Climatic conditions"

Unsustainability of agro ecosystems due to pesticide misuse and pest resistance.

Water scarcity.

Availability of funds and technology for farmers."

Climate change

Climate change

Decreased food yields due to loss of effective vector control by chemicals means, especially as, in my opinion, biological control mechanisms continue to require chemical based back-up options both at this time and for the foreseeable future. Food production per hectare worldwide must be maximised by these means.

I think that the climate change is the major threat to food production.

Pesticides residues

Warfare.

climate change, pressures on the environment when more land is needed to increase food production or land is used more intensively, weed resistance to herbicides, poor financial returns to farmers

Failure in supply of new pesticides

Tighten regulation for using of pesticides

Resistance of insect and pathogen"

climate change

Development of resistant pests including weeds.

Loss of land to urbanisation

Toxins

Can you suggest any colleagues who may wish to receive information on this committee?

Walter Steurbaut Walter.Steurbaut@UGent.be, he will be retired this year.

"Departments of Chemistry in Nairobi University, Maseno University, Moi University, Jomo Kenyatta University and Masinde Muliro University in Kenya.

Ministry of Agriculture, Ministry of Public Health and Medical Services and Kenya Agricultural Research Institute (KARI) in Nairobi, Kenya."

marugonz@gmail.com Mariana Gonzalez

"Luiz Carlos Luchini, Instituto Biologico de Sao Paulo, Brazil
Orlando Lucas, SENASA, Perú

Tania Caceres, U. Católica, Ecuador

Britt Maestroni, IAEA"

"Prof. Horacio Beldomenico Instituto de Ingenieria Quimica Facultad de Ingenieria Universidad Nacional del Litoral, Santa Fe Argentina.

Horacio R. Beldoménico" <hbeldo@fiq.unl.edu.ar>,"

"Horacio R. Beldoménico" <hbeldomenico@arnet.com.ar>,"

Analytics: hans.mol@wur.nl (Dr Hans Mol, at RIKILT - Institute of Food Safety, Wageningen University and Research Centre, Wageningen, The Netherlands, Europe)

Willy Knedel from Guatemala

"Shan Zhengjun email: sszj@163.com"

"Dr. Feiyue Wang, Department of Environment and Geography & Department of Chemistry, 253 Wallace Building

University of Manitoba, Winnipeg, MB, Canada R3T 2N2,
Tel.: 204-474-6250, Fax: 204-474-7608, Email:
wangf@ms.umanitoba.ca,
<http://home.cc.umanitoba.ca/~wangf/>
suneel pandey
"Dr Neera Singh IARI India, drneerasingh@yahoo.com"
"Renato Zanela - renatozanella@pq.cnpq.br
Ionara Pizzuti - ionara.pizzutti@ceparc.com.br"

Division of Chemistry and Environment (VI)
IUPAC Committee on Crop Protection Chemistry
2010-2011 Membership, New Members, and Interested
Affiliates

Prof. Irene Baptista de Alleluia
Instituto Nacional de Tecnologia
Divisao de Meio Ambiente
Av. Venezuela, 82
20081-310 Rio de Janeiro, RJ
BRAZIL
Tel: +55 21 2206 1104
Fax: +55 21 2206 1107
E-mail: irene.alleuia@gmail.com

Prof. Eloisa Dutra Caldas
University of Brasilia
College of Health Sciences
Campus Universitario Darci Ribeiro
70919-970 Brasilia/DF
BRAZIL
Tel: +55 61 3307 3671
Fax : +55 61 3307 3671
E-mail: eloisa@unb.br

Prof. Elizabeth Carazo
Universidad de Costa Rica
Escuela de Agronomia y Centro de Investigacion en
Contaminacion Ambiental
Ciudad Universitaria "Rodrigo Facio"
San Jose
COSTA RICA
Phone: +506 207 4479
Fax: +506 253 1363
E-mail: carazo.elizabeth@gmail.com
E-mail: elizabeth.carazo@ucr.ac.cr

Dr. Rinaldo F. Catta-Preta
Head of Chemical and Environmental Studies
R&D - Brazil CP Development
Syngenta Proteção de Cultivos Ltda
Av. José Maria Whitaker, 1260
Planalto Paulista
04057-000 São Paulo - SP
BRAZIL
Phone: +55 (11) 5078-5232
Mobile +55 (11) 9632-0699
Fax +55 (11) 5078-5230
E-mail : rinaldo.catta-preta@syngenta.com

Prof. Verónica Cesio
Universidad de la República
Departamento de Química Orgánica
Avda. General Flores 2124
Montevideo UY-11800
Uruguay
Phone +598 2 924 40 68
Fax +598 2 924 19 06
E-mail cs@fq.edu.uy

Dr. Wenlin Chen
Syngenta Crop Protection, Inc.
P.O. Box 18300
Greensboro, NC 27419-8300
USA
Tel.: +1 336-632-2015
Fax: +1 336-632-7846
E-mail: wenlin.chen@syngenta.com

Prof. Jairo Arturo Guerrero Dallos
Departamento de Química
Universidad Nacional de Colombia
Kr 30 No 45-03
Ciudad Universitaria, Bogota
COLOMBIA
Tel: +57-1-316 5000 ext. 14412
E-mail: jaguerrero@unal.edu.co

Prof. Annemieke Farenhorst
Department of Soil Science,
Faculty of Agricultural and Food Sciences
University of Manitoba
380 Ellis Building
Winnipeg, Manitoba R3T 2N2
CANADA
Phone: +1 204 474-6858
FAX: +1 204 474-7642
E-mail: farenhor@ms.umanitoba.ca

Dr. Caroline A. Harris
Exponent International, Ltd.
2D Hornbeam Park Oval
Harrogate, HG2 8RB
UNITED KINGDOM
Phone: +44 1423 853200
Fax: +44 1423 810431
E-mail: charris@uk.exponent.com

Prof. Horácio Heinzen
Facultad de Química
University of la Republica
Gral. Flores 2124
11800 Montevideo
URUGUAY
Phone : +59 82 924 4068
Fax : +59 82 924 1906
E-mail: heinzen@fq.edu.uy
E-mail: heihoracio@gmail.com

Dr. Dimitrios Karpouzas
University of Thessaly
Dept of Biochemistry and Biotechnology
26 Ploutonos & Aeolou St.
41 221 Larisa
GREECE
Phone : +30 2410 5652 86
E-mail : dkarpouzas@bio.uth.gr

Prof. Arata Katayama
Nagoya University
Research Center for Advanced Waste and Emission
Management
Chikusa Nagoya 464-8603
JAPAN
Phone: +81-52-789-5856
Fax: +81-52-789-5857
E-mail: a-katayama@esi.nagoya-u.ac.jp

Dr. Yong-Hwa Kim
Korea Research Institute of Chemical Technology
Environmental Toxicology Team
Toxicology Research Center
P.O. Box 107
Yusung, Taejeon 305-600
REPUBLIC OF KOREA
Phone: +82 (42) 860 7490
Fax: +82 (42) 860 7488
E-mail: yhkim@kitox.re.kr

Dr. Gijs A. Kleter
RIKILT Institute of Food Safety
P.O. Box 230
6700 AE Wageningen
THE NETHERLANDS
Phone: +31 317 480 425
Fax: +31 317 417 717
E-mail: gijs.kleter@wur.nl

Dr. Rai Kookana
Centre for Environmental Contaminant Research
CSIRO Land and Water
PMB 2, Glen Osmond 5064
AUSTRALIA
Tel: +61-8-8303 8450
Fax +61-8-8303 8565
E-mail: Rai.Kookana@csiro.au

Dr. Jan Linders
Jan B.H.J. Linders
Pastoor Pieckweg 8
NL-3828 PR Hoogland
tel. (+31)(0)334554567
gsm (+31)(0)630174546
e-mail jan@familielinders.nl

Dr. Laura McConnell (Secretary)
U.S. Dept. of Agriculture – ARS
Environmental Management and Byproduct Utilization
Laboratory
Bldg. 007, Rm. 225 BARC-W
Beltsville, MD 20705
USA
Phone: +1 301 504 6298
Fax: +1 301 504 5048
E-mail: Laura.Mcconnell@ars.usda.gov

Dr. Karina Miglioranza
National University of Mar del Plata, Laboratorio de
Ecotoxicología,
Funes 3350 (7600)
Mar de Plata
Argentina
Tel: 54-223-4711810
E-mail: kmiglior@gmail.com

Dr. Yoshiaki Nakagawa
Division of Applied Life Sciences
Graduate School of Agriculture
Kyoto University
Kyoto 606-8502
JAPAN
Tel: 075-753-6117, FAX: 075-753-6123
E-mail: naka@kais.kyoto-u.ac.jp

Dr. Ronald Parker
U.S. EPA, 7507P
Office of Pesticide Programs
1200 Pennsylvania Ave, N.W.
Washington, DC 20460
USA
Phone: +1 703 305 5505
Fax: +1 703 305 6019
E-mail: Parker.Ronald@epa.gov

Dr. Kenneth D. Racke (Past-Chairman)
Dow AgroSciences
9330 Zionsville Road, Bldg 308/2E
Indianapolis, IN 46268
USA
Phone: +1 317 337 4654
Fax: +1 317 337 4649
E-mail: kracke@dow.com

Amy M. Ritter, P.E.
Waterborne Environmental, Inc.
897-B Harrison Street, SE
Leesburg, VA 20175
USA
Phone: +1 703 777 0005
Fax: +1 703 777 0767
E-mail rittera@waterborne-env.com

Prof. Gerald R. Stephenson
54 Ashton Crescent
Waterloo, ON. N2L 1P9
CANADA
Tel: +1 519-824-4120 ext 3402
Fax: +1 519 886 7311
E-mail: gerry.stephenson@rogers.com

Dr. Keiji Tanaka
MC Ryokka Co., Ltd
4-1-10, Aoyama, Otsu-shi
Shiga-ken 520-2101
JAPAN
Phone: +81 77 549 2010
Fax: +81 77 549 2010
E-mail: tkeiji@nike.eonet.ne.jp

Dr. John Unsworth (Chairman)
25 Vellacotts
Chelmsford
Essex CM1 7EA
UNITED KINGDOM
Phone: +44 1245 440056 / +44 7786 911 518
E-mail: unsworjo@aol.com

Dr. Scott R. Yates
USDA-ARS, U.S. Salinity Laboratory
450 W. Big Springs Rd
Riverside, CA 92507
Tel: +1 951 369 4803
Fax: +1 951 342 4964
Email: scott.yates@ars.uda.gov

Dr. Junying Zhou
Nanjing Institute of Environmental Sciences
Ministry of Environmental Protection
8 Jiang-Wang-Miao Street
Nanjing
Post Code 210042
CHINA
E-mail: zhjynies@163.com

Interested Affiliates or Potential New Members

Dr. Riaz Ahmad
Quality Enhancement Cell
Pir Mehr Ali Shah Arid Agriculture University
Murree Road, Rawalpindi 46300
PAKISTAN
Tel: +92 51 4422 625 or +92 51 9062 233
Email: riaz@uaar.edu.pk

Dr. George P. Cobb
Baylor University
Department of Environmental Science
Baylor University
One Bear Place #97266
Waco, TX 76798-7266
Phone: (254) 710-6556
E-mail: George_cobb@baylor.edu

Dr. Zbigniew Czaczky
Institute of Agricultural Engineering
Poznan University of Life Sciences
Wojska Polskiego 50
60-627 Poznan
POLAND
Tel: +48 784 047 005
Email: czaczkyz@up.poznan.pl

Ian Ferris
IAEA
Wagramer Strasse 5
P.O. Box 100
Vienna A-1400
Austria
Tel. +43 1 2600 21696
Fax +43 1 2600 7
E-mail iangferris@gmail.com

Dr. Victor S. Gorbатов
Head of Expert Group on Ecological Assessment of
Pesticides
Moscow State University
Soil Science Department
Leninskie Gory
Moscow 119991
Russia
Tel: +74959394814
E-mail: gvs@rc.ru

Dr Roy Greenhalgh
Xenos Laboratories/Ag. Canada (Retd.)
321 Cloverdale Road
Rockcliffe,
Ontario K1M 0Y3
Canada
Tel.+1 613 749 6541
E-mail: roygreenhalgh@sympatico.ca
Skype: roygreenhalgh80

Miss Noluzuko (Zukie) Gwayi
Senior Policy Advisor:
International Chemicals and Waste
Department of Environmental Affairs
P/B X 447, Pretoria, 0001,
South Africa
Tel: +27- (0) 12 310 3393
E-mail: ngwayi@environment.gov.za

Prof. Xiongkui He
College of Science
China Agricultural University
Yuanmingyuan West Road No. 2
Haidian District
100193 Beijing
CHINA
E-mail: xiongkui@cau.edu.cn

Dr. Nutan Kaushik
Plant Biotechnology
Environmental and Industrial Biotechnology Division
The Energy and Resources Institute (TERI)
Darbari Seth Block, India Habitat Centre
Lodhi Road, New Delhi 110 003
INDIA
Tel: +91-11-24682100/ 24682111
Fax: +91-11-24682144/24682145
E-mail: kaushikn@teri.res.in

Professor Jang-Eok Kim
Director of Institute of Safety Quality Evaluation for
Agriculture Products
College of Agriculture and Life Sciences
Kyungpook National University
Daegu 702-701
Korea
Tel. +82 53 950 5720
Fax +82 53 953 7233
E-mail: jekim@knu.ac.kr

Dr. Volker Laabs
Global Sustainability & Product Stewardship – Crop
Protection
BASF SE, APD/S – L1555
67117 Limburgerhof
Germany
Tel: +49 621 60-28844
E-mail: volker.laabs@basf.com

Prof Joseph O. Lalah
Department of Chemical Science and Technology
Kenya Polytechnic University College
Haile Selassie Avenue
P.O. Box 52428-00200 City Square Nairobi.
Kenya
Tel: +254 723 521644 (Mobile)
+254 (020) 343672, 2249974, 2252300
Fax: +254 (020) 2219689
Email: josephlalah57@yahoo.com

Dr Kathy Lewis
Reader in agri-environmental Science
Agriculture & Environment Research Unit
University of Hertfordshire
College Lane, Hatfield AL10 9AB, UK
Tel: +44 1707 284582
E-mail: k.a.lewis@herts.ac.uk

Prof. Baruch Rubin
RH Smith Institute of Plant Sci. & Genetics in Agriculture
Faculty of Agriculture, Food and Environment
The Hebrew University of Jerusalem Rehovot 76100,
Israel
Tel: +972-(0)8-948-9248
E-mail: rubin@agri.huji.ac.il

Dr. Mark Silburn
Dept. of Natural Resources and Water
203 Tor Street
P.O. Box 318
Toowoomba, QLD 4350
AUSTRALIA
Phone: +61 7 4688 1281
E-mail: mark.silburn@nrm.qld.gov.au

Pieter Spanoghe
Faculty of Bioscience Engineering
Department of Crop Protection
Universiteit Gent
Coupure links 653
B-9000 Gent
BELGIUM
Tel: +32 9264 6009
E-mail: Pieter.Spanoghe@ugent.be

Mr. Tony Tyler
Industry and Investment
New South Wales Government
1243 Bruxner Highway
Wollongbar NSW 2477
AUSTRALIA
Tel: +61 2 6626 1123
E-mail: tony.tyler@industry.nsw.gov.au

Dr. Elin Ulrich
US Environmental Protection Agency Methods Development
and Application Branch
Human Exposure and Atmospheric Sciences Division
109 T.W. Alexander Drive
Research Triangle Park, NC 27709
USA
Tel: +1 919 541 3717
E-mail: Ulrich.elin@epa.gov

Dr. David C. Volz
University of South Carolina
Arnold School of Public Health
Department of Environmental Health Sciences
Public Health Research Center (PHRC), 501C
921 Assembly Street
Columbia, SC 29208
USA
Tel: +1 803 777-0218
E-mail: volz@mailbox.sc.edu