



# KAREN Workshops

Crown Research Institutes: July-August 2007

## Contents

<b>Audience</b> .....	<b>3</b>
<b>Reference Documents</b> .....	<b>3</b>
<b>Version control</b> .....	<b>3</b>
<b>Review and Approval</b> .....	<b>3</b>
<b>Distribution</b> .....	<b>4</b>
<b>Executive summary</b> .....	<b>5</b>
<b>Recommendations</b> .....	<b>7</b>
Longer-term strategic actions .....	7
Short-term actions .....	7
<b>Scope of the report</b> .....	<b>9</b>
<b>Findings</b> .....	<b>10</b>
1. Collaboration.....	10
2. Collaboration technologies and processes .....	11
3. Data sharing .....	14
4. Resource and equipment sharing, grid technologies .....	16
5. Professional development.....	17
6. Virtual organisation set-up and management .....	18
7. Funding and policy frameworks .....	19
<b>Appendix A: About the workshops</b> .....	<b>20</b>
Background.....	20
Locations and participation .....	21
Presenters.....	21
Evaluation.....	22
Additional Wellington workshop.....	22
Potential for further workshops .....	22

## Audience

The intended audiences for this document are:

- Crown Research Institute staff, particularly those that attended workshops and/or are involved in collaborative projects
- Programme leaders of the B3, Nutrigenomics, and SLURI programmes
- Management teams at individual Crown Research Institutes
- The Board and Senior Science Managers Group of the Association of Crown Research Institutes (ACRI)
- Crown Research Institute information technology managers
- REANNZ staff members
- REANNZ Board members.

## Reference Documents

*Advanced Network Capability Building Roadmap 2007-2009* [and supporting working papers] available on the KAREN website:

<http://www.reannz.co.nz/assets/Uploads/Documents/RoadmapOverview.PDF>

## Version control

VERSION	DATE	REASON FOR UPDATE	AUTHOR
1.0	17 Aug 2007		Sam Searle
1.1	4 Sep 2007	Changes suggested by John Hine; other new content and formatting	Sam Searle
1.2	6 Sep 2007	Changes suggested by John Hine; other new content	Sam Searle
1.3	10 Sep 2007	Changes suggested by John Hine; other new content and formatting	Sam Searle
1.4	12 Sep 2007	Changes suggested by John Hine	Sam Searle
1.5	25 Sep 2007	Minor changes suggested by Steven Northover	Sam Searle

## Review and Approval

This document has been approved for release by the following:

NAME	ROLE	ORGANISATION	DATE
------	------	--------------	------

--	--	--	--

## Distribution

This document has been distributed to the following persons or parties:

NAME	ROLE	ORGANISATION

## Executive summary

The launch of the Kiwi Advanced Research and Education Network (KAREN) offers significant opportunities for New Zealand's research organisations, but there is increasing awareness amongst the member organisations about the capability building – in terms of both technologies and professional development – required for organisations to take advantage of KAREN.

Crown Research Institutes (CRIs) make up half of the current KAREN membership, alongside New Zealand universities and the National Library. An issue that has been raised by members of the Advanced Network Capability Building Advisory Panel (ANCBAP) is the potential gap between the university sector and the CRI sector in terms of KAREN-readiness and ability to respond to the new environment KAREN is facilitating.

In 2006, HortResearch successfully applied for Capability Build Fund support to run a series of workshops with Crown Research Institute (CRI) staff. The workshops aimed to raise the level of awareness amongst staff – particularly those already involved in existing large-scale collaborative programmes – about the existence of KAREN and the opportunities offered by advanced networks. At the same time, the presenters of the workshop were asked to elicit information from staff about the issues and barriers that would need to be addressed as part of the process of KAREN uptake.

This report describes the presenters' findings from the workshops, and provides some suggested directions for the CRIs to encourage greater uptake of KAREN amongst staff.

Many CRI staff are currently participating in large-scale and long-term collaborative projects that involve multiple CRIs and/or other research partners and KAREN members such as universities and commercial enterprises. There are significant opportunities for CRIs to improve existing collaborations using KAREN as an enabler, and to develop new projects in the context of an improved networked environment. In many cases, KAREN could enable CRIs to leverage significant investment that has already been made in collaboration technologies, and make the most of strengths in areas such as data management and project management. For this to happen, though, there are significant issues and barriers to CRI uptake of KAREN that will need to be addressed.

Many of the issues faced by the Crown Research Institutes are similar to those faced by other KAREN members and addressed in the *Advanced Network*

*Capability Building Roadmap 2007-2009.* The *Roadmap* is a living document designed to be reviewed regularly to reflect the needs of *all* members of the KAREN community: New Zealand will derive maximum benefit if the entire KAREN community moves forward together. It is vital, therefore, that the Crown Research Institutes engage fully with the *Roadmap*, to ensure that it reflects their requirements and enables CRIs to benefit from community capability development and to maximise opportunities for national and international collaboration.

In some cases issues and barriers relate to the deployment of technology, and are similar to the barriers faced by all KAREN members. In other cases, obstacles relate to professional development and/or organisational and cultural factors that may be different for CRIs – either as a sector or at the level of individual organisations – than for other KAREN members.

## Recommendations

### Longer-term strategic actions

1. ACRI takes a leadership role in relation to KAREN and facilitates CRI participation in national initiatives to develop e-research infrastructure, particularly in areas such as:
  - a. Real-time collaboration
  - b. Grid services, and
  - c. Identity and access management.
2. ACRI and the management teams at individual CRIs consider the development of a medium-term e-research capability development strategy. This should be aligned with the KAREN *Capability Development Roadmap 2007-2009* and the goals of the Capability Build Fund.
3. ACRI and the management teams at individual CRIs recognise the importance of *external* collaborations, and review their policies and practices with a view to establishing an e-research framework that will foster external collaboration by, for example:
  - a. facilitating the cross-organisation adoption of collaboration tools
  - b. simplifying the sharing of data while maintaining adequate controls
  - c. supporting the sharing of resources and equipment
  - d. establishing policies governing intellectual property in collaborative contexts.

### Short-term actions

4. CRI science and information technology leaders work together on a plan to embed readily available KAREN-enabled tools (e.g. for desktop videoconferencing) within current projects.

ACRI and the management teams at individual CRIs develop a plan for increasing e-research capability amongst staff, including accessing the Capability Build Fund for appropriate Travel and Event support. Example activities could include:

- a. partnering with REANNZ and/or KAREN members to offer further KAREN-related professional development events targeted at CRIs;
- b. supporting CRI science leaders - for example, the lead researchers and programme managers of collaborative research programmes like B3, Nutrigenomics and SLURI - to attend KAREN events;

- c. offering more opportunities for scientific and ICT professionals to interact within and across organisations.

## Scope of the report

The initial aim of this report was to provide feedback about KAREN uptake opportunities and barriers on a programme by programme basis, i.e. in relation to the B3, Nutrigenomics and SLURI programmes.

This report ultimately takes more of a 'big picture' view. A number of factors suggested this approach, including:

- Attendance at the workshops:
  - staff from B3, Nutrigenomics, SLURI, other initiatives, and operational units (e.g. information systems and services) participated in a mixed, rather than project-specific environment;
  - more than half (28/50) of the attendees were not from B3, Nutrigenomics or SLURI;
  - only a small proportion of the staff from the programmes attended (2/~100 B3 staff); 11/~60 Nutrigenomics staff; 9/~38 SLURI staff;
- the preponderance of common issues rather than issues that are limited to a single project; and
- the nature of the CRI environment, which sees many, if not most, CRI scientists working on multiple projects.

## Findings

### 1. Collaboration

Crown Research Institutes are already moving to an e-research paradigm in terms of the number and distributed nature of the participants in projects, particularly at the level of the scientists.

Many staff members are part of large-scale collaborative projects such as those the workshops were aimed at:

- B3 has ~100 staff and is a collaboration between AgResearch, Crop and Food, HortResearch, Lincoln University and Ensis;
- Nutrigenomics has ~60 staff and involves AgResearch, Crop and Food, HortResearch and the University of Auckland;
- SLURI has ~40 staff across AgResearch, Crop and Food, HortResearch and Landcare.

*Note: The total number of staff does not necessarily reflect the number of FTEs allocated to these projects.*

CRI staff also collaborate internally, since they usually have colleagues at multiple sites around New Zealand within their own organisation. Despite the large numbers of staff involved in these and other external collaborations, workshop discussion highlighted that external collaboration between scientists takes place in spite of a number of difficulties, which are outlined further in the following sections.

#### Opportunities

CRI have a track record of successful internal collaborations, which can be leveraged to collaborate more across the Crown Research Institutes and with other KAREN members (e.g. universities), but this will require leadership, coordination and commitment from ACRI and all the CRIs. [See Recommendation 1]

## **2. Collaboration technologies and processes**

### *Internal focus*

A raft of commercial collaboration suites such as SharePoint, MS Office Communicator and MS 2007 Groove are in production or being trialled within CRIs. In most cases though, these have an internal focus and do not easily facilitate collaboration with external parties.

### *Proliferation of tools*

This leads to the current situation, in which external collaborations are developing ad hoc tools and processes for their project. For example, wikis are starting to be used, but these have been set up for individual projects using different software: information about comparative wiki evaluations, useful customisations, and support (technical support, training and peer support) are not shared across projects.

### *Identity and access management (IAM) issues*

The development of *ad hoc* tools and processes is also creating a complex environment for the management of identities (i.e. userids and passwords) and access control mechanisms for different resources. Participants in the workshop noted that identity and access management is managed in *ad hoc* ways by different projects (and even at the level of individual resources, e.g. databases, wikis, and file system, by different owners of those resources). This proliferation of tools and processes is resulting in different log-ins to multiple systems, information overload and user resistance to new tools.

### *Interoperability and logistical issues: videoconferencing*

Videoconferencing is widely available in CRIs and is well-used by some projects.

Unfortunately, technical issues such as firewalls and interoperability between different proprietary systems have made cross-organisation collaboration using videoconferencing difficult. Logistics (e.g. scheduling) are also difficult to sort out across organisations. Some workshop attendees also identified low quality, lack of usability and functionality issues (e.g. a lack of useful shared applications alongside 'talking heads') as barriers.

### *Formal vs. informal collaboration*

Current systems and processes tend to support formal collaboration (e.g. meetings), while informal collaboration is largely limited to people at the same site.

Tools that would support online informal collaboration, e.g. instant messaging and desktop videoconferencing, are often blocked by firewalls for security or other reasons.

There was a high demand from workshop participants for access to desktop videoconferencing.

### *Limited functionality of existing tools*

Currently available tools provide additional communication channels but not other types of desirable functionality that would enable activities such as:

- collaboration involving equipment or artefacts, e.g. remote control of instruments, remote data analysis and visualisation, collaborative writing of conference papers and presentations;
- automation of processes, e.g. grid portals, Kepler or TAVERNA scientific workflows; and
- project administration, e.g. more automated or streamlined processes for tracking, notification and reporting.

### Opportunities

CRI's can expect to reduce costs and increase user engagement with collaboration tools if they agree on a core toolkit of generic collaboration software, deploy this toolkit as part of collaborative projects, and share end user training and support. This would require high-level leadership and coordination across the CRI's, as well as a process of engagement with the end users of the proposed toolkit. [See Recommendations 1a, 3a and 5]

Where required functionality is not yet available, CRI's should work jointly to develop the functional and non-functional requirements for new tools (or customisations of existing tools) that will support scientific collaboration in broad domains of common interest (e.g. integration of bioinformatics workflows into collaboration environments). [See Recommendations 1a and 3a]

KAREN could enable CRI's to leverage their existing investments in videoconferencing technologies: this requires addressing interoperability and

logistical issues at a national level, in partnership with other CRIs and the wider KAREN membership. [See Recommendation 1a]

National and trans-Tasman initiatives in the area of identity and access management (IAM) and trust federations are intended to address issues faced by all KAREN members: it will be vital for CRIs to engage fully with these initiatives, which will enable better collaboration not just amongst KAREN members, but with other important CRI partners like CSIRO (which is likely to be involved in the Australian Access Federation). [See Recommendation 1c]

KAREN could help CRIs meet the immediate needs of their staff for desktop videoconferencing and other tools (e.g. instant messaging) that support informal collaboration: this requires shifts in internal policy and technology support/training. [See Recommendations 4 and 5]

### **3. Data sharing**

Sharing large quantities of scientific data is a fundamental use of advanced networks; however this is not facilitated by current systems and policy frameworks at the CRIs involved in the workshops.

CRIs are not currently well-placed to address likely changes in policy and public expectations around open access to publicly-funded research data.

#### *Methods of sharing data*

It is common for data to be shared amongst researchers via email (including email attachments), file transfer protocol uploads and downloads (FTP), and on physical media such as CD, DVD, USB memory sticks, and portable hard drives. It is less common for collaborators from different sites to have access to shared file storage, but this is starting to happen in fairly limited ways. Historical lack of an advanced network, combined with other factors such as restrictive policies around security and file sizes, have led to a situation in which easy and familiar methods like email are preferred to other more efficient methods of data sharing (e.g. FTP, shared file spaces).

Some of the consequences of these practices are duplication of resources and effort, version control issues, lack of security, and inefficient use of network resources.

#### *Policy and legal frameworks*

The commercial context in which CRIs operate means that data assets have been perceived historically as having value only in so far as they can be controlled and exploited (i.e. through sales to third parties). The idea that data assets could potentially accrue more scientific and economic value if they were shared (within appropriate technical and legal frameworks) is relatively new and has not been fully explored by the CRIs. While there was some awareness of international policy and funding shifts in approaches to data sharing and principles of open access, this did not seem to translate into any concrete strategies or actions at individual organisations.

Copyright, intellectual property and privacy are concerns to both organisations and individuals, but these do not seem to be routinely resolved between parties before collaborations begin. If trust is not built between organisations at the level of policy or a legal agreement (e.g. as part of contracts, memoranda of

understanding and so on), then issues around copyright, intellectual property and privacy are expected to be resolved at a technical level, in sometimes inefficient ways. For example, some CRIs will not agree to 'their' data being stored off-site, even at organisations they are collaborating with.

There are also individual and organisational cultural barriers to data sharing: some workshop attendees noted they did not share their work until it was 'finished', or did not share it at all. In some cases, there were good reasons for not sharing: researchers may be subject to IP or other legal restrictions, or may wish to present the results of their research first. In other cases, attitudes to sharing seemed to arise from a lack of incentives, processes and systems for sharing data and/or fears around inappropriate usage of data, which are understandable in the absence of well-understood systems and protocols enabling re-use.

### Opportunities

A collaboration framework for Crown Research Institutes that provided up-front guidance on data sharing technology policies, processes and technologies would make collaborations involving data sharing easier to establish and more efficient to manage. [See Recommendation 3b]

Individual staff also need to be made aware of the benefits of sharing data (with controls as appropriate) and encouraged and enabled to do so. [See Recommendation 5]

#### **4. Resource and equipment sharing, grid technologies**

Sharing of equipment and resources such as instruments, databases and analytical software was not common at the sites where workshops were held. Where access is provided to remote resources, this seems to be organised in an *ad hoc* way e.g. through dedicated tunnels or VLAN setups.

Although some sites are experimenting with grid technologies (e.g. AgResearch is running a Condor grid), in general the CRIs do not seem to be well-placed to take advantage of KAREN for grid-enabling equipment and resources so that these can be shared. A significant proportion of the universities are moving in this direction thanks to the TEC-funded BeSTGRID project and its emphasis on knowledge transfer, and there is a risk of a widening gap developing between the CRIs and the universities in this area.

On top of the significant resource required to develop grid infrastructure in the CRIs, there is also a lack of agreement between the CRIs at the level of policy and business models, and this is likely to be an even more serious barrier.

Software licensing arrangements are also a barrier to sharing.

#### **Opportunities**

Linkages between the CRI sector and the BeSTGRID project need to be established, since the infrastructure and relationships being established by BeSTGRID could already be considered to constitute a de facto national grid service. CSIRO's role in the Australian Partnership for Advanced Computing (APAC) could provide CRIs with some pointers. [See Recommendation 1b]

A collaboration framework for Crown Research Institutes that provided up-front guidance on shared access to equipment and other resources would be required for grid services development to happen across the CRIs. [See Recommendation 3c]

Consortial licensing agreements for common software and digital content could benefit the CRIs as a group through reduction of licensing costs and administrative overheads. [See Recommendation 3c]

## 5. Professional development

Many CRI staff are unaware of, or do not know how to use, available collaboration tools; others know but choose not to engage with the tools, for reasons of usability or personal preference (e.g. for 'push' vs. 'pull' methods in terms of receiving information).

Time for unstructured professional development (e.g. having time to experiment with new tools to get familiar with them) is hard to find when time has to be accounted for against project codes.

Large-scale e-research projects need people and/or teams with a mix of technical expertise and domain expertise, so that requirements from both sides can be translated in ways that are meaningful to each group. Feedback from the workshops suggested that professional development events that explore both science and technical drivers and facilitate conversations between scientists and IT professionals are not common but could be useful.

The workshops brought to light a number of innovative ideas for KAREN-related projects from staff. It was not clear whether organisations had internal processes to foster innovation in such a way that these ideas could be fed through the system, e.g. to the point of being the subject of the project bid to the KAREN Capability Build Fund.

### Opportunities

Many staff in Crown Research Institutes are keen to build up their skills and knowledge of e-research tools and techniques, and have innovative ideas for KAREN use that could be explored. Staff would benefit from a coordinated approach to e-research professional development in the Crown Research Institutes. The *Advanced Network Capability Building Roadmap 2007-2009* provides some national directions in this area, and the Capability Build Fund (especially Travel and Events components) may be able to assist. [See Recommendations 2 and 5]

## **6. Virtual organisation set-up and management**

Required infrastructure, overheads and trust levels are not always being built into collaborations.

Funding for the current large-scale collaborative projects does not include resources (in terms of both technology and staff resources) for establishing and managing the “virtual organisation” that is required to effectively manage the collaboration.

There is not always a good understanding amongst funders and senior managers in the organisations about the time required to build trust. This is difficult even when organisations want to work together: where the collaboration has been externally mandated rather than chosen by the participants, it is even harder still.

Available project management tools are not always suitable for large-scale collaborations, and existing generic suites of collaboration tools do not necessarily contain the required functionality for managing large-scale scientific collaborations.

Programme and project managers play a vital role in large-scale collaborations. Because they have the ‘big picture’ view of collaborative projects and are often the intermediaries between different groups of professionals (e.g. scientists and ICT professionals) and between various groups of remote participants, programme and project managers might be good candidates for KAREN ‘champion’ roles within the CRIs.

### **Opportunities**

The benefits of good project management in terms of financial control, efficient use of resources, and achieving outcomes are well understood by Crown Research Institutes: these should also accrue in a collaborative environment provided that the right tools and skills are available. [See Recommendations 1a, 3a and 5]

## 7. Funding and policy frameworks

Many staff in the workshops noted tensions between the commercial imperatives that CRIs have and the policy and funding drivers for collaboration, in which KAREN plays a part.

A recurring theme in the workshop was lack of resources for new infrastructure, with most funding being tied to science outcomes, rather than support for capacity and capability development.

It was noted in the workshops that while CRIs and universities had access to the same sources of research funding, universities have also in the recent past been able to access Tertiary Education Commission funding for strategic initiatives and capability building.

### Opportunities

CRIs must recognise the importance of infrastructure and the benefits of sharing expensive infrastructural resources. They should fully engage with national shared funding initiatives (e.g. business cases the Research Infrastructure Advisory Group; discussions with MoRST and funding agencies that may arise from the *Roadmap*). [See recommendations 1, 2, and 3]

A small number of CRIs successfully applied to the first round of the KAREN Capability Build Fund for project funding. There is scope for much greater participation from the CRI sector in the second round, which is currently open and will close on 30 November 2007. [See Recommendation 2]

Increases in the CRI Capability Fund announced as part of Budget 2007 could be utilised to build capability related to KAREN and e-research. [See Recommendation 2]

There is scope for greater engagement from CRIs with the CBF Travel Fund. Successful applications to date have all been from the university sector. [See Recommendation 5]

## Appendix A: About the workshops

### Background

This report is the final deliverable for a HortResearch project supported by the KAREN Capability Build Fund.

The project consisted of the design and delivery of a one-day workshop to four groups of Crown Research Institute scientists. As well as delivering information about KAREN, advanced networks, collaboration tools and national capability building initiatives, the workshop was designed to elicit information from participants about opportunities and barriers that would help REANNZ and the Capability Building Advisory Panel with strategic planning.



*Picture: Scientists and IT specialists brainstorm collaboration practices at the Lincoln workshop.*

The project was scoped with three large collaborative programmes in mind:

- Better Border Biosecurity (B3).
- New Zealand Nutrigenomics
- Sustainable Land Use Research Initiative (SLURI)

## **Locations and participation**

Workshops were run at four centres:

- HortResearch, Palmerston North
- HortResearch, Mt Albert
- Landcare, Lincoln
- AgResearch, Invermay.

The workshops took place over four weeks in July-August 2007.

Each workshop had participation from multiple KAREN members; the host organisation, as well as other CRIs and research partners (e.g. the University of Auckland) located nearby.

*Figures 1a and 1b* provide statistics about attendance at the workshops.

A total of fifty people participated in the workshops. These participants came from four Crown Research Institutes (HortResearch, AgResearch, Crop and Food Research, and Landcare Research) and from the University of Auckland, in UoA's capacity as a research partner on the Nutrigenomics project.

Participants occupied different roles: most were researchers, IT systems and services staff, and bioinformaticians. A small number of attendees were PhD and postdoctoral researchers, technicians, and operators of scientific labs and equipment.

The combination of scientists and IT specialists appeared to be very productive: the workshops provided a unique opportunity for these different groups of professionals to explore each other's requirements and environments.

## **Presenters**

HortResearch contracted Professor John Hine and Ms Sam Searle to design and present the workshops.

John Hine is Professor of Computer Science and Head of the School of Mathematics, Statistics and Computer Science at Victoria University of Wellington. He has worked with the development of the Internet in New Zealand and elsewhere since 1983. His current responsibilities include leadership of e-research development at VUW and chairing the KAREN Capability Build Advisory Panel.

Sam Searle is the E-Research Development Coordinator at Victoria University of Wellington. She works with academic and support staff to foster an e-research culture and maximise use of KAREN.

## **Evaluation**

*Figure 2* provides evaluation results for the workshops.

Just over half (27) of the attendees chose to complete and return an evaluation form.

Based on these results, the majority of participants found the workshops well-organised, interesting, and of value to them.

## **Additional Wellington workshop**

Although not covered under the initial sub-contract for this work, an additional workshop was held in Wellington on 30 August for staff from the Wellington-based CRIs:

- Environmental Science and Research (ESR)
- Geological and Nuclear Sciences (GNS)
- Industrial Research Limited (IRL)
- National Institute of Water and Atmospheric Research (NIWA).

28 people, including some VUW staff, attended the Wellington workshop and the evaluation results and findings from the workshop were consistent with those held earlier as part of the HortResearch-led project.

## **Potential for further workshops**

During the course of the project, the presenters were contacted by staff members from at least two CRI sites (both ESR – Mt Albert and Lincoln) interested in finding out about future workshops.

Based on the positive evaluation of the workshop by the people that did attend, it would be worth investigating demand for further events.

Although attendance was limited at the four workshops run, we believe that a different approach to advertising and registration of the workshops might have led to increased attendance.

Feedback from attendees and other CRI staff indicated that full-day workshops are difficult for staff to attend: future workshops may need to be re-configured as shorter events with a narrower focus. CRI staff have also indicated that registering events with organisations that accredit members with continuing professional development points (e.g. New Zealand Institute of Medical Laboratory Scientists) makes them more attractive to potential attendees.

WORKSHOP	ATTENDEES BY ORGANISATIONAL AFFILIATION					ATTENDANCE BY WORKSHOP
	HortResearch	AgResearch	Crop and Food	Landcare	Auckland University	
HortResearch Palmerston North	7	5	2	2		16
HortResearch Mt Albert	8				6	14
Landcare Lincoln	1		8	3		12
AgResearch Invermay		8				8
<b>ATTENDANCE BY ORGANISATION</b>	<b>16</b>	<b>13</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>50</b>

*Figure 1a: Attendance by organisational affiliation*

WORKSHOP	ATTENDEES BY PROJECT AFFILIATION			
	B3	Nutrigenomics	SLURI	Other
HortResearch Palmerston North	0	1	5	10
HortResearch Mt Albert	1	9	0	4
Landcare Lincoln	1	1	4	6
AgResearch Invermay	0	0	0	8
<b>ATTENDANCE BY PROJECT</b>	<b>2</b>	<b>11</b>	<b>9</b>	<b>28</b>

*Figure 1b: Attendance by project affiliation*

	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	NO RESPONSE
<b>This workshop was well organised</b>	10	17	0	0	0	0
<b>Workshop information was clearly communicated</b>	12	13	2	0	0	0
<b>The content and presentation of the workshop stimulated my interest</b>	11	12	3	1	0	0
<b>The material presented in the workshop was of value to me</b>	4	17	3	3	0	0
<b>The overall quality of the workshop met my expectations</b>	6	18	3	0	0	0

*Figure 2: Evaluation of the workshops*