

MINUTES

**The Australian Council of Deans of Science
Annual General Meeting 2010
19 October at 4.30 pm
Mercure Hotel, Sydney**

1. Present :

Professor John Bartlett	University of Western Sydney
Prof. Aidan Byrne	Australian National University
Prof Kim Dowling	Ballarat University
Assoc Prof. Mark Lund	Edith Cowan University
Prof. Arthur Georges	University of Canberra
Prof. Nick Klomp	Charles Sturt University
Prof. Mike Thompson	Sydney University
Prof. Jo Ward	Curtin University
Assoc. Prof. Mark Lund	Edith Cowan University
Assoc. Prof. Wendy Loughlan	Griffith University
Prof. Stephen Thurgate	Macquarie University
Prof. Barrie McGaw	La Trobe University
Prof. Rob Norris	Monash University
Prof. Andrew Smith	RMIT University
Prof. Chris Gray	Deakin University
Assoc. Prof. Alfio Parisi	Southern Cross University
Assoc Prof. Deborah Hodgson	Newcastle University
Prof. Chris Austin	Charles Darwin University
Prof. David Gust	Queensland University of Technology
Prof. Robert Saint	University of Melbourne
Prof. Merlin Crossley	University of New South Wales
Prof. Margaret Britz	University of Tasmania
Prof. Bruce Milthorpe	University of Technology Sydney
Prof. William Price	University of Wollongong
Prof. Michelle Towstoles	Victoria University
Prof. John Rice (Exec. Director)	

Apologies:

Dr Kim Dowling, University of Ballarat
Professor Trevor Hambley, University of Sydney
Professor Bob Hill, University of Adelaide
Professor Warren Lawrance, Flinders University of South Australia
Professor Andrew Parfitt, University of South Australia
Professor Graham Pegg, Central Queensland University
Professor Rod Simpson, University of the Sunshine Coast
Professor Janet Verbyla, University of Southern Queensland
Professor Stephen Walker, University of Queensland
Prof Russell Crawford, Swinburne University

2. Minutes

The minutes of the 2009 AGM had been previously circulated and were endorsed.

3. Business arising

Nil

4. President's report

Professor Rob Norris

The President's report is attached.

The meeting endorsed the report.

5. Executive Director's Report

Professor John Rice

The Executive Director's report is attached.

The meeting endorsed the report.

6. Secretary/Treasurer's report

Professor William Price

The report is attached.

The meeting endorsed the report.

7. Confirmation of renewal of appointment of Executive Director

The President renominated Professor John Rice to this role.

Seconded by Prof William Price and approved unanimously.

It was suggested that Prof. Rice be offered a 2 year appointment.

8. Election of Office Bearers

The following nominations were received:

Nomination for President: Prof Russell Crawford (Swinburne)

Nomination for Secretary/Treasurer: Prof W Price (Wollongong)

Nominations for the Executive:

Prof J Ward (Curtin)

Prof. Kim Dowling (Ballarat)

Prof. Warren Lawrence (Flinders)

Prof A Byrne (ANU)

Prof W Lawrence (Flinders)

Prof B Milthorpe (UTS)

All were elected unopposed

9. Other Business

- a. A request for an increase in the Honorarium for the ED from \$20K to \$30K per annum was unanimously accepted (nominated by W. Price ; seconded by N. Klomp).
- b. A request to reimburse the Office of the Secretary/Treasurer was agreed in principle up to \$8K. It was agreed that the ACDS Executive would finalise the details at their next meeting.

- c. As the event marked the retirement of the President Rob Norris from his position, a vote of thanks for all his work for ACDS was led by ED Prof. John Rice and endorsed by the meeting with acclamation.

10. Deferral of matters of instruction to the incoming Executive and authorisation of concomitant expenditure to the last Session of the Annual Council Meeting

None arising

11. Conclusion of meeting

The meeting closed at 5.25 pm.

AUSTRALIAN COUNCIL of DEANS of SCIENCE



Professor Rob Norris
President

Presidents Report – AGM 2010

Much of the formal activities of the ACDS Executive are covered in the Executive Director's Report and the Secretary/Treasurer Report (including Executive Meeting details) addresses financial and membership matters, so I will present an overview and will also conclude by thanking folk with whom I have been involved as a science dean in the context of ACDS.

The ADCS Executive met once briefly after the AGM and then five times in Sydney, at UTS; on 4 December 2009, 22 February 2010, 19 April 2010, 19 July 2010 and 13 September 2010. On behalf of the Executive I thank the dean at UTS (Professor Bruce Milthorpe) and his PA, Ms Carol Crane for their ongoing assistance in accommodating and facilitating the holding of our Meetings.

The Executive comprised the following persons as elected at the 2009 AGM with the replacement (as allowed in the Constitution) of Professor Gillian Bushell (Griffith) by Professor Stephen Walker (UQ) at the February 22 Executive Meeting:

President: Professor R Norris (Monash)

Secretary/Treasurer: Professor W Price (Wollongong)

Executive:

Professor J Ward (Curtin)

Professor Stephen Walker (UQ) [replacing Professor G Bushell (Griffith)]

Professor R Crawford (Swinburne)

Professor A Byrne (ANU)

Professor W Lawrence (Flinders)

Professor B Milthorpe (UTS)

Some of the matters which the ACDS Executive generally, John Rice (ED) or I (RKN) personally dealt with or responded to included (in no particular order of importance/chronology):

- Teaching and Learning Conferences in 2010 (July 15-16 already held) (ED)
- Conference: *Science and Mathematics: Teaching for Diversity (to be held in November)* (ED)
- Continuing Organisation of the AD(T&L) Network and Conferences (ED)
- ASELL Matters/Projects (ED generally)
 - Membership of Reference Board (RKN)
 - Involvement in key Projects (Jo Ward)

- ASELL Workshop in Adelaide, April 6-9
- Establishment of the Demonstrator Survey Project and employment of Paddy O'Toole as project coordinator (ED)
- ACARA (*Australian Assessment Curriculum Reporting Authority*) - *National Science Curriculum* (mainly ED)
 - Attendance at meetings and inputs to the, including membership on the *National Science Curriculum Advisory Panel* (ED)
 - Attendance at a National Science Curriculum Workshop (by RKN).
 - Letters to Ministers and media activities to ensure the new Curriculum is established in a sensible fashion (ED/RKN/WP)
- Interactions with the RACI
- Science Communication Funding – *Inspiring Australia* Report.
- LTAS Forum – TEQSA discipline standards (RKN = sole scientist!)
- *Science by Doing Project* – Reference Group (RKN)
- Low SES Project (R Crawford)
- ALTC Project *Quantitative Skills in Science*
- ALTC Mathematics PD Project reference group (Jo Ward)
- ANZAAS (RKN)
- Upgrading and maintenance of the ACDS Website (thanks to the Monash Faculty of Science IT team for this)
- FASTS
 - Liaison with FASTS on possible joint projects (ED)
 - Attendance at FASTS Boards (ED x 3 + RKN x 1)
 - Workshop on The Future of FASTS (RKN)
 - Attendance at Science Meets Parliament
- Organisation of the 2010 AGM

Much of the other details of the activities given in the dot points above and ACDS' involvement are given in the Agendas/Minutes of the Executive Meetings listed in the Secretary/Treasurer's Report.

During and since the 2008-2009 period we had the added services of Professor John Rice in the role of Executive Director (ED) as agreed at the 2008 AGM. I would thank John for his enthusiastic efforts through this full period on behalf of ACDS. John has strongly prosecuted activities in the areas of ACDS input through ACARA to the *National Curriculum: Science*, his support and diligent oversight of ASELL for ACDS, and several further activities related to Associate Deans (Teaching and Learning). He attended three out of the four FAST Boards (in my stead), and has driven the Laboratory Demonstrator Project. He has also been a driving force at Executive Meetings making my life as President very much more bearable as has his willingness to front the media on behalf of ACDS! The ACDS Executive has appreciated the effect and effectiveness of having John Rice as our ED. Thank you indeed for all of these activities and your input John.

I would take this opportunity to thank the members of the current Executive (listed above), particularly our Secretary/Treasurer Will Price and through him his PA Chris Peacock who through a quirk of history was also my PA when I was dean at Wollongong.

I would also thank the other members of the ACDS Executives over the years in my term as inaugural Secretary/Treasurer and for four and a bit years as President for their support and the ACDS Councils over the last 15 years for their enthusiasm and support of the ACDS.

I reiterate near verbatim what I ended with last year that it is imperative that Science Faculties in their various shapes and forms across our membership remain strong and that the key science research, teaching and training issues must be identified and addressed by ACDS if we are to maintain a strong scientific community in Australia – I challenge all members of ACDS to support the 2010-2011 ACDS Executive in its activities and wish all members all the best in the coming ACDS year.

16 October 2010

Executive Directors Report – AGM 2010

During 2010 I organized the third **ACDS Teaching and Learning Conference** (July 15th-16th), the ACDS conference **Science and Mathematics: Managing Teaching for Diversity** (Nov 22nd-23rd), and played a major role in organizing this AGM. I draw your attention to the AGM agenda, because in effect it provides a good outline of my activities for 2009-10.

The Science Advisory Panel for the National Curriculum had its last meeting in November 2009. A lot of time has been spent since then on consultation and feedback. The ACDS strategy has been not to generate submissions of its own, but to encourage, co-ordinate and support the submissions of others namely the AIP, RACI, AMS and two educational organizations at Sydney University. In part this was because it seemed the only way to engage a sufficient number of academics and build a national presence for Science. Even then it took a lot of work to co-ordinate points of view to enable coherent commentary. Despite all this work the situation remains very much as it was when I wrote in last year's Report.

I remain deeply concerned that, despite good will and effort on the part of <ACARA>, there is still little sign of a curriculum that provides a coherent and compelling vision of science, and how students will grow in knowledge of it and its relevance to their lives over their school years. The issues of teacher preparedness to teach the new curriculum, and of the split between science and mathematics, both raised prominently by ACDS, have not been addressed.

As of mid August the ACDS has been obliged to indicate formally its lack of confidence in the current K-10 draft, at first to ACARA, which resulted in a telephone conference and more consultation on the curriculum draft. Following this ACDS conveyed its concerns to the Federal Minister and all State Ministers of Education, calling for a delay of 6-12 months in the curriculum implementation. ACARA prepared a briefing note on this letter in advance of a meeting between ACDS and the chair of its Board. The ACDS has written in response to that briefing note with advice on the structural changes needed to the curriculum, reasserting its view that these will take 6-12 months to resolve.

Deans have been provided with copies of these letters, and of a short article summarizing our concerns which is to appear in Australasian Science. I have given several interviews to radio and press journalists. A remarkable theme which emerges is that English, History and Mathematics all complain about the same structural weaknesses as ACDS complains about in Science.

I should like to thank those who have provided feedback on the curriculum and to the Executive for its advice and support on strategy. I particularly want to thank Will Price who engaged extensively in this issue, attended some of the consultation meetings and provided detailed comments on drafts of the ACDS letters. I should also like to thank both Rob Norris and Will for their initiative and support throughout what is a very difficult and controversial exercise.

On the initiative of our President the ACDS engaged with the ALTC's Learning and Teaching Academic Standards project (LTAS). I joined the appointment panel for the ALTC Discipline Scholars in Science who would drive the project, and gave over most of the first day of the ACDS Teaching and Learning Conference to them so that they could engage the associate deans T&L in the issues. As a result ACDS has significant engagement with the project. Will Price is chair of the Project Reference Group and a number of our associate deans are members. ACDS has used the opportunity to involve interested representatives from cognate organizations, FASTS, AIP, RACI the Biosciences and Geosciences, both in the T&L Conference and the LTAS project. Detailed information on the project will be presented at the AGM.

Presentations on the second day of the T&L Conference concerned strategies for engaging students in service course and threshold concepts in biology. These indicated not only good ideas about teaching, but also ideas about how to encourage their introduction and identify quality. Responding to an enthusiastic recommendation from the floor of the Conference, the Executive agreed to hold a conference **Science and Mathematics: Managing Teaching for Diversity** on Nov 22nd -23rd in Sydney. The CEO of the ALTC, Dr Carol Nicol, will address the conference on its theme.

Deans and associate deans have been circulated with the conference program. In particular there will be a poster session inviting new ideas from participants, from which six will be selected to give brief presentations on the second day. The ACDS hopes to encourage collaboration on ALTC grants in this area, which gains considerable significance in the face of government initiatives to increase participation generally, and low SES participation in particular.

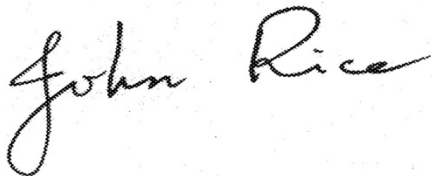
As mentioned in the President's Report I attended several of FASTS Board meetings, including one given over to discussion of the future of FASTS. This resulted in a planning day which Rob Norris attended. The change of both Executive Director and President of FASTS has occasioned a dramatic reappraisal of FASTS operation and goals. The AGM will hear about this directly from the ED in her presentation.

I attended the inaugural meeting of the Summit of Councils of Deans in Canberra, partly on the strength that it might discuss Inspiring Australia, the government's new strategy for science communication and allied events. This did not eventuate. The highlight of the meeting for me was a presentation from the Director of the LTAS project Christine Ewan explaining the project rationale and strategy.

The ACDS has supported a number of projects that have prospects for national influence in science teaching and learning. The objective of ACDS support is to engage projects in how to mainstream their ideas into faculty processes. Warren Lawrance, Rob Norris and particularly Jo Ward have been involved in the ASELL project for which financial support was agreed at last year's AGM. Following a recommendation of *Tertiary Science Education in the 21st Century* last years AGM agreed to a survey and analysis of demonstrator training in which I am closely involved. There are presentations on both the ASELL and Demonstrator Projects at this AGM. In addition, there is a presentation on a new ALTC funded project Quantitative Skills in Science, whose project reference group I have joined. Jo Ward has joined the project reference group of another ALTC funded project concerning professional development for tertiary mathematics teachers.

At the last AGM and following it I proposed a ten point plan for ACDS activities throughout 2009-10, which is attached to this report. As with all heroic plans, success arises by redefining the goals. Only item 1, concerning ASELL workshops, and 6, the T&L Conference, are complete. Item 4, the Demonstrator Survey and item 5, the survey of Low SES students in Science, are underway. Items 7 and 10, which both relate to the National Curriculum, can now be seen as far too premature for 2009-10, and have instead been overshadowed by the curriculum process itself. Items 2 and 3 concerning a statement of rationale for undergraduate teaching laboratories seemed better absorbed into the work of the LTAS project. Half marks for each of these four redefinitions would give us 6 out of 10. Items 8 and 9 on industry engagement were predicated on collaboration with FASTS and are on hold in the face of their more pressing preoccupations.

It has concerned me for some time that research has not featured in ACDS activities. The Australian Governments Research Workforce Strategy will raise significant issues for science faculties, and I have sought to engage deans directly with the findings of that project by inviting its Director to address the AGM. As a means of putting the question of research management on the table for faculties, I have invited Merlin Crossley to address us on the complex territory that faculties and university executives now jointly occupy. I hope that out of this the AGM may identify worthwhile matters for the ACDS to pursue in relation to faculty management of research.

A handwritten signature in black ink that reads "John Rice". The signature is written in a cursive, flowing style.

John Rice
Executive Director, ACDS
October 17th, 2010

ACDS Ten Point Plan for 2009-10

1. President to write to all Deans urging them to send faculty representatives (esp. ADT&Ls) to ASELL national workshops (Warren Lawrance to negotiate with ASELL to determine their program of workshops and inform ACDS)
2. Produce a draft statement on undergraduate science education and in particular the critical role of laboratory and field work. {Aiden Byrne, Bruce Milthorpe, John Rice}
3. President to write to all Deans inviting feedback on the draft statement in 2, and urging them to develop explicit learning objectives for the laboratory components of their first year courses.
4. Survey of demonstrator recruitment/induction/training.
Literature Review. Survey of Departments. Some site visits. Identification of or models for best practice. {Paddy O'Toole}
5. Survey of Low SES students in Science. {Russell Crawford}
6. Third Science Teaching and Learning Conference.
The agenda of the conference should concern items 1-5 above.
{John Rice}
7. National Workshop on Science Curriculum.
A review of the year 11-12 national curriculum outline, and reflections on potential innovation, related or otherwise, in first year science curricula.

A showcase of faculty approaches to lateral/wholistic/transdisciplinary science courses.

The workshop must involve deans and opinion leaders from the disciplines in their faculties.
8. National Postgraduates Meet Industry
Modelled on Science Meets Parliament, but taking place in each capital city, industry representatives and postgraduate students meet one-on-one for five minutes to pitch their interests to each other. {Bradley Smith?}
9. Workshop on Experiences of and Models for Industry Collaboration {Franz Griesser, Bradley Smith?}
10. Development of models for academic/teacher collaboration in developing lesson materials that include contemporary science, particularly as it occurs in various industries and occupations. {John Rice. Start with PICSE, John Pegg}

Secretary/Treasurer Report

Executive Meetings

The ACDS executive met five times since the last AGM; agendas/minutes are attached.

Financial Report

A Statement of *Receipts and Payments* for the year ending 30 June, 2010 is immediately below.

Australian Council of Deans of Science Statement of receipts and payments For the year ended 30 June 2010

2009 \$		2010 \$
	<u>OPENING BALANCE AS AT 1 JUL</u>	
13,081.68	Cheque Account	2,252.95
153,039.39	Investment Account	170,500.98
166,121.07		172,753.93
	<u>RECEIPTS</u>	
55,450.00	Annual Subscriptions	59,400.00
810.00	Net GST received from ATO	2,273.00
	Subscriptions GST collected	5,940.00
2,387.51	Bank Interest	1,376.51
58,647.51		68,989.51
	<u>PAYMENTS</u>	
4,161.08	FASTS Membership	4,645.85
14,555.40	AGM Expenses	12,586.13
105.11	Bank Charges/Fees	1.00
1,824.80	Airfares/Accomm	755.64
5,187.92	Net GST	
397.45	Hospitality	430.50
7,703.59	ADT&L Conference	4,320.00
15,830.76	John Rice Honorarium and Expenses	20,865.29
2,000.00	Consulting Projects	
248.54	Other	102.78
52,014.65		43,707.19
172,753.93	<u>CASH BOOK BALANCE AS AT 30 JUNE</u>	198,036.25
	<u>BANK STATEMENT BALANCE AS AT 30 JUNE</u>	
2,252.95	Cheque Account	5,538.08
170,500.98	Investment Account	192,498.17
172,753.93		198,036.25

MINUTES

**The Australian Council of Deans of Science
Executive Meeting (04/10)
13 September 2010
at UTS Room 4.5.01**

1. Present & Apologies

Present: John Rice (JR), Rob Norris (Chair, Monash) (RKN), Aidan Byrne (ANU) (AB), Bruce Milthorpe (UTS) (BM), Stephen Walker (UQ) (SW), Jo Ward (Curtin) (JW).

Apologies: Russell Crawford (SwinU), Warren Lawrance (Flinders), Will Price (Wollongong)

2. Minutes

Minutes of the meeting of 19 July were confirmed.

3. Actions Arising from July 2010 Executive Meeting

Item	Action	Action by:
5	RC to produce a project plan for the low SES project for approval by the Executive	See Item 4.1
6	Report to next meeting on ALTC Mathematics PD Project reference group meeting.	See Item 4.2
7	WP to consider electronic payment of accounts	Carried forward
8	<ul style="list-style-type: none"> • JR to ensure that the National Curriculum letters are backed up by further action • JR to use \$1,000 for T&L conference next year • JR to invite Deans of Agriculture to the next Exec meeting 	See Item 6.1 See Item 6.3 Invite to AGM
9	<ul style="list-style-type: none"> • Book Mercure Hotel for the AGM • Notify members of the AGM time and venue and call for nominations to the Executive • JR agreed to do a first draft of the Agenda ASAP • Finalise Invited Speakers and After Dinner Speaker 	Done Done See Item 6.2 See Item 6.2
10	ACDS Website to move from Monash in 2011. A major update to the format/layout/content is needed in 2011	RN to consult with WP
11	JW to report to next meeting on Developments in ASELL (under Business Arising	See Item 4.3

4. Business arising (not dealt with elsewhere)

4.1 Low SES project (Crawford) (Attachment 2)

The Executive noted that the project trialled a more robust methodology for detecting low SES enrolments, first at Swinbourne and then at a group of Victorian universities. It noted the finding that science programmes appeared to attract a significantly higher proportion of low SES applicants compared to other programmes. It agreed to support the extension of this study nationwide as recommended by the project proposal. JR and RC to negotiate a budget up to \$20,000 and timeline for project reporting and completion.

4.2 ALTC Mathematics PD Project reference group (Ward)

The Executive noted the limited engagement of the project with its reference group thus far, and consequent inability to assess the project or provide advice. It noted JW's concerns that the project appeared unfocussed and that it's potential to make a systematic impact on teaching and learning was as yet very unclear. JW will report on further interactions at the next meeting.

4.3 Developments in ASELL

JW reported that ASELL is holding another workshop on October 10-11 and a Director's meeting on October 12th. She will invite the Directors to provide a presentation at the AGM describing progress towards ASELL's goals and opportunities for further sectorwide engagement.

5. Financial Report

The Executive noted the balances of the accounts and endorsed the expenditures as detailed in the Treasurer's report, including subscription to FASTS.

The Report advised that one university is about to become two years in arrears with their dues. The President (RN) will call the dean of the faculty directly to discuss their future membership.

A report on establishing electronic payment of accounts was held over until next meeting.

6. Executive Director's Report

6.1 National Science Curriculum

A. Negotiations

ACARA requested a telephone conference to discuss ACDS letter outlining concerns about the K-10 National Curriculum Science (Item 8, July 19th Exec Meeting). Accordingly RN and JR met with Rob Randall, John Gougoulis and Goeff Quinton of ACARA by telephone on August 27th.

ACARA acknowledged that the curriculum had problems that needed to be addressed. In their view the most serious of these concerned the physics content and the *Science as Human Endeavour* strand. ACDS agreed that these two areas stood out, but that these were only part of the issues identified.

ACARA proposed not to debate ACDS concerns about the consultation process, affirming that their overall concern was to maintain the confidence of the ACDS in the proposed curriculum. They suggested a meeting involving other concerned parties to review

issues in detail. ACDS agreed to the meeting, but reiterated the view expressed previously, that the problems with the curriculum needed a much deeper process of review than that. Specifically there needed to be face to face discussions, requiring a long time frame, between practicing scientists, teachers and curriculum designers, to achieve a common understanding of the elements of a coherent, substantial and achievable curriculum.

The ED attended the proposed meeting on September 2nd. It was an intensive and fruitful discussion of some key issues of physics content and *Science as Human Endeavour*. However, while it led to some welcome alterations of the curriculum document, in the opinion of the ED these did not address the ACDS' overall concerns.

The ED advised that other participants at the meeting held varying views, to some extent more accommodating of the K-10 syllabus. It was not clear the extent to which this reflected a sense that the opportunity to influence curriculum change was at an end in ACARA's view. The ED also advised that a number of state curriculum authorities were very concerned at the quality of the proposed curriculum, and noted the article in today's SMH (Sept 13th) announcing significant criticism by the NSW Board of Studies.

B. Deliberation on future action

There was considerable discussion among the Executive as to the value of continued criticism of the substance of the curriculum, given the momentum that appeared to be behind rolling it out. There were questions of what could actually be achieved.

The ED tabled a document listing a number of significant criticisms of the K-10 science curriculum. The Executive agreed with these, and agreed that ACDS should go on record with them by incorporating them in a letter to the relevant Federal Minister, State Ministers and ACARA. They needed to be expressed in constructive form, avoid becoming political or judgemental, and be embedded in an expression of support for ongoing review and future work. In particular the letter should urge the deeper process of review, involving collaboration of practicing scientists, teachers and curriculum designers, and provide examples such as recent work of this kind at Curtin. A draft should be circulated both to the executive and the entire membership for their comment.

JR to draft a letter along these lines for circulation to the Executive and entire membership of ACDS.

6.2 AGM Agenda

The ED tabled a draft agenda for the AGM. He also suggested that the President invite the new minister responsible for higher education, Senator Chris Evans, to speak at the AGM Dinner on his vision for tertiary science.

The Executive agreed to the AGM agenda, suggesting a number of rearrangements to allow more time for presentation of key issues identified by members, and to have this flow from the Minister's speech (should he agree) and presentations on the role of faculties in research and research workforce planning.

6.3 Conference *Science and Mathematics: Teaching for Diversity*

WP had organised two telephone conferences in which a group of Associate Deans T&L and others had developed a program for the conference proposed under item 8 of the July 19th Executive meeting. The cost of these telephone conference was the only call on the \$1,000 reserved for the conference organisation.

The conference will have keynotes on the nature of teaching science and mathematics for a diverse range of students, and on managing change in that direction. Two specific sets of ideas will be presented, followed by commentary and discussion on how they might be adapted and managed into home institutions.

The conference will focus towards science ADT&L's but invite much broader participation. In particular it will run a poster session to present ideas on science and mathematics teaching for diversity, from which six will be selected to speak to the conference as a whole.

It is proposed to invite the ALTC to open the conference and to seek their support.

6.4 ALTC Project *Quantitative Skills in Science*

The ED advised that he had invited the project manager Kelly Matthews to organise a presentation to the AGM on the project objectives and how deans might engage with them. He would be meeting with her at the AMS Conference in the week Sept 27th - Oct 1st to discuss this.

6.5 Demonstrator Project

The ED tabled a brief report detailing 16 universities who have responded to the survey with respect to 71 subjects. The researcher will now proceed to the next stage of analysis and an interim report will be presented to the AGM.

7. Proposed 2010-2011 Executive

The Executive noted the following nominations received to date:

- Professor Russell Crawford (President & Executive)
- Professor Will Price (Secretary/Treasurer)
- Professor Aidan Byrne (Executive)
- Professor Bruce Milthorpe (Executive)
- Professor Stephen Walker (Executive)
- Professor Jo Ward (Executive)
- Professor Rob Norris (ex officio role on Executive until mid 2011)

RN to canvass potential regional university nominations.

JR to canvass SA nominations.

8. ACDS Website

RKN to discuss options for move of the website with WP. The Executive noted that it is no longer possible for Monash Faculty of Science to host websites due to centralisation of its IT support.

9. Next Meeting

Following the AGM, October 20th.

10. Other Business

None

11. Closure of Meeting

The meeting concluded at 12.50pm

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Action Sheet from September 2010 Executive Meeting

Item	Action	Action by:
3	Invite Deans of Agriculture to AGM	JR
4.1	Negotiate budget and timeline for low SES project.	JR & RC
4.2	Report on outcomes of discussion concerning ALTC Mathematics PD Project Reference Group and Project outcomes	JW
4.3	Invite ASELL Directors to provide a presentation at the AGM	JW
5	Report on electronic payment of accounts	WP
6.1	JR to draft a letter re K-10 National Curriculum and circulate for comment to Executive and to membership	JR
6.2	Reorder AGM Agenda following Exec feedback	JR
	Contact Minister Chris Evans as potential after dinner speaker	RN
	Confirm proposed speakers	JR
6.3	Announce 'Teaching for Diversity' Conference	JR
	Invite ALTC to open the conference	JR
6.4	JR to organise a report to the AGM on Quant Skills in Science Project	JR
7	Canvass nominations to 2011 Exec from regional universities	RN
	Canvass nominations to 2011 Exec from SA	JR
8	RKN to discuss options for move of the website with WP	RN & WP

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AGENDA

The Australian Council of Deans of Science

Executive Meeting 13 September 2010

(10.00am – 2.00pm)

(at UTS Room 4.5.01)

1. **Apologies:** Russell Crawford, Warren Lawrance and Will Price.
2. **Minutes** (Attachment 1)
Minutes of the meeting of 19 July 2010 - to be confirmed.
3. **Actions Arising from July 2010 Executive Meeting**

Item	Action	Action by:
5	RC to produce a project plan for the low SES project for approval by the Executive	See Item 4.1
6	Report to next meeting on ALTC Mathematics PD Project reference group meeting.	See Item 4.2
7	WP to consider electronic payment of accounts	See Item 5
8	<ul style="list-style-type: none"> • JR to ensure that the National Curriculum letters are backed up by further action • JR to use \$1,000 for T&L conference next year • JR to invite Deans of Agriculture to the next Exec meeting • JR to invite Peter Adams at UQ 	<p>JR</p> <p>JR</p> <p>JR</p> <p>JR</p>
9	<ul style="list-style-type: none"> • Book Mercure Hotel for the AGM • Notify members of the AGM time and venue and call for nominations to the Executive • JR agreed to do a first draft of the Agenda ASAP • Finalise Invited Speakers and After Dinner Speaker 	<p>Done</p> <p>Done</p> <p>See Item 6.2</p> <p>See Item 6.2</p>
10	ACDS Website to move from Monash in 2011. A major update to the format/layout/content is needed in 2011	<p>WP</p> <p>WP</p>
11	JW to report to next meeting on Developments in ASELL (under Business Arising	See Item 4.3

4. **Business arising (not dealt with elsewhere)**
 - 4.1 **Low SES project (Crawford)** (Attachment 2)
Attached is a copy of the Project Plan “A Study of the Socio-economic Status of Science Students in Australia” provided by Russell Crawford.
 - 4.2 **ALTC Mathematics PD Project reference group (Ward)**
JW to speak to this item.
 - 4.3 **Developments in ASELL**
JR to speak to this item.

- 5. Financial Report** **(Attachment 3)**
WP to report on ACDS Financial Position.
- 6. Executive Director's Report**
- 6.1 National Science Curriculum**
- 6.2 AGM Agenda Items**
- JR to discuss draft of the Agenda for AGM
 - JR to report on Invited Speakers and After Dinner Speaker for AGM
 - Proposals for Academic Standards from the Discipline Scholars
 - Presentation on the Australian Government's Research Workforce Strategy
 - The *Quantitative Skills in Science* project - opportunities for curriculum reform.
- 7. Proposed 2010-2011 Executive**
Nominations to date have been received from:
Professor Aidan Byrne (President & Executive)
Professor Jo Ward (Executive)
Professor Bruce Milthorpe (Executive)
Professor Will Price (Secretary/Treasurer)
Professor Rob Norris (ex officio role on Executive until mid 2011)
- 8. ACDS Website**
RKN to report.
- 9. Next Meeting**
- 10. Other Business**
- 11. Closure of Meeting**

MINUTES

**The Australian Council of Deans of Science
Executive Meeting (03/10)
19 July 2010
at UTS Room 4.5.01**

1. Present & Apologies

Present: John Rice (JR), Rob Norris (Chair, Monash) (RKN), Russell Crawford (SwinU) (RC), Bruce Milthorpe (UTS) (BM), Jo Ward (Curtin) (JW)

Apologies: Aidan Byrne (ANU), Warren Lawrence (Flinders), Will Price (Wollongong), Stephen Walker (UQ)

2. Minutes

Action item 8 was deleted (The item was not deferred, see item 5 below.)
Minutes of the meeting of 19 April 2010, as amended above, were confirmed.

3. Actions Arising from April 19th Executive Meeting

Item	Action	Action by:
5	JR to contact discipline scholars to engage them in participating in the upcoming ACDS T&L Conference in July	Done
6	WEP to open a new higher interest rate a/c called the Business Cash Maximiser Account	See item 7
11	ALTC Mathematics PD Project Reference Group – item on agenda of next meeting	See item 6

4. Business arising (not dealt with elsewhere)

There were no items raised other than those already in the agenda.

5. Low SES Project (RC)

RC agreed to produce a project plan for approval by the Executive, possibly by circulation.

6. ALTC Mathematics PD Project reference group (JW)

JW reported that the reference group had not yet met, despite her being aware of significant project activity. There was a teleconference of the reference group planned for the next Wednesday (July 21) which would be reported at the next Executive meeting.

7. Financial Report

The Treasurer's report was received (Attachment 2 to the agenda) noting that the New Business Cash Maximiser Account had been opened as per the action items. The payment of cheques listed in the Report was confirmed.

The Executive noted that electronic banking did not extend to the payment of accounts. Given that NAB did not enforce the two signature rule on cheque payments, the Executive asked that the Treasurer consider electronic payment of accounts.

8. Executive Director's Report

8.1 National Science Curriculum

Copies of the letters on K-10 Science and Maths were noted.

The letters were also sent to State and Federal Education Ministers and The President of the Board of Studies NSW on 24 June.

JR needs to ensure that these letters are backed up by further action was noted.

8.2 Teaching and Learning Conference

The Conference was held on July 15-16th as planned with about 20 ADT&L's attending and four members of the Executive. The event cost roughly \$10,000.

The first day was a program for introducing and engagement with the ALTC Science Discipline Scholars and the Learning and Teaching Academic Standards project that they will drive (next item). The day concluded with an address on the Science and Mathematics National Curricula by Mr Tony Kitchen, Manager Curriculum ACARA.

The presentations on day 2, on strategies for engaging students in service courses, and on threshold concepts in biology, resulted in an enthusiastic proposal for a national conference to expose these and related ideas more widely and in depth.

The Executive agreed in principle to fund such a conference to be held towards the end of the year, and for the ED to be enabled to spend \$1,000 or thereabouts to establish a national planning group and develop a detailed proposal for the Executive's consideration.

8.3 Engagement with ALTC LTAS project and Science Discipline Scholars

As a result of the ACDS T&L conference the Deans and their ADT&L's are now well engaged with the issues of the project, the discipline scholars who will drive it and the processes that it will follow. Having showcased its Faculty people, the ACDS can expect their substantial involvement in all aspects of the project. Equally pleasing has been the opportunity to involve, through the conference, interested representatives from cognate organisations, FASTS, RACI, AIP the Biosciences and Geosciences.

8.4 Engagement with other organisations

The Deans of Agriculture have expressed an interest in meeting with the Executive to discuss issues of mutual interest. The Executive agreed to invite them to its next meeting.

8.5 FASTS - Report on the May 26th Board Meeting and attached Communiqué

FASTS Board meeting of May 26th was devoted to review of the priorities and strategic directions of FASTS in the light of the Federal Government commitment to provide funds for only one more year. Further funding was not assured and dependent on submission of a 'sustainability plan'. A working dinner was held for the Board at Crown Towers to encourage wide ranging and informal discussion prior to the meeting.

The Board discussion and outcomes have been summarised in a Communiqué included in this agenda. Key among them is the decision to hold a strategic planning workshop to deliberate on FASTS future, which will include consideration of its current membership and constitution. [Note: the workshop has been announced for September 20th in Canberra and the ACDS President will be attending.]

8.6 Update on Demonstrator Survey

JR reported that only 12 institutions had responded to the survey thus far. He would try to increase that number to 21.

8.7 ALTC project Quantitative Skills in Science

JR has been appointed to the Project Steering Committee. He has arranged to meet with the project directors at the end of September in advance of the project commencing and has asked that they be prepared to report to the AGM on how they wanted Faculties to engage with the project.

8.8 AGM Items (See next item).

9. Organisation of the AGM in October

The AGM was scheduled for October 19th and 20th with a welcome function on the evening of the 18th.

9.1 Executive positions: Call for nominations to the Executive to be included in the notification. It was further agreed that RKN would independently canvass for nominations through discussion with the Executive.

9.2 Booking with Hotel: Venue was agreed to be the Mercure Hotel in Sydney. WP or JR to book ASAP.

9.3 Advice to Membership: Members to be notified immediately following booking confirmation.

9.4 Organisation of Agenda: JR agreed to do a first draft ASAP.

- An address from Mr Robert Randall, GM Curriculum ACARA, to canvass ACDS concerns about the national science and mathematics curricula.
- Presentations of proposals for Academic Standards from the ALTC Science Discipline Scholars
- Presentation on the Australian Government's Research Workforce Strategy
- Developments in ASELL (we are contributing money!)
- Presentations from the *Quantitative Skills in Science* project - opportunities for curriculum reform.
- Research issues for Science Faculties - Prof Trevor Hambly, Dean Faculty of Science, University of Sydney

9.5 Invited Speakers (including after dinner speaker):

Mr Robert Randall, GM Curriculum ACARA

Prof Sue Jones and Prof Brian Yates, ALTC Science Discipline Scholars

Dr Anne Byrne,

Directors of ASELL (to be negotiated)

Kelly Mathews and Prof Peter Adams, Quantitative Skills in Science project

Prof Trevor Hambly, Dean Faculty of Science, University of Sydney

After Dinner Speaker –TBA

10. ACDS Website

RKN signalled that the website will need to move from Monash for 2011, following the end of his term as President. This should be the opportunity for a much needed makeover of the site.

11. Developments in ASELL

JW to report to the next meeting – to come under “Business Arising” item.

12. Drop off in employment rates for Science grads in 2009 GDS results

As some universities had been alerted to a steep fall in graduate employment rates Bruce Milthorpe asked if there was any information on a national trend. The executive was unable to provide further information but noted that the figures in question were based on the cohort of mid-year graduates. This would probably produce unreliable employment rates since mid-year graduations in science were typically insignificant compared to end of year graduations.

13. Next Meeting

Monday 10.00am-2.00pm at UTS: 13 September – RC is an advance apology.

14. Other Business

None.

15. Closure of Meeting

The meeting concluded at 1.15pm.

Item	Action	Action by:
5	RC to produce a project plan for the low SES project for approval by the Executive	RC
6	Report to next meeting on ALTC Mathematics PD Project reference group meeting.	JW
7	WP to consider electronic payment of accounts	WP
8	<ul style="list-style-type: none">• JR to ensure that the National Curriculum letters are backed up by further action• JR to use \$1,000 for T&L conference next year• JR to invite Deans of Agriculture to the next Exec meeting• JR to invite Peter Adams at UQ	JR JR JR JR
9	<ul style="list-style-type: none">• Book Mercure Hotel for the AGM• Notify members of the AGM time and venue and call for nominations to the Executive• JR agreed to do a first draft of the Agenda ASAP• Finalise Invited Speakers and After Dinner Speaker	WP WP JR JR
10	ACDS Website to move from Monash in 2011. A major update to the format/layout/content is needed in 2011	WP WP
11	JW to report to next meeting on Developments in ASELL (under Business Arising	JW

AGENDA

The Australian Council of Deans of Science

Executive Meeting 19 July 2010

(10.00am – 2.00pm)

(at UTS Room 4.5.01)

1. **Apologies:** Professor Will Price
2. **Minutes** (Attachment 1)
Minutes of the meeting of 19 April 2010 - to be confirmed.
3. **Actions Arising from April 2010 Executive Meeting**

Item	Action	Action by:
5	JR to contact discipline scholars to engage them in participating in the upcoming ACDS T&L Conference in July	Done
6	WEP to open a new higher interest rate a/c called the Business Cash Maximiser Account	See Item 7
8	Low SES Project – item deferred to next meeting	See Item 5
11	ALTC Mathematics PD Project Reference Group – item on agenda of next meeting	See Item 6

4. **Business arising (not dealt with elsewhere)**
5. **Low SES project (Crawford)**
RC deferred this item from the last meeting.
6. **ALTC Mathematics PD Project reference group (Ward)**
This item was deferred from the last meeting. JW did not report on this as the group had not met as at that date. JW is on the steering committee.
7. **Financial Report** (Attachment 2)
WP to report on ACDS Financial Position.
8. **Executive Director's Report** (Attachment 3)
 - 8.1 **National Science Curriculum**
 - (a) Copies of the letters on K-10 Science and Maths are attached.
JR will speak to them and members are asked to comment.

The letters were also sent to State and Federal Education Ministers and The President of the Board of Studies NSW on 24 June.

"I am writing to you on behalf of the Australian Council of Deans of Science (ACDS). Our body, which represents Faculties within the Higher Education Sector offering degrees in Science, has been directly involved in the consultation process of the new National Curriculum K-10 and have, in addition, been in discussions with other stakeholders.

Please find attached copies of advice and feedback given to ACARA, encompassing the views of ACDS and which are in support of other submissions of peak bodies."
 - (b) JR to report on consultations regarding the Year 11-12 syllabuses.

8.2 Teaching and Learning Conference (Attachment 4)

Attached is a copy of the program. JR will speak on the outcome and members are invited to comment.

8.3 Engagement with the ALTC LTAS project and the Science Discipline Scholars

This has been done by way of developing the program for the T&L Conference. JR will report.

8.4 Engagement with other organisations

The Deans of Agriculture would like our Executives to meet.

In organising for the day session on the LTAS project at the T&L Conference JR has engaged the following discipline representatives to participate:

Cathy Foley	President of FASTS, Research Program Leader in CSIRO and Telstra Business Woman of the Year
Brian James	USyd President AIP
Roger Read	UNSW representing RACI
Neville Weber	USyd representing AMS
Bill Phillips	USyd representing ANZ Soc CDB
Scott Mooney	UNSW representing GeoScience

In particular this will provide opportunities for further engagement with RACI, AIP and AMS.

The national Curriculum has also generated engagement.

8.5 FASTS - Report on the May 26th Board Meeting and attached Communiqué. (Attachment 5)

8.6 Update on the Demonstrator Survey

8.7 ALTC project *Quantitative Skills in Science* was successful.

JR will discuss the next steps.

8.8 AGM Items

- Proposals for Academic Standards from the Discipline Scholars
- Presentation on the Australian Government's Research Workforce Strategy
- Developments in ASELL (we are contributing money!)
- The *Quantitative Skills in Science* project - opportunities for curriculum reform.
- Others?

9. Organisation of the AGM October

9.1 Executive positions

9.2 Booking with Hotel

9.3 Advice to Membership

9.4 Organisation of Agenda

9.5 Invited Speakers (including after dinner speaker)

9.6 Call for Executive nominations

10. ACDS Website

- 11. Developments in ASELL**
JW to give an update to the Executive.
- 12. Drop off in employment rates for Science grads in 2009 GDS results**
BM to elaborate on this issue.
- 13. Next Meeting**
Monday 10.00am-2.00pm at UTS: 13 September
- 14. Other Business**
- 15. Closure of Meeting**

MINUTES

**The Australian Council of Deans of Science
Executive Meeting (02/10)
19 April 2010
at UTS Room 4.5.01**

1. Present & Apologies

Present: John Rice (JR), Rob Norris (Chair, Monash) (RKN), Will Price (Wollongong) (WEP), Aidan Byrne (ANU) (AB), Russell Crawford (SwinU) (RC), Warren Lawrance (Flinders) (WL), Bruce Milthorpe (UTS) (BM), Stephen Walker (UQ) (SW), Jo Ward (Curtin) (JW).

Apologies: There were no apologies.

2. Minutes

Minutes of the meeting of 22 February were confirmed.

3. Actions Arising from February 2010 Executive Meeting

Item	Action	Action by:
1a	JR to organise a one-on-one meeting with Roger Read	JR
5	RKN to write a thank-you letter to Gillian Bushell	Done by WEP
6	WP to report back on progress at the next meeting	See Agenda Item 6
7	ASELL: JR to email all AD(T&L) and encourage participation in the 2 day satellite workshop. Low SES students and Science: JR to contact key people including Bradley Smith. AD(T&L) Conf: Move Conference to June and hold it in Sydney. ACARA: JR encourage individual Deans to comment on the draft National Curriculum for Science. HDR Student – Industry Engagement initiative: JR to make plans to organise an event in Sydney and to look for partners to involve.	See Agenda Item 8 See Agenda Item 8 See Agenda Item 7(3) Done See Agenda Item 8
8	“Website” be made a standing item at future Exec. Meetings	See Agenda Item 9
14	JR to keep watching the brief	JR
15	LTAS Forum: RKN to invite Prof. Christine Ewan to the next Executive meeting	See Agenda Item 5

4. Business arising (not dealt with elsewhere)

None arising – all dealt with in agenda.

5. Discipline Scholar (Science) Selection Panel

Professor Christine Ewan AM, Project Leader, Learning and Teaching Academic Standards (LTAS), had been invited to attend the meeting but found she was not available. Carol Nicholl, CEO of ALTC came instead to discuss the LTAS project, the role of discipline scholars and the broader significance of outcomes from the project. Carol gave the committee a good overview of the project and its goals as well as the broader context. The main points of the discussion were as follows:

- Discipline scholars are to formulate discipline academic standards in close consultation with the sector. This was an excellent opportunity for ACDS to be closely involved to help shape the standards.
- The Science Discipline Scholars are Brian Yates and Sue Jones from University of Tasmania, who commenced recently on a 12 month contract with LTAS. It is likely that given the Scholars' discipline backgrounds that Chemistry and Biological Sciences will be used as exemplar disciplines to formulate academic standards.
- It was emphasized that the outcomes from the project would be used by TEQSA in their role in assessing University quality standards. It was therefore very important that the University sector take the project seriously and contribute as much as possible.
- It was acknowledged by Carol that ACDS can play a very important role. It was therefore agreed that the Executive Director contact the discipline scholars to engage them in participating in the upcoming ACDS Teaching and Learning Conference in July, where the LTAS project and the formulation of Academic Standards for Science could be a major topic.

6. Financial Report

The Treasurer reported that:

1. The account balances (as of 31st March 2010) were:
Cash Management Account: \$191,879.07
Cheque Account: \$15,385.78
2. Expenditure since the last meeting has been:
3 March: Catering Expenses Feb Exec Mtg My Cuppa: \$101.10
15 March: Expenses (Airfare and Rego) JR Summit of Deans: \$349.70
15 March: Expenses (Incidentals) JR Summit of Deans: \$92.30
3. Still 3 Universities to be chased for 2010 subscriptions
4. Progress being made to open a new higher interest rate account to replace Cash Management Account. This is called the Business Cash Maximiser Account current at 4.25% pa. Application for internet banking being pursued to give access for balances.

7. Executive Director's Report

The ED reported on a number of items:

1. Universities Australia engaging Access Economics to review university funding models. This could have major ramifications for Science based courses, particularly given the focus on the "extent of cross-subsidisation of core activities". It would be important for Deans to keep a watch on this.
2. The ALTC LTAS Project covered above in 5.
3. The ACDS L&T Conference will be held on 15-16 July at the Mercure Hotel in Sydney. Deans and Assoc Deans (T&L) and other key Faculty staff would be strongly encouraged to attend. A key focus of the conference will be the ALTC Learning and Teaching Project.

4. The Summit of Deans covered topics such as Inspiring Australia, the potential for a combined body of Councils of Deans to act as an effective lobby group and the LTAS project. JR though reported that it was not a particularly effective conference or forum and didn't think it would lead to anything of great value.
5. The National Curriculum Consultation Science forum was held in Sydney on 16th April. It was attended by JR and WEP. It focussed on the K-10 curriculum. JR expressed the view that ACARA were still open to comments for changes to this curriculum but that it was taking final shape. JR thought there were still shortcomings but others felt that the process had produced a fairly reasonable curriculum. The devil though would be in the implementation and depend on teacher education and development. JR alerted the Executive to the impending release of the Yr 11-12 Science curriculum for consultation and encouraged comment and widespread discussion within Faculties.

8. 2010 Ten Point Plan

There was brief discussion on progress with other aspects of the ten point Plan.

- ASELL Workshop (Ward / Lawrence): There was discussion about the progress made with the ASELL project. The Workshop in Adelaide went well in regards to the discipline based activities. JR expressed continued concern about the level of Faculty buy-in and the will and ability to roll out the ASELL methodology across whole laboratory courses and degrees. JW and WL thought that it was still too early in the process to expect much traction in that quarter.
- Low SES project (Crawford): RC reported that he had done nothing more and therefore the item would be delayed until the next meeting.
- Lab Demonstrator Survey (Rice): JR reported that the survey questions were complete and that it was ready to roll out to Faculties soon.
- FASTS projects (Rice): JR reported that little progress has been made in relation to: Science Workforce; Postgrads Meet Industry; Dobson Science Study; in due part to the turmoil and change of staffing within FASTS.

9. ACDS Website

RKN reported that a number of minor changes, including details of newly appointed Deans, had been made to the ACDS website.

10. Science Meets Parliament Report (Byrne)

AB reported that Science meets Parliament worked well again this year, with good interest and discussion taking place. Increased security inside Parliament restricted free movement. Organisationally, it worked smoothly and members should encourage their staff to attend next year.

11. ALTC Mathematics PD Project reference group (Ward)

JW did not report on this as the group has not met as yet.

12. Next Meeting

Monday 10.00am-2.00pm at UTS: 19 July

13. Other Business

None

14. Closure of Meeting

The meeting concluded at 1.20pm

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Action Sheet from April 2010 Executive Meeting

Item	Action	Action by:
5	JR to contact discipline scholars to engage them in participating in the upcoming ACDS T&L Conference in July	JR
6	WEP to open a new higher interest rate a/c called the Business Cash Maximiser Account	WEP
8	Low SES Project – item deferred to next meeting	RC
11	ALTC Mathematics PD Project Reference Group – item on agenda of next meeting	JW

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AGENDA

The Australian Council of Deans of Science

Executive Meeting 19 April 2010

**(10.00am – 2.00pm)
(at UTS Room 4.5.01)**

1. **Apologies**
2. **Minutes** **(Attachment 1)**
Minutes of the meeting of 22 February 2010 - to be confirmed.
3. **Actions Arising from February 2010 Executive Meeting**

Item	Action	Action by:
1a	JR to organise a one-on-one meeting with Roger Read	JR
5	RKN to write a thank-you letter to Gillian Bushell	Done by WP See Att. 2
6	WP to report back on progress at the next meeting	See Agenda Item 6
7	ASELL: JR to email all AD(T&L) and encourage participation in the 2 day satellite workshop. Low SES students and Science: JR to contact key people including Bradley Smith. AD(T&L) Conf: Move Conference to June and hold it in Sydney. ACARA: JR encourage individual Deans to comment on the draft National Curriculum for Science. HDR Student – Industry Engagement initiative: JR to make plans to organise an event in Sydney and to look for partners to involve.	See Agenda Item 8 See Agenda Item 8 See Agenda Item 7 Done See Agenda Item 8
8	“Website” be made a standing item at future Exec. Meetings	See Agenda Item 9
14	JR to keep watching the brief	JR
15	LTAS Forum: RKN to invite Prof. Christine Ewan to the next Executive meeting	See Agenda Item 5

4. **Business arising (not dealt with elsewhere)**
5. **Discipline Scholar (Science) Selection Panel**
Professor Christine Ewan AM, Project Leader, Learning and Teaching Academic Standards, had been invited to attend this meeting but is now unable to attend and will be sending a representative in her place.

6. Financial Report

WP to report on ACDS Financial Position.

7. Executive Director's Report

- UA engages Access Economics to review university funding models
(Attachment 3)
- ALTC
Learning and Teaching Academic Standards Project and TEQSA
ALTC grant application Quantitative Skills in Science: *Curriculum models for the future*
- Teaching and Learning Conference
- Report on Summit of Deans
Inspiring Australia
Lobbying
Academic Standards Project
- National Curriculum Consultation

8. 2010 Ten Point Plan

(Attachment 4)

- ASELL Workshop (Ward Lawrance)
- Low SES project (Crawford)
- Lab Demonstrator Survey (Rice)
- FASTS projects (Rice)
Science Workforce
Postgrads Meet Industry
Dobson Science Study

9. ACDS Website

10. Science Meets Parliament Report (Byrne)

11. ALTC Mathematics PD Project reference group (Ward)

12. Next Meeting

Monday 10.00am-2.00pm at UTS: 19 July

13. Other Business

14. Closure of Meeting

MINUTES

**The Australian Council of Deans of Science
Executive Meeting (01/10)
22 February 2010
at UTS Room 4.5.01**

1. Present & Apologies

Present: John Rice (JR), Rob Norris (Chair, Monash) (RKN), Will Price (Wollongong) (WP), Bruce Milthorpe (UTS) (BM), Stephen Walker (UQ) (SW), Russell Crawford (SwinU) (RC)

Apologies: Jo Ward (Curtin), Warren Lawrence (Flinders), Aidan Byrne (ANU)

1a. Special Item

Assoc Prof. Roger Read (UNSW) attended the meeting, representing the Royal Australian Chemical Institute. He discussed the recent and ongoing problems that RACI had experienced in relation to falling memberships and its eight point plan to resolve these issues. His reason for coming to ACDS for advice, was to seeking avenues for closer engagement and collaboration between ACDS and RACI. It was decided that the best course of action to explore opportunities was via a one-on-one meeting between Roger and John Rice, the ED.

2. Minutes

Minutes of the meeting of 4 December 2009 were confirmed.

3. Actions Arising from December 2009 Executive Meeting

Item	Action	Action by:
1	ED to confirm date for the T&L conference	See agenda item 7
2	President to urge Deans to consider which staff (champions of T&L) to send to both the ASELL workshop and T&L conference	See agenda item 7
3	Engage Paddy O'Toole to undertake Demonstrator Survey Project	See agenda item 7

4. Business arising (not dealt with elsewhere)

There were no items raised other than those already in the agenda.

5. Replacement Gillian Bushell

Gillian Bushell resigned from the Executive in late 2009. Under the ACDS Constitution Section 5 there are provisions to co-opt one person onto the Executive following a resignation. Prof. Stephen Walker (UQ) was proposed by RKN and seconded by JR. The resolution to co-opt Stephen was passed unanimously. The President agreed to write to Gillian Bushell to formally thank her for all her contributions to ACDS (WP to draft letter).

6. Financial Report

The Secretary/Treasurer (WP) reported on the current financial state of ACDS:

- a) Account Balances (as of 29 January 2010):

Cash Management Account:	\$190,787.61
Cheque Account:	\$16,106.11
- b) Payments made since last meeting (Annual General Meeting):

Executive Director Honorarium Payment:	\$10,000.00
Postage for ALTC Reports (U Sydney):	\$103.40
Mercure Hotel, Sydney AGM Smith (FASTS)	\$177.63
- c) Subscriptions 2009-2010
Only 3 outstanding payments left – to be chased up in March.
- d) Other items:
 - Signatories to cheque account changed
- e) Other Items discussed:
 - The desirability of opening a different (higher interest) account.
 - Moving ACDS finances into the 21st Century (electronic banking)

It was decided that ACDS should look at both the options above and that WP would report back on progress at the next meeting.

7. Executive Director's Report

ASELL: The Workshop in Adelaide in April is well subscribed. However, the ED reported that the 2 day satellite workshop for AD (T&L) or Faculty champions to overview and understand the ASELL process was not. The ED agreed to email all AD (T&L) to encourage participation.

Demonstrator Training Survey: Discussion centred on the formulation of the questionnaire. In addition, the importance of the project to AUQA /TEQSA was raised.

Low SES students and Science: Russell Crawford discussed recent data from Victoria based on offers for student places in 2009, in Science compared with other courses as a function of SES status. The evidence for the number of low SES students in Science being higher than the average was compelling. The Executive decided this was worth pursuing further in the form of an ACDS funded project. JR agreed to contact a number of key people including Bradley Smith with the view to contracting someone to run it. It was resolved to pay for travel to facilitate the feasibility of such a venture.

AD (T&L) Conference: It was agreed to move the scheduled conference to June and hold it in Sydney.

ACARA (Australian Assessment Curriculum Reporting Authority): JR reported that the draft National Curriculum for Science was due to be released for further consultation. Because of the difficulties of making headway at the NC Board level, the ED decided that the best plan of action was to encourage individual Deans to comment on the draft. There was frustration expressed that the NC development process has thus far only been a means to provide a national framework rather than being an opportunity for real curriculum reform and improvement.

HDR Student – Industry Engagement initiative: JR reported that negotiations with FASTS to organise a networking meeting involving industry representatives and HDR students in conjunction with the Science meets Parliament event have floundered. JR instead recommended to the committee that separate events in State Capitals should be organised. JR agreed to make plans to organise an event in Sydney as a start and to look for partners to involve.

Workshop on Industry Collaboration: JR reported that efforts to gain traction with FASTS on this initiative, post Bradley Smith, have proved difficult.

8. Website

RKN reported that minor changes had been made to the ACDS website. It was suggested that there be a linked archive of ACDS reports and occasional papers. It was decided to make the website a standing item at future Executive meetings.

9. Teaching and Learning Conference in 2010

Covered in item 7.

10. ASELL

Covered in item 7.

11. FASTS

RKN and JR reported on a recent FASTS Board Meeting in Sydney. FASTS is clearly undergoing some major internal changes with the new staff and loss of corporate knowledge.

12. National Curriculum Board

Covered in item 7.

13. Student Enrolments 2010

RKN commented that Science enrolments were quite buoyant at a number of institutions around the country and whether a press release was warranted as in previous years. It was decided not to pursue this, as numbers were up significantly across the sector in all areas, and some Science Faculties had not fared as well as others.

14. Science Communication Report

The Report “Inspiring Australia” released by the Minister in February 2010 was discussed. The 15 recommendations appear to be positive but further details will be needed as to how it is successful or how good the outcomes will be with the arrangements for Science. It was agreed that JR keep watching the brief.

15. LTAS Forum – February 11

RKN reported on the Learning Teaching and Academic Standards Project meeting that he attended. This project funded through ALTC will define academic standards in discipline areas and will be important and used in AUQA and TEQSA processes. RKN was worried that there had been delays in appointing Discipline Scholars in Science and that the timeframe for the project (due to report by the end of 2010) were such that good outcomes for Science could be compromised. It was agreed to invite Professor Christine Ewan, who is heading the project to the next Executive Meeting.

16. 2010 Meetings of the Executive

The next meeting will be held on Monday 19 April at UTS commencing at 10.00 am.

17. Other Business

There was no other business.

18. Closure of Meeting

The meeting concluded at 1.12 pm.

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Action Sheet from February 2010 Executive Meeting

Item	Action	Action by:
1a	JR to organise a one-on-one meeting with Roger Read	JR
5	RKN to write a thank-you letter to Gillian Bushell	WP
6	WP to report back on progress at the next meeting	WP
7	ASELL: JR to email all AD(T&L) and encourage participation in the 2 day satellite workshop. Low SES students and Science: JR to contact key people including Bradley Smith. AD(T&L) Conf: Move Conference to June and hold it in Sydney. ACARA: JR encourage individual Deans to comment on the draft National Curriculum for Science. HDR Student – Industry Engagement initiative: JR to make plans to organise an event in Sydney and to look for partners to involve.	JR JR JR JR JR
8	“Website” be made a standing item at future Exec. Meetings	WP
14	JR to keep watching the brief	JR
15	LTAS Forum: RKN to invite Prof. Christine Ewan to the next Executive meeting	RKN

AGENDA

The Australian Council of Deans of Science

Executive Meeting 22 February 2010

(10.00am – 2.00pm)
(at UTS Room 4.5.01)

1. **Apologies**
2. **Minutes**
Minutes of the meeting of 4 December 2009 - to be confirmed.
3. **Actions Arising from December 2009 Executive Meeting**

Item	Action	Action by:
1	ED to confirm date for the T&L conference	See agenda item 7
2	President to urge Deans to consider which staff (champions of T&L) to send to both the ASELL workshop and T&L conference	RKN (see Att.1)
3	Engage Paddy O'Toole to undertake Demonstrator Survey Project	See agenda item 7

4. **Business arising (not dealt with elsewhere)**
5. **Replacement Gillian Bushell**
Formal Appointment of Stephen Walker (UQ) under the Constitution Section 5 third paragraph viz.:
The Executive shall comprise the office bearers, the Immediate Past President ex officio (with his/her concurrence), five other members elected by the Council, and one additional member (optional) who shall be coopted by the Executive from among the current membership of the Council if the Executive so desires.
6. **Financial Report**
WP to report on ACDS Financial Position.
7. **Executive Director's Report**
8. **Website**
RKN to report on changes/updates.
9. **Teaching and Learning Conference in 2010**
JR to comment.
10. **ASELL**
JR to report.

- 11. FASTS**
RKN and JR will report on FASTS Board Meeting in Sydney.
- 12. National Curriculum Board**
JR to comment.
- 13. Student Enrolments 2010**
Should we design a Press Release once the Enrolment dust settles commenting on the dramatic increases in Science Enrolments (if universal- otherwise??)
- 14. Science Communication Report**
The Report “Inspiring Australia” was released by the Minister on 8 February 2010; the outcome of the review of science communication conducted by Questacon. The Executive Summary which lists 15 recommendations is attached. It explicitly supports replacing SCOPE and supporting things such as National Science week. Where does this leave the Science and Engineering Challenge?
- 15. LTAS Forum – February 11**
RKN Report and background documents are attached.
- 16. 2010 Meetings of the Executive**
Mondays, 10.00am-2.00pm at UTS: 22 February, 19 April, 19 July and 13 September.
- 17. Other Business**
- 18. Closure of Meeting**

MINUTES

**The Australian Council of Deans of Science
Executive Meeting 2009
4 December 2009
Conference Call (11.00-12.10)**

1. Present & Apologies

Present: John Rice (JR), Jo Ward (Curtin) (JW), Will Price (Wollongong) (WP), Bruce Milthorpe (UTS) (BM), Stephen Walker (UQ) (SW)

Apologies: Rob Norris (Chair, Monash) (RKN), Gillian Bushell (Griffith) (GB), Warren Lawrence (Flinders) (WL), Russell Crawford (SwinU), Aidan Byrne (ANU) (AB)

2. Minutes

Minutes of the meeting of September 14, 2009 were confirmed.

3. Actions Arising from September 2009 Executive Meeting

Item	Action	Status
1	Further progress of ASELL agenda	Completed via item 8
2	The National Curriculum	Completed via item 6

4. Business arising (not dealt with elsewhere)

There were no items raised other than those already in the agenda.

5. Financial Report

WP reported that the financial position of ACDS was healthy. The majority of the subscriptions have been paid. The Cash management Account stands at \$203,456 and there is \$6,206 in the Cheque Account. WP will chase up a few outstanding subscription invoices. The process of change over of signatories is in progress and will be completed soon.

6. Executive Director's Report (attached to minutes)

(i) **Ten point plan:** There was discussion of the items on the ten point plan. Actions and outcomes are given in the action list at the end of the minutes.

(ii) **National Curriculum Board:** JR again raised concerns about the progress made with the National Science Curriculum and the current documents. After discussion it was decided that ACDS needs to be very proactive in the consultation phase (Feb-May 2010) to ensure adequate comment and change. In particular, industry and other end users need to be made aware of the proposal, its current flaws and implications. The Executive will need to decide how best to progress this early in 2010.

(iii) **FASTS and 1st Australian Summit on the integration of Research, Teaching and Learning.** Both of these items in the ED's report were discussed.

7. Teaching and Learning Conference in 2010

It was decided that the T&L conference in 2010 needs to be around April/May probably in the AVCC common week. JR to confirm the date. One possibility was to piggy-back the meeting with the ASELL workshops in early April 2010 in Adelaide. (see item 8 below).

The discussion also decided that the focus of the conference needs to be broader than just Assoc Deans T&L but to promote the event to champions of teaching and learning within Science Faculties around the country. The proposed topics to be included were:

- National Science Curriculum
- ASELL experience and how to implement it across Faculties
- Endorsement of a statement on u/g Science Education and the critical role of laboratory and field work.
- Discussion of the survey of low SES students in Science Faculties.
- Discussion of the demonstrator survey.

8. ASELL

ASELL proposes to hold workshops simultaneously for chemistry, physics and biology at the University of Adelaide from April 6-9th in 2010. The Executive discussed the uncertainty of how it is proposed to roll out the ASELL methodology into Faculties of Science. Similar to discussion of the T&L conference it was felt that, because of the diverse nature of Faculty structure and roles of ADT&L, Deans need to select the most appropriate champions to send to ASELL to ensure successful integration of ASELL methodology and philosophy into Faculty T&L processes.

9. Demonstrator Survey

The committee endorsed the idea of the demonstrator survey. A resolution was passed (proposed by SW 2nd JW) that Option 2 should be undertaken at a cost of \$40K but that a review of the outcomes at the end of the first stage (equivalent to option 1) should be carried out before proceeding with the second half of the survey and analysis.

10. There was general discussion around the other parts of the ten point plan. Points 8 and 9 (National Postgraduate meets Industry and Workshop on Industry Collaboration with HE Sector) have been passed onto FASTS for further action. It was noted that these activities need to be seen and advertised as partnerships between FASTS and ACDS and that the Postgraduate-Industry meetings needed to be run on a State basis. A number of other items need to be picked up early in the New Year at the next Executive Meeting.

11. Other Business

No other business was discussed. WP agreed to circulate to members a list of possible dates for Executive Committee meetings for 2010.

12. Closure of Meeting

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Action Sheet from December 2009 Executive Meeting

Item	Action	Action by:
1	ED to confirm date for the T&L conference	JR
2	President to urge Deans to consider which staff (champions of T&L) to send to both the ASELL workshop and T&L Conference.	RN
3	Engage Paddy O'Toole to undertake Demonstrator Survey Project	JR

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AGENDA

The Australian Council of Deans of Science

Executive Meeting 4 December 2009

Conference Call (11.00am – 1.00pm)

1. Apologies

2. Minutes

Minutes of the meeting of September 14, 2009 - to be confirmed.

3. Actions Arising from September 2009 Executive Meeting

Item	Action	Action by:
1	ASELL	See agenda item 8
2	The National Curriculum	See agenda item 6

4. Business arising (not dealt with elsewhere)

5. Financial Report

WP to report on ACDS Financial Position.

6. Executive Director's Report

- Ten Point Plan
- National Curriculum Board
- FASTS
- 1st Australian Summit on the Integration of Research, Teaching and Learning

7. Teaching and Learning Conference in 2010

A suitable date needs to be chosen in April/May. Agenda should include

- reflections on ASELL experience and ideas for its induction into faculties,
- endorsement of a statement on undergraduate science education and the critical role of laboratory and field work
- discussion of the survey of low SES students
- discussion of the demonstrator survey
- OTHER ITEM?

8. ASELL

ASELL proposes to hold workshops simultaneously for chemistry, physics and biology at the University of Adelaide from April 6-9th in 2010.

- Do we need a commitment from ASELL for second such set of workshops in the second mid-semester break?

- We want Deans to send their ADT&L's, or whoever they imagine will drive the adoption of ASELL, to one of these workshops.
- Whoever attends should be prepared to attend the Teaching and Learning Conference next April/May to participate in discussion of ASELL.
- Can we detail what we want from ADT&L participation in the workshops, by way of T&L development in faculties?

9. Demonstrator Survey

A draft proposal is attached. Options 1, 2 and 3 would cost something like \$20K, \$40K, \$70K. Feedback is sought on the options to be pursued, and any additions/changes to the proposal.

- 10.** General discussion on whether and how to progress other items in the 10 point plan. Note that FASTS, at the Board Meeting following its AGM on November 24th, formed a steering group to co-ordinate implementation of items 8: National Postgraduates Meet Industry and 9: Workshop on Experiences of and Models for Industry Collaboration.

11. Other Business

12. Closure of Meeting

MINUTES

**The Australian Council of Deans of Science
Executive Meeting 2009
14 September, 2009
UTS 10am - 2pm**

1. Present & Apologies

Present: Rob Norris (Chair, Monash) (RKN), John Rice (JR), Gillian Bushell (Griffith) (GB), Jo Ward (Curtin) (JW), Warren Lawrence (Flinders) (WL), Will Price (Wollongong) (WP), David Finlay (La Trobe) (DF).
Apologies: David Day (USyd), Russell Crawford (SwinU)

2. Minutes

The minutes of the meeting of August 3, 2009 were confirmed.

3. Actions Arising from August, 2009 Executive Meeting

Item	Action	Status
1	JW/WL to write to RKN outlining outcomes of the ASELL workshop; RKN to liaise with ASELL, then communicate to Deans	Completed
2	Vision statement re ASELL at AGM	AGM
3	JR will send yr11/12 curricula (with clear instructions) to Executive. Executive to circulate in confidence for feedback	Completed
4	Write to Bradley Smith to invite him to AGM	Completed
5	Circulate outcomes of FASTS workforce study	Completed
6	Respond to Jeremy Gillings	Decided against
7	Circulate information re Science Hub Australia to all members	Completed
8	Invoices for membership subscriptions to be distributed	Completed
9	Remind members to advise any changes to contact details	Completed
10	Contact re possible interest in Executive membership	Ongoing

4. Business arising (not dealt with elsewhere)

Nil

5. Financial Report

GB reported that the financial status is healthy, annual subscriptions are yet to arrive. The payment made by the single cheque listed in the agenda was confirmed.

6. Executive Director Report

The National Curriculum

ACDS has considerable concern about the direction this is taking for Science – this is a radical reform agenda with insufficient time and resources being devoted to it. There is

a disconnect between K-10 and years 11/12. The writers do not see the whole picture and the capability to write a coherent, credible curriculum is lacking.

FASTS

- The new Executive Director commences in November
- The FASTS/ACDS Workforce study progresses but APESMA has launched a separate study with funding from DEEWA

Relative funding model

The major opportunities and threats in relation to this to be discussed at the AGM

7. 2010 ACDS Executive

GB reported on interest expressed, and agreed to follow up the two further possible nominations for the Executive.

8. AGM

A draft program was determined

- Contact details for the Mercure to be distributed with the program
- Members to organise own accommodation, advising the hotel that it is with the ACDS meeting (Reference Code #ACDS1210)

9. ACDS Website

RKN reported that this is working well and had been recently updated in preparation for sending out the Annual Subscription Notices and the details for the AGM.

10. Other Business

- ASELL workshop report (JW/WL)
This was tabled and will be circulated with the minutes.
- *An enumerated history of the PhD in Australia* by Ian Dobson
JR raised the issue of supporting Ian Dobson's latest study (on the PhD – title above). Should ACDS wish to contribute funds towards this? No decision was taken.
- Involvement/support of ANZAAS
RKN tabled an email from Dr Mike Murray, ANZAAS, Victoria (see Appendix 1). The general consensus was that this was a return to the past (ACDS arose from Meetings of deans held seriatim with ANZAAS) and ANZAAS although staging a minor revival (at least in Victoria) now represented one of many organisations attempting to raise the interest of school-age youth in science generally (Science Communicators, Science Youth Forum, In2science, Siemens Summer Experience etc were/are examples). The Executive agreed that ACDS support of ANZAAS should not be pursued

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Action Sheet from September 2009 Executive Meeting

Item	Action	Action by:
1	Draft AGM program to be sent to RKN/JR	GB
2	Introductory statement to AGM Program	JR
3	Program to be finalised/distributed <ul style="list-style-type: none"> • Contact details for the Mercure to be distributed with the program. • Members to organise own accommodation, advising the hotel that it is with the ACDS meeting (Reference Code #ACDS1210). • Registration form for members attending the AGM to be prepared and distributed. 	RKN
4	Executive members for 2009-10 (continued)	GB
5	ASELL workshop report from JW/WL to be distributed with minutes	GB

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Appendix 1:

Email re ANZAAS Membership from Mike Murray to Rob Norris:

Many thanks Rob,

As I mentioned in my last email ANZAAS-Vic presents one evening talk each month by a locally based distinguished scientist.

Last month for the first time we included in the evening's programme a short preliminary talk given by a University of Melbourne research student. The format proved to be very successful. This month an RMIT research student will present. We still need to line up a research student for October and I wondered if you could recommend one of yours. (The choice of science discipline we leave to you) The date of the meeting is Wednesday 21 October. Start time is 6.30pm, and the venue is the Gene Technology Access Centre (GTAC) at University High School in Parkville. (Incidentally the main presenter that evening will be Jamie Rossjohn) The opportunity gives the student a chance to 'showcase' his/her work to the wider world and pitch the talk for a lay audience. Next year we shall guarantee each Victorian University taking part in the programme at least one of these speaking slots and there will be extra slots to fill.

In return we ask that each Science Faculty subscribes to corporate membership of ANZAAS at an annual subscription of \$135 (3 X individual membership annual subscription). This also enables the Faculty to nominate three staff members as ANZAAS representatives with virtually identical rights to ordinary members. Also, as mentioned below, ANZAAS will also give you the facility to place advertisements for your public science events on our ANZAAS website (Victorian webpages). In addition the Monash University logo will, at your request, be included on our Corporate Members page.

I shall write to all Victorian Deans of Science with the same proposition.

I hope that Monash University can lead the way in the introduction of this new venture.

Please let me know if you have any questions.

Mike Murray

Executive Directors Report

Executive Teleconference, Dec 4th, 2009

Ten Point Plan

A final draft of the ten point plan arising from the AGM was circulated to Executive for comment on October 20th. One person responded with approval and for the rest I have assumed silence as a sign of assent.

As noted in the FASTS report below, two of the items have been put to FASTS and received their enthusiastic engagement. I have obtained a proposal for the study into demonstrator training from Paddy O'Toole for the consideration of the executive at this meeting. Other items need discussion by the executive to decide how they will be progressed

National Curriculum Board

The Advisory Panel on the National Science Curriculum has met on October 30th and November 20th in preparation for the release of the draft curriculum for consultation. ACARA will release the draft curriculum for K-10 English, mathematics, science and history mid February and seek public consultation to May 2010.

I and many others on the Advisory Panel are very critical of the documents that have emerged. We feel that our advice is not being taken seriously enough.

At the beginning of the writing process we objected to the curriculum being drafted in three separate sections, Science Understanding (the actual knowledge), Science Inquiry Skills and Science as Human Endeavour (how science relates to societal and personal issues). We agreed that it was valuable to consider these three aspects of science explicitly since, as the framing paper suggests, it is probably the absence of the latter two that makes K-12 science seem theoretical and remote. However we argued that it was not possible to teach these things meaningfully in isolation from each other.

It was agreed that the 'content elaboration' part of the curriculum would indicate how they would be integrated. Panel members developed some demonstrator topics of the kind we thought would be included in the elaboration to show how it should be done. As at November 20th such topics will not be included, leaving the curriculum as three largely unrelated strands. While there is some effort as cross referencing this will be ineffectual in the face of the way that teachers and textbook writers will interpret a curriculum so boldly subdivided. We are not convinced that teachers will have the necessary background knowledge and skills, or indeed the time, to make the required integration for themselves.

At the October 30th meeting it was announced that teachers would be required to report annually against achievement standards, and some draft examples were presented for our comment. Peter Fensham, who is a world authority on science education, was so disturbed by this that he subsequently wrote withdrawing from any consideration of these standards. His point was that whereas content might change from year to year, giving something on which to base a standard, the Science Inquiry Skills and Science as Human Endeavour aspects did not lend themselves to such fine grained monitoring, would be severely damaged by such an approach, and so undermine the whole thrust of the framing paper which was to bolster these aspects of science education. Leonie Rennie, another high profile science educator, and I wrote to the GM Curriculum supporting Peter and outlining our concerns. The letter is attached. We have had no response.

I have repeatedly asked that a list of broad topics (like eg motion, light, heat, sound electricity and magnetism ...) be produced to guide the overall development of the curriculum from K-10. We should be able to see how students understanding of these various elements grows over time. The lists were produced at the October 30th meeting and disappeared by the November 20th meeting. One still does not see an acceptable level of coherence and development in the science subject matter, nor how the Science Inquiry Skills and Science as Human Endeavour relate to it.

On November 20th it was announced that the K-6 curriculum was focused on 'pre-conceptual' experiences of science. To the extent that it engages students in the phenomena to be understood this is a good thing. However, in my opinion one cannot easily discern either the experiences or the concepts to which they are directed. Indeed much of the overall curriculum content is quite ambiguous and only becomes clearer when the 'content elaboration' is put with it. This is just poor drafting. I am still not convinced that the curriculum gives adequate direction to teachers about what students are to learn.

Then there are statements such as 'batteries store electricity', which is wrong, and which we have asked to be corrected. There are other curriculum statements that are either bad science or misleading. We hope that they will be corrected, that there aren't more that we've missed, and that more won't be introduced in subsequent editions.

Peter Fensham, Leonie Rennie and I are considering writing to ACARA to express some of these concerns.

FASTS

FASTS held its AGM on November 24th followed by a Board Meeting. A dinner was held on the previous evening to farewell Bradley Smith and to welcome Anna-Maria Arabia as the new Executive Director.

Cathy Foley from CSIRO assumed the presidency and Bob Watts, president of RACI, was elected deputy president. Ken Baldwin remains as immediate past president.

I placed three items on the agenda from ACDS

- Progression of the science workforce study
- The National Postgraduates meet Industry proposal from ACDS 10 point plan.
- The Workshop on Experiences of and Models for Industry Collaboration, also from the plan.

All three were received enthusiastically and a steering group formed to progress them, including Bob Watts and Erin Wood from APESMA. I am waiting on the first teleconference of this group.

1st Australian Summit on the Integration of Research, Teaching and Learning
November 5th-6th Swiss Grand Hotel, Bondi Beach, Sydney Australia

This conference was part of an ALTC project led by Angela Brew from Macquarie University. The project is concerned with making research a part of undergraduate education. The conference had many speakers from overseas, including the Executive Director, Division of Undergraduate Education, National Science Foundation, USA. She explained an interesting model for engaging the public in astronomical research via a website that trained individuals to distinguish objects in photographs – stars, galaxies of various kinds, image artifacts etc. They would then identify objects in survey photographs and lodge their findings over the web. NSF funded the development of an appropriate web interface and engaged the astronomical community in the project. It has proved immensely popular as well as delivering tangible research outcomes.

I attended the conference on behalf of ACDS on the first day, speaking as a member of a plenary panel. I emphasized the problems with mainstreaming this kind of teaching activity in a sustainable way, and with engaging staff given the pressure on science faculties to produce research and to diversify their teaching clientele.

Mr Robert Randall
General Manager Curriculum
Australian Curriculum Assessment and Reporting Authority
PO Box 177, Carlton South, VIC 3053

November 11th, 2009

Dear Rob,

We are writing to express our grave concern over the withdrawal of Professor Peter Fensham from the Science Advisory Panel's deliberations with respect to provision of advice on achievement standards. We endorse his concerns over the proposals for these standards.

Peter is among the most respected science educators in the world, not just in Australia, for his thorough understanding of science education. The lack of input from Peter will be detrimental to the overall development of whatever achievement standards might be proposed. More significantly however, his stand will reflect very powerfully and very negatively on the credibility of whatever achievement standards arise from the national curriculum process.

We join Peter in his concerns, which are not with achievement standards per se, but with the particular form that appears to be insisted upon. We agree with Peter that in the form demanded they are fundamentally incompatible with the emphasis of the Key Issues paper on the use of "plain language" and a curriculum that will give clear and unambiguous direction to teachers.

We also agree that they are completely corrosive of the Science Inquiry Skills and Science as Human Endeavour strands of the proposed science curriculum. These structures are the distinctive features of the Framing Paper that address the problems of engaging students with science and embody the notion of science for citizenship rather than science only for potential experts. Thus we are deleting the one key strand from our notions of achievement that might make the new curriculum more exciting and relevant to the average student than the old ones.

The problem lies with requiring achievement standards for every year level. At such a fine grained level, expressing progress in the quality of learning seems very dependent on shades of meaning. The example achievement standards that we saw demonstrated the difficulty of trying to state progression with shades of meaning. Something reasonably sensible might be written in the Science Understanding strand if the content changes year by year, but for Science Inquiry Skills it is demonstrably difficult, and any affective dimension in Science as a Human Endeavour virtually disappears. Given the rapidly increasing number of NESB teachers in our schools, nuances and shades of meaning get lost easily, making it even more improbable that the substance of any such achievement standards would be communicated effectively.

We note the difficulty that the writers have had with writing progression throughout K-10, even in the various content areas of the Science Understanding strand. It is even more difficult in Science as a Human Endeavour and Science Inquiry Skills, despite that they were written in two year blocks. Attempts to do so demonstrate, quite starkly, the level of repetition in the descriptions and their increasingly cognitive dimension. Essentially, the earnest efforts of the writers have demonstrated that it is not possible to write unambiguous, uniformly interpretable achievement standards at each year level.

Another serious deficiency of year by year achievement standards is their inability to deal with the diversity of student abilities at any given year level. All of the national testing, and the within state testing, carried out over the last decades, indicates that students within each year level can perform at a range of vastly different levels. Grading A-E at each level on one set of standards, even if they could be unambiguously worded, and interpreted in the same way by all teachers, simply ensures a sequence of failures for an increasingly large cohort of students.

We cannot understand the emphasis explained to our committee that statements of achievement standards must be divorced from performance. Learning requires change in the learner, which simply is not visible unless the learner does something so that learning is observable. In other words, achievement must be demonstrated by the learner through performing some task. The outcome of this performance is represented by a sample of the student's work, which inevitably is what can be assessed.

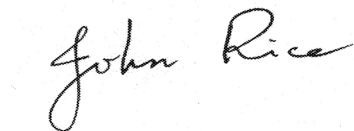
The K-10 Achievement Standards Guidelines for Writers (which are heavily oriented towards concepts rather than skills) refer to student work samples, even to the extent of stating "Strong evidence regarding the actual performance of students must inform the writing of achievement standards. Student work samples will be provided where available." Clearly performance underlies achievement, and it is difficult to imagine how teachers (the intended audience for the standards) can interpret such nuanced quality in learning without descriptions of performance.

Measuring students' achievement is a fundamental issue in curriculum. We hoped that the new curriculum might take seriously the challenge of developing ways of assessing Science as a Human Endeavour and Science Inquiry Skills, which get short shrift in current courses.

We are seriously concerned that the loss of Peter's expertise in this area compromises the ability of the committee to provide good advice. More importantly however, it seems that the achievement standards are being driven in the wrong direction and are very likely to undermine the credibility of the national curriculum in the consultation process.



Prof Leonie Rennie



Prof John Rice

Cc Dr Peter Hill, CEO, Australian Curriculum Assessment and Reporting Authority.

ACDS Ten Point Plan for 2009-10

1. President to write to all Deans urging them to send faculty representatives (esp. ADT&Ls) to ASELL national workshops (Warren Lawrance to negotiate with ASELL to determine their program of workshops and inform ACDS)
2. Produce a draft statement on undergraduate science education and in particular the critical role of laboratory and field work. {Aiden Byrne, Bruce Milthorpe, John Rice}
3. President to write to all Deans inviting feedback on the draft statement in 2, and urging them to develop explicit learning objectives for the laboratory components of their first year courses.
4. Survey of demonstrator recruitment/induction/training.
Literature Review. Survey of Departments. Some site visits. Identification of or models for best practice. {Paddy O'Toole}
5. Survey of Low SES students in Science. {Russell Crawford, Noel Meyers?}
6. Third Science Teaching and Learning Conference.
The agenda of the conference should concern items 1-5 above.
{John Rice}
7. National Workshop on Science Curriculum.
A review of the year 11-12 national curriculum outline, and reflections on potential innovation, related or otherwise, in first year science curricula.

A showcase of faculty approaches to lateral/wholistic/transdisciplinary science courses.

The workshop must involve deans and opinion leaders from the disciplines in their faculties.
8. National Postgraduates Meet Industry
Modelled on Science Meets Parliament, but taking place in each capital city, industry representatives and postgraduate students meet one-on-one for five minutes to pitch their interests to each other. {Bradley Smith?}
9. Workshop on Experiences of and Models for Industry Collaboration {Franz Griesser, Bradley Smith?}
10. Development of models for academic/teacher collaboration in developing lesson materials that include contemporary science, particularly as it occurs in various industries and occupations. {John Rice. Start with PICSE, John Pegg}

1 Developing the demonstrators in Australian Higher Education Teaching Laboratories

The *Tertiary Science Education for the 21st Century* report¹ highlighted the significance of demonstrators in the first science laboratory experience for students. The report found that demonstrators generally received no training with regard to teaching and learning, and were assumed to be able to acquire the skills they needed through their own experiences or via other informal means. Most demonstrators appeared well equipped in their discipline knowledge and were able to translate the discipline based objectives of the laboratory manuals for their classes. However, it appeared that they were left particularly ill-equipped to deliver on teaching group work skills and other generic skills, or to relate to the diversity of interests of their students.

These findings have struck a chord with science faculties, some of whom have already made a start on programs of demonstrator training. Such programs have a considerable diversity of forms and objectives. The Annual General Meeting of the ACDS therefore decided to commission a study to determine what demonstrator training was being carried out across Australia.

The precise questions that focus the study are as follows:

- What training and development opportunities are available to first year science laboratory demonstrators in universities?
- What underlying purposes shape training and development of these demonstrators?
- How effective is the training and development of these demonstrators?
- How is excellent practice manifested in terms of the training and development of demonstrators?

The research study is proposed to consist of the following stages.

¹ Rice, J. W., Thomas, S. M., & O'Toole, P. (2009). *Tertiary science education in the 21st century*. Retrieved from <http://www.altc.edu.au/Tertiary%20science%20education%20in%20the%2021st%20century%20-%20University%20of%20Canberra%20-%202009>

2 Stages of research

2.1 Literature review

A comprehensive literature review will be undertaken that captures the current knowledge concerning demonstrator training and development in Australia and internationally. This literature review will engage with the research questions to locate the study in the field of knowledge concerning demonstrator training and development.

2.2 Desktop data collection and analysis

Using a list of departments and departmental staff provided by the Australian Council of Deans of Science, a request will be made to university departments on the above listing requesting details relating to the demonstrators as follows:

- Demographical information, i.e. PhD students, retirees, academic staff etc
- Number of demonstrators in specified first year course
- Expectations of demonstrators in terms of participation, i.e. demonstrate experiments, attend lectures, attend meetings, participate in training and development workshops.
- Are expectations mandatory or voluntary?
- Does the demonstrator pay arrangements reflect the above expectations?
- What are the duties of the demonstrators in first year science laboratories?

The university departments will be asked also to supply:

- Material relating to training and development workshops;
- Demonstrator notes for laboratory sessions; and
- Student laboratory manuals.

A followup letter/email will be included in the costing.

2.3 Interviews – Demonstrators (on-site)

In this stage, the researcher visits a selection of universities in order to interview demonstrators. The departments will be chosen to elicit information on the range of approaches regarding demonstrator development and training. An attempt will be made to choose departments within the same university to tease out cultural similarities and differences, and to choose departments in the same city for reasons of cost and time efficiency.

Demonstrators from each department will be interviewed. The demonstrators will be selected on the basis of experience in demonstrating, as follows:

- Less than one year of demonstrating experience;

- 1 – 3 years of demonstrating; or
- Extensive experience.

The interview will encompass the following issues:

- The degree of training and development and the form it takes
- The effectiveness of the training and development
- The benefits to the demonstrators derived from the training and development.
- How the training and development has shaped their practice in the laboratories.

The opportunity will also be taken to conduct interviews with academics in the relevant departments.

2.4 Interviews – Academics (telecommunications or onsite)

After receipt and analysis of the desktop material, a selection of university departments will be made. A face to face/telephone interview/video conference will take place between the researcher or her assistant with the academic staff in charge of the first year laboratory session.

The interviews will be where the researcher investigates the perspectives of the academics with regard to purposes of training and development for demonstrators, and/or the value (or otherwise) of training and development in terms of achieving that purpose.

2.5 Conducting the research

The schedule below gives costing alternatives.

Stage of the research study	Option 1	Option 2	Option 3
1. Literature review	\$..		
2. Desktop data collection & analysis	25% of science depts identified by ACDS \$	25% of science depts identified by ACDS, with results of analysis sent to the remainder for comparison and comment. \$	All science depts identified by ACDS \$
3. Interviews - demonstrators	Face to face interviews with 2-3 demonstrators from 6 departments \$	Face to face interviews with up to 4 demonstrators from 12 departments \$	Face to face interviews with up to 4 demonstrators from 18 departments \$
4. Interviews - academics	6 departments targeted. Telephone conference Plus face to face interviews (if possible) in depts where demonstrator interviews are held \$	12 departments targeted. Telephone conference Plus face to face interviews (if possible) in depts where demonstrator interviews are held \$	18 departments targeted via telephone conference. Plus face to face interviews (if possible) in depts where demonstrator interviews are held \$
5. Writing report	\$		