

**DRAFT**

# QCIC

## STRATEGY SESSION HIGHLIGHTS

**OCTOBER 28, 2005**

**REVISION 0**

***Participants:***

QCIC MEMBERS  
Jan Oudenes, **Chair**  
Burton Branch  
Dale R. Cameron  
Walter Chan  
Cory Johnston  
Din Lal  
Paul Matteau  
Heinz Peter Plaumann  
Wayne Schnarr  
David J. Thomas  
John P. Molloy  
Nicolas Cudre-Mauroux  
QUEEN'S PEOPLE  
David Wardlaw  
Gregory Jerkiewicz  
**Stephen Brown**  
Philip Jessop  
Arig Girgrah  
Patty McHenry

*In Association with:*

**Queen's University Executive Decision Centre**  
**Facilitator: Erik Lockhart**  
**Phone#: 613 533-6681**  
**E-mail: elockhart@business.queensu.ca**

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## Executive Summary

Attached are meeting proceedings from the QCIC strategy session held on October 28, 2005 in Kingston. The purpose of the workshop was to develop the major elements of a five year plan for the QCIC. The group began by brainstorming what success will look like in 5-7 years time. The group reviewed the old mission statement and created a new mission statement. Then the group conducted a current state analysis by identifying internal strengths and weaknesses and external opportunities and threats. Based on this, four priorities were agreed upon. Action plans and assigned teams were created for each priority. Below is a summary of the conclusions from each topic.

### Mission

The Council is an Advisory Body enabling greater interaction among the Dept of Chemistry, Queen's University, Industry, Government and Society to the benefit of the Dept of Chemistry and its people. The Council will work with the Department to achieve recognized leadership, excellence and innovation in the fields of scientific discovery, development and education. Queen's Chemistry will thereby strive to become the chemistry department of choice in Canada.

### Vision (by 2010)

Queen's Chemistry is the chemistry department of choice in Canada and recognized around the world. The QCIC has played an integral role by contributing to the following:

1. *Highly sought after graduates.* Industry is aggressively recruiting our graduates because of their diverse scientific and non-scientific skills;
2. *Stable funding.* Sustainable \$\$\$ are in place from a variety of corporate and government sources (\$100M science fund!);
3. *A major invention/discovery* developed jointly with QU & industry has resulted in thousands of new jobs, \$ & recognition;
4. *Engaged Membership.* We have 20 Council members, an extensive secondary network, and hundreds of industry folks very keen to join;
5. *Network.* Members have established an extended network of industry, academic & government contacts want to be involved;
6. *Governance and Structure.* There are regular interactions, clear roles and responsibilities defined, and succession plans are in place;
7. *Curriculum and training.* A unique program is in place that combines theory and practice to produce graduates that have practical skills that differentiate them from other universities

### Priorities

1. Increased marketing, visibility, communications & awareness
2. Fundraising
3. Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council.
4. Curriculum / Grad Module

### Objectives (by priority)

1. Increased marketing, visibility, communications & awareness
  - Increase Awareness of QCIC to stakeholders
2. Fundraising
  - Identify funding priorities based on the five year plan.

- Set numerical goals and methods for each of the five years of the QCIC mandate.
- 3. Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council.
  - Increase faculty - council interaction at the interpersonal level.
  - Increase student - council interaction, utilize council member experience.
- 4. Curriculum / Grad Module
  - Identify the strengths and weaknesses of the present curriculum.
  - Address the lack of non-technical skills training.

### **Strengths (unranked)**

1. Council has vision/goals/timeline - members are enthusiastic and engaged.. Respected and willing to help. ..Collegiality of Discussions carried out
2. Council members are committed and from diverse backgrounds - bring varied connections with industry/government/legal/other disciplines .... Links to industry and networking
3. Focus on students and benefits to students.
4. Support/participation - seminars, student awards, workshop, career sessions
5. Useful resource to the Chemistry Dept. ...Leveraging QCIC companies strengths, financial and otherwise ...Facilitating access to funding for dept. needs
6. The process of interaction between society (government and industry) and academia
7. Industrial interactions that have resulted
8. Model that is being copied by others

### **Needs/Weaknesses (ranked)**

1. Need for more marketing, communications & awareness
2. More regular/ongoing participation: More frequent engagement of members - together and with faculty.
3. Realistic fundraising structure and goals.
4. Communications to Council: Lack of dissemination of research highlights and activity to the council on a regular basis...More awareness of research program and departmental needs-measurable milestones
5. Translating expertise in industry to mutual benefit / Objectives, deliverables and Implementation.... Lack of functional subcommittees to convert ideas into practical programmes
6. Greater focus in direction of Council - where is council going?
7. Need performance indicators - how can we measure impact of council on Queen's
8. Could use membership from broader sectors - beyond industry primarily (Govt., health sector, legal, policy, consulting...)

### **External Opportunities**

1. To expand network to match mandate of the Council including fundraising (e.g. Secondary network/level of participation)
2. Students and staff/faculty are looking for mentorship from council // to engage expertise on the Council to a greater extent
3. Develop international partnership with universities (e.g. China, India)
4. Increase leverage of individual Council members in a specific area (identify what they are, explore individual strengths!)
5. Dept. Representatives undertakes "road show" to companies represented on QCIC
6. Develop a focus from our first 5 years : learn from the past
7. Market the Brand (beyond just Council). Provide leadership and influence in the dialogue between industry and academia

**Threats**

1. Lack of structure of the council (membership term, specific individual membership responsibilities and activities)
2. Inability of council to coordinate major fundraising
3. Funding shortfall to keep up with new technologies
4. Recruiting: will there be more competition for 'science-oriented' students, both within queen's and with other universities? (e.g. Kids going into bio chem.)
5. University being perceived as competitor vs. Partner with industry (e.g. Ip)
6. Increasing competitive environment for professors (regional to and montreal) and graduate students

**End of Session Commitment Survey**

At the conclusion of the session, the team was asked to consider the plans developed and answer the following:

<b>Question</b>	<b>Group Average (1=Low..... 10=High)</b>
<b>1. Comprehension.</b> I understand the plans we have developed	<b>8.83</b>
<b>2. Agreement &amp; Commitment.</b> I agree with and am committed to the plans we have developed	<b>8.50</b>
<b>3. Likelihood of Success.</b> I believe we will be successful in implementing our plans	<b>7.33</b>

**Path Forward**

<b>Task</b>	<b>Resp/Date</b>
1. Distribute Results of today's meeting	Erik 10/31
2. Each "priority team" to select a Chair/membership	David 11/15
3. Further refine Objectives, action plans & resource reqts	Chair of each team 12/5
4. Conference Call to discuss refined plans	Head, Jan, 4 chairs 12/10
5. Determine implications for terms of reference	Head, Paddy 12/1
6. Blueprint -> Executive	Head, Chair, Paddy 1/31/06

**Editor's Notes:**

- a. The symbol // indicates that two similar ideas have been merged together.
- b. This document contains the meeting proceedings and is not intended as a "Final Report"

## 1.0 - Direction

### 1.1 – Vision (formulation)

Imagine it is October 2010.

The Queen's Chemistry Innovation Council has been wildly successful at achieving our goals. We are recognized across Ontario and Canada and throughout the world. Why? What are some of the characteristics? What has changed? Stayed the same? What are people saying about us? Your vision for the QCIC...

What are the SIX most compelling ideas of this future state?

#### Voting Results

Multiple Selection (maximum choices = 6) (Allow bypass)

Number of ballot items: 38 Total number of voters (N): 11

#### Total

- 5 1. -Queen's chemistry would be the #1 program sought after in the country
- 5 2. Industry will be recruiting from Queen's Chem dept aggressively.
- 4 3. A major invention developed jointly between Queen's and a Canadian industry is generating hundreds/thousands of new jobs
- 3 4. -Programs taught are in touch with market realities
- 3 5. contributing to ensuring fiscal sustainability/security of dept.
- 3 6. Dept. has become a premiere chemistry dept. with international recognition
- 3 7. Queen's graduates highly valued by industrial employers because of the quality of their "non-purely scientific" education (finance, marketing, business mgt, ...)
- 3 8. incremental improvements to student skill sets & dept'l programs that differentiate them from the crowd
- 3 9. Council is valued by students and faculty
- 3 10. Industrial input identifying weaknesses in curriculum/training and dept making changes to fix them.
- 3 11. 100 million dollar fundscience for the department to carry out research
- 2 12. People are applying to be members of the QCIC
- 2 13. Other departments seek interactions with Chemistry for their industry relationships
- 2 14. students from 2000-2005 QCIC period are going to be 2010 members.
- 2 15. students are sought out by companies, over other university grads
- 2 16. The council activities are continuous throughout the year instead of once yearly
- 2 17. -Graduates highly sought after by the market
- 2 18. Greater interaction with former Queens's graduate abroad
- 2 19. QCIC has helped Chemistry establish unique program (XYZ)
- 1 20. QCIC has a truly international membership (beyond Canada and US)
- 1 21. Chemistry graduates working in different sectors of society, e.g., industry, government, hospital, etc., spreading reputation of department.
- 1 22. Wardlaw named new Queens Principal... Chemistry in the forefront of University leadership
- 1 23. Industrial funding increased 3x vs. 2005

- 1 24. council will set a role model and standard for other universities around the globe and will become national
- 1 25. 20 people on council steady state with diverse background and sector representation
- 1 26. Council members serving as ambassadors in different sectors for Queen's Chemistry Department.
- 1 27. created captains of industry
- 1 28. High quality TA's
- 1 29. Chemistry program integrates elements of working professionally in industry, etc.
- 1 30. A scientist from Queen's received a Nobel prize
- 0 31. Increase meaningful opportunities for faculty-industry discussion
- 0 32. Young faculty have opportunities to visit industry and establish relationships/joint projects with industry.
- 0 33. Significant technology developments at Queen's being adopted by industry.
- 0 34. -Does the Council have access to significant financial resources for programs in the dept.
- 0 35. We've implemented at least half of the programs we envisaged
- 0 36. Open communication of work being done at the dept.
- 0 37. Continued adjustments to curriculum have moved the Dept. to the top of the list for Univ in North America.

## 1.2 – Vision (selection)

**The group discussed the top 19 elements and combined. This was then further refined to create the vision in the Exec Summary (page 2)**

- 1. Queen's chemistry would be the #1 program sought after in the country //Dept. has become a premiere chemistry dept. with international recognition**
- 2. Industry will be recruiting from Queen's Chem dept aggressively.//Queen's graduates highly valued by industrial employers because of the quality of their "non-purely scientific" education (finance, marketing, business mgt, ...)**
  - Graduates highly sought after by the market
  - students are sought out by companies, over other university grads
- 3. A major invention developed jointly between Queen's and a Canadian industry is generating hundreds/thousands of new jobs**
- 4. Contributing to ensuring fiscal sustainability/security of dept. //100 million dollar fundscience for the department to carry out research**
- 5. Curriculum & Training:**
  - QCIC has helped Chemistry establish unique program (XYZ)
  - Programs taught are in touch with market realities
  - Industrial input identifying weaknesses in curriculum/training and dept making changes to fix them.

- Incremental improvements to student skill sets & dept'l programs that differentiate them from the crowd

#### **6. Council functioning & governance**

- Future membership/outreach. People are applying to be members of the QCIC
- students from 2000-2005 QCIC period are going to be 2010 members.
- Council has Greater interaction with former Queens's graduate abroad  
QU perception. Council is valued by students and faculty and Other departments seek interactions with Chemistry for their industry relationships
- The council activities are continuous throughout the year instead of once yearly



### 1.3 – Mission (formulation)

**Some suggestions: Mission statements usually include the following components:**

**Our purpose**

What is our raison d'être for existing? What we need to do as an organization over the next relevant time frame in order to move towards achieving our vision

**Our unique identity**

What sets us apart from the rest of the pack? How are we different?

**Our stakeholder benefits**

Benefits for our employees, our customers, our shareholders, and any other stakeholders we feel are important

**Note: after reviewing the old mission statement, the group agreed to create a new one. Individuals crafted separate statements, then the group voted and worked on the top selection (section 1.5).**

Old Mission.

Develop solid relationships with global chemicals and materials based industries, to promote research and Queen's chemistry graduates, to ensure that Queen's programs in chemistry are innovative, are aligned with the foreseeable needs of industry, and are appropriately funded".

**Issues/Concerns?**

"relationships" must be broader

"Global" realistic? Internationally recognized?

Who is the "us"?

**New Mission: Voting Results**

**Total**

- 4 1. The purpose of the Council is to act as an advisory body by promoting greater interaction and visibility between Queen's University, the Department of Chemistry and industry, government and society at large to the benefit of chemistry department including students, PDF's, RA's and faculty. The Council will work with the Dept to strive for excellence in the fields of scientific innovation, development and education. The Council will assist the leadership of the department of chemistry to become a premier organization in its chosen field of endeavours.
- 3 2. Develop interactive relationships with industries and organizations doing chemical research and employing chemistry graduates to promote the research and graduates of the Queen's Chemistry Department; develop interactive relationships with the faculty to ensure that Queen's programs are innovative and aligned with the future needs of the industries; provide advice to the students on career development and options; and to assist the department in its funding activities.
- 3 3. The Council is to advise the chemistry department at Queen's and to facilitate to ensure that the department continue to be leading and innovative in meeting the evolving demands and challenges for chemistry graduates in all sectors of the economy.
- 2 4. The QCIC will provide advice and guidance to the Department of Chemistry in establishing and maintaining programs of studies and research that will be of major benefit to potential employers.

- 2 5. Our mission is to use our experience, knowledge and networks to provide advice on new directions, contacts and resources to the Department of Chemistry and to its students so that both achieve excellence at the global level.
- 2 6. To work with and through the Queen's Chemistry Department to provide advice and support that helps achieve the goals of:
  - providing Undergraduate and Graduate programs which are innovative and aligned with maximizing student career opportunities
  - creating research programs which are at the forefront of science and meeting the most critical needs of society
  - providing leadership in promoting the role of chemistry and dissemination of chemistry expertise
  - achieving funding to ensure that all activities are properly supported and sustained over the long term
- 2 7. As a partnership of individuals across all aspects of Chemistry-related fields, through mentorship and stewardship, continuously strive for excellence in research and teaching, to build and maintain an innovative Chemistry Department that serves the needs of students, faculty, industry and society.
- 2 8. Develop solid relationships with global chemicals and materials based industries, to promote research and Queen's chemistry graduates, to ensure that Queen's programs in chemistry are innovative, are aligned with the foreseeable needs of industry, and are appropriately funded
- 2 9. QCIC is an advisory body to Dept. of Chem that provides it with guidance and assistance in becoming a leading, innovative, and prominent chemistry dept. QCIC - Dept. of Chem. partnership and mentorship is a unique national and international initiative that facilitates the growth of Chem. Dept. in the areas of higher education, chemical research, and technology development. Dept. Chem. - QCIC are the main stakeholders, while the outcome of this initiative benefits Ontario and Canada, and enhance the status of Queen's worldwide.
- 2 10. The QCIC exists to accelerate the Department's attainment of its overall mission and strategic goals. The QCIC seeks to create and direct incremental improvements to departmental programs, training, and culture that distinguish its curricula, educational experience, graduates, research activity & profile, and leadership on campus and in the broader chemistry community from those of its competitors.
- 1 11. To provide the Department of Chemistry and chemistry students an effective forum for industry/university liaison; to assist with fundraising campaigns; and to provide advice and assistance in the effective promotion of the Department of Chemistry, its faculty and students and in the development of relevant academic programmes to meet the on-going needs of industry
- 1 12. The QCIC exists to build strong relationships across its stakeholders (Queen's Chem Dept, Industry, government agencies) in order that the Chem. Dept. will be highly sought after as a provider of expertly trained students, and leading-edge technology and know-how to benefit the quality of Canadian (and broader, global life). By doing so, the Queen's Chemistry Department will be perceived as a premier, leading department.
- 0 13. To develop partnerships between Queen's chemistry faculty and students and cross-sectoral chemical-based industries in order to foster innovative and relevant research, academic curricula, and industrial applications.
- 0 14. To develop solid relationships between stakeholders in the field of chemistry so that Queen's chemistry graduates enter employment more capable of responding to the needs of chemical industries and institutions.
- 0 15. To develop sound relationship with commercial enterprises, that employ chemistry graduates, in Canada, USA and offshore areas.

- 0 16. To assist and advise the Department in re-structuring curriculum to meet the needs of the commercial enterprises.
- 0 17. Wouldst that thy council best known to enhance thine stature such that it beith known throughout the noble kingdom of thy peers (WS)

#### **1.4 – Mission (refinement)**

1. The Council is an Advisory Body enabling greater interaction among the Dept of Chemistry, Queen's University, Industry, Government and Society to the benefit of the Dept of Chemistry and its personnel. The Council will work with the Department to achieve excellence in the fields of scientific discovery, development and education, to enhance its reputation. The Department will thereby become the leading chemistry department in Canada.
2. The purpose of the Council is to act as an advisory body by promoting greater interaction and visibility between Queen's University, the Department of Chemistry and industry, government and society at large to the benefit of chemistry department including students, PDF's, RA's and faculty. The Council will work with the Dept to strive for excellence in the fields of scientific innovation, development and education. The Council will assist the leadership of the department of chemistry to become a premier organization in its chosen field of endeavours.
3. Mission Team: Heinz, Jan, David
4. Develop interactive relationships with industries and organizations doing chemical research and employing chemistry graduates to promote the research and graduates of the Queen's Chemistry Department; develop interactive relationships with the faculty to ensure that Queen's programs are innovative and aligned with the future needs of the industries; provide advice to the students on career development and options; and to assist the department in its funding activities.
5. The Council is to advise the chemistry department at Queen's and to facilitate to ensure that the department continue to be leading and innovative in meeting the evolving demands and challenges for chemistry graduates in all sectors of the economy.

#### **1.5 – Mission (New)**

The Council is an Advisory Body enabling greater interaction among the Dept of Chemistry, Queen's University, Industry, Government and Society to the benefit of the Dept of Chemistry and its people. The Council will work with the Department to achieve recognized leadership, excellence and innovation in the fields of scientific discovery, development and education. Queen's Chemistry will thereby strive to become the chemistry department of choice in Canada.

## 2.0 - Priorities

### 2.1 - Formulation

**Given everything that you have heard so far... What should be the PRIORITIES of QCIC in the next 3-5 years?**

**Note: the group brainstormed ideas and then merged similar (non-bold)**

**Mission.** The Council is an Advisory Body enabling greater interaction among the Dept of Chemistry, Queen's University, Industry, Government and Society to the benefit of the Dept of Chemistry and its people. The Council will work with the Department to achieve recognized leadership, excellence and innovation in the fields of scientific discovery, development and education. Queen's Chemistry will thereby strive to become the chemistry department of choice in Canada.

#### **2. Develop the blueprint for its activities (A business plan) w/ detailed objectives, assigned responsibilities & measures.**

**- Develop committees and match abilities/experience of the council members to the needs of**

**faculty and vice versa.**

**- Structure QCIC and develop modus operandi to focus on and respond to the mission.**

As part of our business plan, develop 1) A marketing and communication strategy (both internal and external), 2) a fund-raising strategy, 3) secondary network building strategy, etc.

Define a set of short-term specific, achievable goals and performance indicators

Set performance expectations & check/measure performance

As part of the business plan, Develop committees and match abilities/experience of the council members to the needs of faculty and vice versa.

Structure QCIC and develop modus operandi to focus on and respond to the mission.

Implement said business plan.

#### **3. Increased marketing and visibility, communications and awareness.**

**- Secondary network building strategy, etc. e.g. Council members going out in their sector/industry and building links**

Improved communications with stakeholders, in all directions, inside council and outside

**4. Fundraising. provide assistance in formalizing the fundraising process (sub-committee)**

**5. Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council.**

Increased interaction with personnel in the Dept. and more regular & ongoing participation/more frequent engagement of council members

Communication between QCIC and Faculty

Increase frequency of interactions within the council and with the faculty and students.

**6. Curriculum/Grad Module. Career planning and appropriate skill training for future career path of students //Organize a 'nonscientific' course offering to be given by QCIC members (introduction to finance, marketing, IP, management skills)**

## **2.2 - Selection**

The group decided the “BluePrint” item should be left off until after this strategic planning process is over. So, the top four priorities are:

**1. Increased marketing and visibility, communications and awareness.**

**- Secondary network building strategy, etc. e.g. Council members going out in their sector/industry and building links**

Improved communications with stakeholders, in all directions, inside council and outside

**2. Fundraising. provide assistance in formalizing the fundraising process (sub-committee)**

**3. Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council.**

Increased interaction with personnel in the Dept. and more regular & ongoing participation/more frequent engagement of council members

Communication between QCIC and Faculty

Increase frequency of interactions within the council and with the faculty and students.

**4. Curriculum/Grad Module. Career planning and appropriate skill training for future career path of students //Organize a 'nonscientific' course offering to be given by QCIC members (introduction to finance, marketing, IP, management skills)**

### 3.0 – Action Plans

#### 3.1 – Marketing & Visibility

Full wording of priority: Increased marketing and visibility, communications and awareness.  
- Secondary network building strategy, etc. e.g. Council members going out in their sector/industry and building links

OBJECTIVE: Increase Awareness of QCIC to stakeholders

ACTIONS:

- a. Establish working relationship with secondary school chemistry departments (need printed material)/could target chemistry teachers who are Queen's alumni
- b. Publish 1 article per quarter on QCIC goals and activities Q1/06
- c. Conduct 1 road show per quarter (e.g. Presentation at National chemistry Week/attendance at alumni events/conference on campus etc)
- d. 1 media release per quarter
- e. QCIC members to identify 2 to 3 potentially interested parties in their sector/industry/geographical areas;(could be donation of volunteer time, opportunity to speak on QCIC etc

Team: Dale, Heinz, Paul, Dave

Issues:

- > Define stakeholder groups and target with specific approaches
- > need to get info from student recruitment re: feeder schools

#### 3.2 – Fund-raising

Full wording of priority: Fundraising. provide assistance in formalizing the fundraising process (sub-committee)

OBJECTIVE: Identify funding priorities based on the five year plan.

ACTIONS:

- a. issuing one page priorities of funding opportunities as well as material for direct mail
- b. develop a compendium of donor capability and process of giving among council member companies and secondary network.
- c. teach QCIC members to be shameless in raising money.

OBJECTIVE: Set numerical goals and methods for each of the five years of the QCIC mandate.

ACTIONS:

- a. provide clear recognition and HQP opportunities.
- b. recruit QCIC member with specific expertise in the area.
- c. identify sources of funding and used equipment.

Team: Head, Jan

### 3.3 – Relationships between Council/Faculty/Grads

Full wording of priority: Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council.

OBJECTIVE: Increase faculty - council interaction at the interpersonal level.

ACTIONS:

- a. Each Council member to establish a liaison with one faculty member.
- b. Communicate a summary of research topics under study within the Dept. to each council member.
- c. Distribute CV's of the council members to the faculty.
- d. Survey faculty/students for areas which they would benefit from a council member input.

OBJECTIVE: Increase student - council interaction, utilize council member experience.

ACTIONS:

- a. Face to face sessions n- poster sessions, oral presentations etc.
- b. Use Chemistry Dept. website to [provide link to council member
- c. Investigate establishing chat room. aimed at students? portal for council members? link on website?
- d. Continue council member presentations.

Team: Burton, Din, Dale, Greg

### 3.4 – Curriculum/Grad Module

Full wording of priority: Curriculum/Grad Module. Career planning and appropriate skill training for future career path of students //Organize a 'nonscientific' course offering to be given by QCIC members (introduction to finance, marketing, IP, management skills)

OBJECTIVE: Identify the strengths and weaknesses of the present curriculum.

ACTIONS:

- a. Survey recent graduates to see what technical skills/info they think was missing.
- b. Survey companies who hired recent graduates to see what they think was missing.
- c. Communication of the results of the survey and QCIC recommendations to the faculty curriculum committee.

OBJECTIVE: Address the lack of non-technical skills training. (year 1 dry run: integrate into 4th yr. project courses????)

ACTIONS:

- a. Establish a subcommittee of one or two QCIC members and one or two faculty members
- b. Look at options for integrating the material into the curriculum. (undergrad vs. grad, new course vs. part of a course)
- c. Create a list of subjects to be covered (e.g. marketing, IP and legal aspects, management, valuation, licensing, experimental design, leadership and team dynamics)
- d. Identify guest lecturers (QCIC members, Queen's people, or others)
- e. Propose the course or course change to the curriculum or grad committee and then to university.

Team: Wayne, Nicolas, Phillip, Walter

## 4.0 - Current State Assessment

### 4.1 - Strengths

**Strengths: What is currently working? What are three things that QCIC is really good at?**

**Note: these are not ranked.**

**Note: the group brainstormed ideas and then merged similar (non-bold)**

**2. Council has vision/goals/timeline - members are enthusiastic and engaged.. Respected and willing to help. ..Collegiality of Discussions carried out**

Member engagement

**3. Council members are committed and from diverse backgrounds - bring varied connections with industry/government/legal/other disciplines .... Links to industry and networking**

The expansion of the council and the individual diversity of the council members

Broad membership in council

Committed and broad membership of Council members

Good size with reasonable sector representation.

Broad industry representation-links with the market

**4. Focus on students and benefits to students.**

**- Support/participation - seminars, student awards, workshop, career sessions**

**5. Useful resource to the Chemistry Dept. ...Leveraging QCIC companies strengths, financial and otherwise ...-Facilitating access to funding for dept. needs**

**6. The process of interaction between society (government and industry) and academia**

**7. Industrial interactions that have resulted**

**8. Model that is being copied by others... threat?**



## 4.2 - Areas for Improvement

**Needs/Weaknesses: What are the major areas for improvement that must be addressed in order for QCIC to be successful?  
If we could only focus on FOUR of these...**

### Voting Results

Multiple Selection (maximum choices = 4) (Allow bypass)

Number of ballot items: 12 Total number of voters (N): 18

### Total

- 12** 1. Need for more marketing, communications & awareness  
- QCIC profile is not broadly known: Need to improve the profile of the council.  
- Advertise / publicize successes and activities of council - includes ACCN, C&EN, Science, Nature, etc...
- 12** 2. More regular/ongoing participation ...More frequent engagement of members - together and with faculty...among council members between meetings ...Need more interaction btwn Dept and Council
- 10** 3. Realistic fundraising structure and goals. Clearly understood strategy for funding and other initiatives: Leverage relationships for funding in addition to council members "bringing funds to the table"
- 9** 4. Communications to Council  
- Lack of dissemination of research highlights and activity to the council on a regular basis.  
- More awareness of research program and departmental needs-measurable milestones  
- Lack of knowledge of the SWOT of the chemistry department
- 7** 5. Translating expertise in industry to mutual benefit / Objectives, deliverables and Implementation.  
- Lack of functional subcommittees to convert ideas into practical programmes
- 7** 6. Greater focus in direction of Council - where is council going?
- 5** 7. Need performance indicators - how can we measure impact of council on Queen's
- 4** 8. Could use membership from broader sectors - beyond industry primarily (Govt., health sector, legal, policy, consulting...)
- 2** 9. More interaction with students needed
- 2** 10. Not enough Research level interactions btwn Council and Dept (are council members involved in research in their activities and, if so, can dept get involved?) role of Dept members
- 1** 11. Lack of unique accomplishments

**Note: prior to voting, the group brainstormed ideas and then merged the similar items. Below in non-bold are the merged items. These items are ordered as they were originally brainstormed (i.e. not as they were ranked by the group). Items that did not have any ideas merged are not included.**

### **2. Need for more marketing, communications & awareness**

Improve communications within and outside QCIC.

**3. Realistic fundraising structure and goals. Clearly understood strategy for funding and other initiatives: Leverage relationships for funding in addition to council members "bringing funds to the table"**

Raising enough capital to launch and support creative programs

Clearly understood strategy for funding and other initiatives: Leverage relationships for funding in addition to council members "bringing funds to the table"

**4. More regular/ongoing participation ...More frequent engagement of members - together and with faculty...among council members between meetings ...Need more interaction btwn Dept and Council**

Need more engagement by more members throughout the year.

More frequent engagement of members - together and with faculty

Council/faculty interactions throughout the year are not happening enough.

Better communication among council members between meetings

### **4.3 - Key External Issues & Challenges**

**What are the important opportunities that we should be pursuing? Top 3**  
**What are the critical threats that we must consider in our planning? Top 3**

#### **Voting Results**

Multiple Selection (maximum choices = 7) (Allow bypass)

Number of ballot items: 30 Total number of voters (N): 16

#### **Total**

- 10** 1. to expand network to match mandate of the Council including fundraising (e.g. secondary network/level of participation -)
- 9** 2. T - lack of structure of the council (membership term, specific individual membership responsibilities and activities)
- 8** 3. Students and staff/faculty are looking for mentorship from council //to engage expertise on the Council to a greater extent
- 7** 4. T - inability of council to coordinate major fundraising
- 6** 5. Develop international partnership with universities (e.g. China, India)
- 6** 6. Increase leverage of individual Council members in a specific area (identify what they are, explore individual strengths!)
- 5** 7. Dept. representatives undertakes "road show" to companies represented on QCIC
- 5** 8. T-Funding shortfall to keep up with new technologies
- 5** 9. T - Recruiting: Will there be more competition for 'science-oriented' students, both within Queen's and with other universities? (e.g. kids going into bio chem.)
- 4** 10. Develop a focus from our first 5 years : learn from the past
- 4** 11. T-University being perceived as competitor vs. partner with industry (e.g. IP)

- 4 12. T-Increasing competitive environment for professors (regional TO and Montreal) and graduate students
- 4 13. Market the Brand (beyond just Council). provide leadership and influence in the dialogue between industry and academia
- 3 14. T - Major economic downturn... threatens sponsorship, membership, funding etc
- 3 15. Chemistry faculty initiate projects, activities, interactions with QCIC members instead of primarily the Head.
- 3 16. Focus on Chemistry. too much?? should we go beyond just this core focus? broader offering to industry than "just chemistry"
- 2 17. T - is there any growth in the 'industries' that employ chemistry graduates?
- 2 18. T - Is federal university funding going to be growing?
- 2 19. T - availability of new members for QCIC
- 2 20. T - Are other universities going to copy the QCIC model?
- 2 21. Currently there is University support (and enthusiasm) for QCIC - good timing for institutional support for new initiatives, links with Advancement
- 2 22. New building and undergraduate program providing higher visibility and more students - integrate into council-Dept. activities
- 2 23. Further improve curriculum with QCIC input
- 1 24. T - Growth in related industries. i.e. Nano science / energy sector growth a threat/oppty?
- 1 25. T - reduction in export industries ...T - Currency changes. cost challenge... attracting faculty???
- 1 26. Greater Leverage the benefits of being a Premier university/Dept
- 1 27. Cultural change in dept.: new staff, new disciplines ... good timing to have Council more involved
- 1 28. T- science employment opportunities (i.e. India, China, etc.) and consequent reduction in student enrollment
- 1 29. Capitalize on new programs and initiatives - Ontario programs for special chairs and expanded Graduate training ... response to Rae report

#### **4.4 - Opportunities**

<b>What are the important opportunities that we should be pursuing?</b>
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- 8. To expand network to match mandate of the Council including fundraising (e.g. Secondary network/level of participation -)
- 9. Students and staff/faculty are looking for mentorship from council //to engage expertise on the Council to a greater extent
- 10. Develop international partnership with universities (e.g. China, India)
- 11. Increase leverage of individual Council members in a specific area (identify what they are, explore individual strengths!)
- 12. Dept. Representatives undertakes "road show" to companies represented on QCIC
- 13. Develop a focus from our first 5 years : learn from the past
- 14. Market the Brand (beyond just Council). Provide leadership and influence in the dialogue between industry and academia

#### **4.5 - Threats**

7. lack of structure of the council (membership term, specific individual membership responsibilities and activities)
8. inability of council to coordinate major fundraising
9. Funding shortfall to keep up with new technologies
10. Recruiting: Will there be more competition for 'science-oriented' students, both within Queen's and with other universities? (e.g. kids going into bio chem.)
11. University being perceived as competitor vs. partner with industry (e.g. IP)
12. Increasing competitive environment for professors (regional TO and Montreal) and graduate students

#### **4.6 – Concluding comments**

##### **Conclusions:**

- more well defined structure of Council - clarify expectations & roles
- how to "use" Council members better
- measure our performance and specific objectives
- more interaction btwn Faculty and individual Council members (lectures, funding, recruitment,)

## Appendices

### A – Session Overview

#### Purpose

Develop the major elements of a five year plan for the QCIC

#### Outcomes

- a. Discussion on our long term direction (Vision & Mission);
- b. Current state analysis (Strengths, weaknesses, opportunities, threats);
- c. Agreement on 3-5 areas of focus for the next five years;
- d. Action Plans: Big initiatives for each of our focus areas;
- e. Implications for our mode of operation (structure, executive, relationships, member/faculty/student roles and interaction, etc);
- f. Scorecard to measure our progress (if time permits);
- g. Next Steps (what needs to happen in the next 30 days based on our work here?).

#### Agenda

8:00 Opening Comments / Context	Chair
8:10 Agenda	Erik
8:15 Vision	
9:00 SWOT	
10:00 Break	
10:15 SWOT contd	
11:00 Mission	
11:30 Focus Areas	
12:00 Lunch	
12:45 Focus Areas (part 2)	
1:30 Action Plans (who, what, when, measures)	
2:45 Break	
3:00 Implications for our Structure	
3:30 Next Steps	
4:30 Close	

#### Scope/Assumptions

- a. 5 year time horizon
- b. The results of this session may have some implications for our terms of reference – any changes will be discussed after this session;

#### Pre-Session Homework

We need to examine our strategic direction. One way to do this is to agree on a vision and mission. As you know, people have different understandings of these terms. Let's use the following definitions:

Mission: statement of purpose; broad description of what we do, why we do it, and who benefits.

Vision: describes a credible, desirable future for the organization within 5 years; articulates the results we will be achieving and the characteristics we'll need to possess in order to achieve those results.

Our current Mission (referred to as “Primary Objective” in the Terms of Reference) is to “Develop solid relationships with global chemicals and materials based industries, to promote research and Queen’s chemistry graduates, to ensure that Queen's programs in chemistry are innovative, are aligned with the foreseeable needs of industry, and are appropriately funded”.

**1. Mission.** Do you feel this is still relevant? Why or Why Not?

**2. Our Strengths... What we are known for...**

What are three things that the QCIC is really good at?

**3. Needs & Weaknesses.** What are the major areas for improvement that must be addressed in order for us to be successful?

**4. External Issues (political, economic, social, technological, demographic, education etc...)**

What are the important *opportunities* that we should be pursuing?

What are the critical *threats* that we must consider in our planning?

**5. Major Priorities.** Based on 1-3 above, on which 3-4 areas should we focus our energies and resources over the next 3 years?

**6. Measuring our Performance.** What is the primary performance metric that you would use to judge our success?

## **B – Action Plans (Brainstorm)**

*Note: The group brainstormed ideas (strategies, actions, initiatives etc) for each of the top priorities. The #s in parentheses are system-generated “chronologically-sequenced” by time of entry. Participants were asked to generate Objectives (O) and initiatives (or actions)*

### **2. Increased marketing and visibility, communications and awareness. Greg, Dave, Heinz, Arig**

#### **- Secondary network building strategy, etc. e.g. Council members going out in their sector/industry and building links**

O - Science fairs (local schools, and in Council member's regions) {#22}

O- Media releases (C&EN, ACCN, etc {#26}

publish articles in Q-Chem Chronicles, Queen's Gazette, CIC, etc. {#27}

O - Build subcommittees to allow more frequent meetings {#31}

O - QCIC website (with or without Dept. website) to facilitate communication {#33}

O - Monthly activity update from dept. {#37}

O - Each member identify interested parties and contact (sell the dept) {#45}

Establish a joint Council-faculty "road show". {#53}

Organize conference on "Industry-University Collaboration and Innovation" in Kingston. {#55}

have visiting QCIC members make short presentation council activities when at Queen's for a talk or a class. {#58}

O - Take advantage of "National Chemistry Week" and other developed awareness programs {#61}

o. Heighten the profile of the department and its students.

Good news stories in local and national papers -- related to students, graduates and teaching staff.

Ensure career counselors in secondary schools are aware of opportunities and that departmental/university reps present the university to potential students. {#64}

O - Establish relationships with national and provincial teacher's associations for recruitment {#65}

O - Develop a QCIC book prize or award for essays on margining educational needs of students, relevant QCIC activities/fields, etc. {#69}

council members serve as ambassadors in meetings organized by chemistry department in different regions/cities. {#72}

Identify potential research partners for faculty members and facilitate initial contact and follow up on the subsequent development {#76}

O - Ensure that feedback from initiatives is made available, from all sources {#77}

Road workshops/lectures created and delivered by QCIC and/or Chem Dept members {#79}

QCIC participation in, and facilitation of, one or two Chemistry alumni events held in a major centre each year (these events have not yet happened but are on the planning table of the Head) {#80}

Workshops for high-school students {#81}

### **3. Fundraising. provide assistance in formalizing the fundraising process (sub-committee) Paddy, Nicolas, Jan, Dave**

Have Queen's University explain its overall fundraising program to QCIC.

Then have a QCIC committee provide advice, leads, suggestions to these formalized fundraising programs. {#35}

Create compendium donor capacity among companies represented on council: contact person, available budget and goals of company's sponsorship program, method of making request (formal proposal, verbal approach thru council member {#48}

O - Identify funding priorities (long- and short-term) to build strategy {#50}

set numerical goals for each of the five years. {#51}

O - Aid in recruiting potential contributors {#54}

O - generate some "one page summaries" for distribution to potential contributors {#57}

Identify existing sources of equipment (-> donations) in government and industrial labs; facilitate its transfer {#62}

Add members to the council with specific expertise in this area {#63}

Call on a Council member to assist in reviewing grant applications where appropriate. A "vote of confidence" from a industry rep can help at certain times. {#66}

Organize "chemistry 101" weekend courses for non-chemists from industry (managers, lawyers, accountants, etc.) {#67}

Identify and deliver courses needed in gov labs {#68}



Have Council members identify or engage those with capacity for fundraising dollars or gifts in kind. {#73}

**4. Establish a working relationship with faculty and graduate students to exchange information relevant to the goals of the Council. Dale, Burton, Walter, Din**

exploit QCIC newsletter (3 issues per yr.): publish summaries of research activity, grants, projects, highlights from across the Depts. members can identify areas of interest {#24}

Council member - faculty member individual relationship, partnership {#29}

O. link Council members to specific individuals {#30}

Council member - student(s) mentorship in career selection and development through seminars, workshops {#32}

chat room for council members, faculty and students. {#36}

Communicate a summary of research topics under study within the department to council members and member CV's to Dept. members. Each Council member should establish a liaison arrangement with at least one faculty member. {#38}

Joint research grants and student supervision {#39}

O. To increase student awareness of opportunities in the workplace

Increase number of visiting lectures by members or individuals from various other companies {#41}

Continue workshops to interact and to engage the QCIC with students and staff {#47}

Continue to develop career planning interaction between QCIC members and students. {#59}

Communicate a summary of the council members' expertise, technological interests and contact info. Give the summary to faculty. {#60}

invite council members to attend and adjudicate 4th yr poster presentations in Dec. and final oral presentations in early April. {#75}

Presentations of faculty members or PhD students at companies represented in the QCIC {#78}

survey faculty and students areas which they would like to have input from council members. similarly survey members areas which they are in a position to offer expert opinions. {#83}

expand summer industrial research pilot project {#84}

**5. Curriculum/Grad Module. Career planning and appropriate skill training for future career path of students //Organize a 'nonscientific' course offering to be given by QCIC members (introduction to finance, marketing, IP, management skills) Phillip, Paul, Wayne**

Establish a 6 week 'non-scientific' component to the 4th year research project or other suitable course. {#23}

identify one faculty member and one QCIC member to work together to design the course. {#25}

Obtain curriculum committee approval and university approval for the new course. {#28}

Get commitment from each non-faculty member of the QCIC to give one non-scientific course per year. Coordinate in a way that the following topics are covered: Marketing 101, Financial valuation of R&D programs, IP tools and strategies, Safety management, quality control and/or 6 sigma, Leadership and team dynamics, career planning, communications, ... {#34}

Decide whether it should be a 4th yr undergrad or a grad course, or both. {#40}

Survey a number of recent Queen's Chemistry grads to find out what they felt was missing from their programs. {#42}

Summer jobs program {#43}

council members submit topics which they can present lecture on as well as identify other relevant topics and potential speakers. {#44}

Survey a number of companies that recently hired Queen's grads and ask them what they thought was missing. {#46}

Workshop/seminar/course on verbal communications skills development {#49}

Seminar/workshop on CV, cover letter preparation {#52}

Develop job seeking abilities {#56}

review current curriculum, identify gaps quarter 1; define process to fill gaps by q2; fill any gaps in q3 and submit to higher level in q4 for implementation following academic yr. {#70}

O - develop a database of QCIC member expertise for use by the dept and students. {#71}

O. Training of students (grad and 4th year) to real world

Courses or lecture series to be provided in areas of project management, HR and financial management and sales.

Provide lecture series on non-research opportunities for graduates -- marketing, sales, intellectual property protection, legal, etc. {#74}

O. Prepare graduate students for research

Training or courses on:

- basics of information management related to research activities.
- experimental design
- development of research proposals
- intellectual property issues {#82}

### C – Meeting Evaluation

#### Questions

1. I was satisfied with the session
2. The technology added value to the session
3. Comprehension of results. I understand the plans we came up with today
4. Agreement with results. I agree with and am committed to the plans we came up with today
5. Probability of success. I believe we will be successful in implementation
6. Feedback for facilitator. 1-2 things you liked about today
7. Feedback for facilitator. 1-2 things you did NOT like or would change about today
8. Recommendations for the QCIC. Other suggestions, concerns or ideas to ensure our group's future success
9. Lessons Learned. Your most important takeaway from today

#### Survey Results

##### 1. I was satisfied with the session

Method: 10-Point Scale

Rate from 1 to 10, with 10 the highest value.

##### B) Results Spread

<i>Choices</i>	<i>Count</i>
1	0
2	0
3	0
4	0
5	0
6	0
7	2
8	3
9	6
10	1

<i>Statistics</i>	
<i>Total</i>	102
<b><i>Mean</i></b>	<b>8.50</b>
<i>Mode</i>	9
<i>High</i>	10
<i>Low</i>	7
<i>STD</i>	0.90
<i>N</i>	12
<i>n</i>	12

**2. The technology added value to the session**

Method: 10-Point Scale

Rate from 1 to 10, with 10 the highest value.

**B) Results Spread**

<i>Choices</i>	<i>Count</i>
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	1
9	4
10	7

<i>Statistics</i>	
<i>Total</i>	114
<b><i>Mean</i></b>	<b>9.50</b>
<i>Mode</i>	10
<i>High</i>	10
<i>Low</i>	8
<i>STD</i>	0.67
<i>N</i>	12
<i>n</i>	12

**3. Comprehension of results. I understand the plans we came up with today**

Method: 10-Point Scale

Rate from 1 to 10, with 10 the highest value.

**B) Results Spread**

<i>Choices</i>	<i>Count</i>
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	3
9	8
10	1

<i>Statistics</i>	
<i>Total</i>	106
<b><i>Mean</i></b>	<b>8.83</b>
<i>Mode</i>	9
<i>High</i>	10
<i>Low</i>	8
<i>STD</i>	0.58
<i>N</i>	12
<i>n</i>	12

**4. Agreement with results. I agree with and am committed to the plans we came up with today**

Method: 10-Point Scale  
Rate from 1 to 10, with 10 the highest value.

**B) Results Spread**

<i>Choices</i>	<i>Count</i>
1	0
2	0
3	0
4	0
5	1
6	0
7	0
8	4
9	5
10	2

<i>Statistics</i>	
<i>Total</i>	102
<i>Mean</i>	8.50
<i>Mode</i>	9
<i>High</i>	10
<i>Low</i>	5
<i>STD</i>	1.31
<i>N</i>	12
<i>n</i>	12

**5. Probability of success. I believe we will be successful in implementation**

Method: 10-Point Scale  
Rate from 1 to 10, with 10 the highest value.

**B) Results Spread**

<i>Choices</i>	<i>Count</i>
1	0
2	0
3	0
4	0
5	0
6	2
7	5
8	4
9	1
10	0

<i>Statistics</i>	
<i>Total</i>	88
<i>Mean</i>	7.33
<i>Mode</i>	7
<i>High</i>	9
<i>Low</i>	6
<i>STD</i>	0.89

<i>N</i>	12
<i>n</i>	12

## 6. Feedback for facilitator. 1-2 things you liked about today

### B) Text Responses

<i>Total Number of Respondents (N):</i>	12
<i>Number of responses to this question (n):</i>	12

1. adequate level of detail kept to schedule
2. Engaging. Good humoured. Fulfilled the role well.
3. Tight focus on the objectives. Easy, comfortable manner in which the program was carried out.
4. took the time to get to know everyone's name and some background & interested in their background
5. Well organized, understood and conveyed the vision/mission casting process well.
6. engaging  
good control of time use
7. the technology made the process more efficient that flip charts and markers  
  
good design of process and software
8. User-friendly tool giving participants more time to think (vs. dealing with post-its!)  
Very good facilitator: good balance between directing and letting go when needed.
9. The facilitator was clearly engaged in the process and added significant facilitating expertise. Great!  
The facilitator kept it interesting and maintained focus on getting the job done.
10. This technology for input is great.  
Your ability to drive the process when it looked like it would bog down was good
11. Very engaging and democratic
12. overall process and the use of the technology

## 7. Feedback for facilitator. 1-2 things you did NOT like or would change about today

### B) Text Responses

<i>Total Number of Respondents (N):</i>	12
<i>Number of responses to this question (n):</i>	9

1. all ok
2. Group division was a little sloppy but it worked.
3. Introductions would have helped.
4. Worked too much to "complete the agenda". No time to internalize any of the results. Assume we will (may?) warm up to them later.
5. merging items sometimes made it look like one disappeared, rather than being added to the text of the other.
6. Have better attendance (I know it's not easy)
7. The temperature of the room was a little stifling, especially during the afternoon.
8. A bit too long and pace too fast
9. not much given the timeframe allocated

## 8. Recommendations for the QCIC. Other suggestions, concerns or ideas to ensure our group's future success

### B) Text Responses

*Total Number of Respondents (N):* 12  
*Number of responses to this question (n):* 6

1. to come
2. Implementation on a grander scale is required. I hope the plans of today propel us forward. I believe they will.
3. We now have an identifiable assignment and now we must implement.
4. more engagement of council members together
5. The QCIC will need to evolve to a higher level in order to take the chemistry department to a higher level.
6. Members should communicate; involve people who will really make a difference and influence QCIC

## 9. Lessons Learned. Your most important takeaway from today

### B) Text Responses

*Total Number of Respondents (N):* 12  
*Number of responses to this question (n):* 11

1. need to establish relatively simple and achievable goals then build from there  
Need strong leadership to stay on course
2. A structured approach to analysis of the situation can be facilitated and happen even with a team that has not been able to do it on their own. Plans are easy to agree to but implementing is difficult. With the additional structure, I believe these plans will be implemented.
3. How to establish a good mission/objectives for any other organization.
4. that a good process and facilitator led to achievement of consensus among a diverse group
5. useful and needed exercise
6. need for a nontechnical skills course
7. Interesting exposure to the way the University functions.

Good exposure to the software/facilitator. I am considering using them personally.

8. The importance of a process to move forward. I was quite impressed!
9. QCIC has transitioned from a group focused on funding to a group focused on the students - which I think is the correct move
10. Greater commitment to goals
11. it is possible to go through this process in a limited period of time