



1. DIVEX – Un réseau de recherche université / industrie, Michel Malo

Cette conférence présentait le réseau DIVEX, dont les membres chercheurs proviennent de tous les départements des sciences de la Terre des universités québécoises. L'organisation du réseau a été présentée de même que les sources de financement. Les projets financés par DIVEX sont de deux types : les projets A présentés par des chercheurs de 2 à 3 universités en collaboration avec 1 ou plusieurs compagnie et qui font aussi une demande de financement RDC du CRSNG ; et les projets B présentés par au moins 2 chercheurs de DIVEX (avec idéalement la collaboration d'au moins une compagnie) et dont le financement vient directement de DIVEX.

2. Consortium de recherche en exploration minérale CONSOREM, Stéphane Faure

Cette conférence présentait le CONSOREM et comment il se positionne dans le domaine de la R&D du secteur minéral au Québec. Le CONSOREM se situe au niveau de la recherche appliquée pré-compétitive par rapport à DIVEX qui se situe entre la recherche fondamentale et la recherche pré-compétitive. Le CONSOREM est un partenariat entre les entreprises, les gouvernements et les universités avec une structure de recherche qui est contrôlée par les 14 membres industriels actuels. La mission est de contribuer au succès de l'exploration minérale au Québec. La synergie CONSOREM permet de mettre des idées novatrices et des données en commun, de partager les résultats et de transférer directement les connaissances aux industries.

3. CAMIRO – An Industry-Led Research Network, Tom Lane

Les objectifs de CAMIRO sont de promouvoir, coordonner et de prendre part à la recherche scientifique et au développement expérimental dans les domaines de l'exploration minérale, de l'exploitation minière et de la métallurgie. Un deuxième objectif est de développer des innovations, des techniques, des méthodes et des technologies pour améliorer la productivité, la compétitivité, la sécurité et les impacts environnementaux de l'industrie minière au Canada. CAMIRO est un consortium d'entreprise, généralement de 15 à 25 membres par année pour la division de l'exploration minérale. Les projets de recherche sont proposés par les compagnies membres.

4. Mineral Deposit Research Unit – Canada's major collaborative industry-university research group, Kenneth Hickey

Le MRDU a été initié en 1989 comme un lien entre l'industrie et le monde académique. Ses objectifs sont d'identifier et de résoudre des problèmes géoscientifiques reliés à l'exploration minérale. Plusieurs projets sont internationaux mais la majorité reste surtout concentrée sur la côte ouest canadienne. Le MDRU se concentre actuellement sur trois thèmes de recherche : (1) « core geological studies »; (2) les méthodologies d'exploration – l'exploration basée sur la science; (3) durabilité minière et environnementale. La recette du succès du MDRU est la communication avec l'industrie.

5. Les centres de recherche en Australie, Lyal Harris et Michel Jébrak

Lorsque l'on compare le Canada et l'Australie sur le plan de la recherche en exploration minérale, on constate que l'Australie dépense, proportionnellement, beaucoup plus en recherche que le Canada. Pourtant, le contexte géologique et financier n'est pas si différent entre les deux pays. Depuis 1995, plusieurs centres de recherche, Key Centres, se développent avec un financement gouvernemental. CSIRO, AMIRA, CODES, EGRU et d'autres ont été présentés. Pour le volet éducatif, l'Australie se démarque par des « Masters of Sciences by

Course Work » qui s'obtiennent en suivant des cours intensifs d'environ 2-3 semaines offerts dans 5 universités selon les spécialités. La plupart des étudiants travaillent en exploration et suivent 1-2 cours par année selon leur disponibilité. Il n'y a à peu près pas de maîtrises de recherche.

6. Après les présentations, les questions suivantes ont été posées aux participants afin d'alimenter la discussion sur les réseaux de recherche et l'industrie :

- Quels sont les modèles idéaux de partenariat industrie/université au Québec?
- À quoi s'attendent les compagnies des universités et vice-versa dans ces partenariats?
- Vers quels genres de partenariats allons-nous au Québec?
- Quelles formes doivent prendre les partenariats?
- Quelles sont les améliorations à amener au système actuel?

Un résumé des discussions est présenté ci-dessous. Comme la discussion s'est surtout tenue en anglais, le résumé est présenté en anglais.

The round table started with a discussion about the professional master's in Australia. People were very interested by the format of those master's that consist of 15 intensive modules (2-3 weeks each) held in different universities by the experts of each discipline. Many professional from the industry follow those modules because, among others, of the format that suits better the industry. Some parts of the modules are given by international experts to increase the quality of the courses.

Michel Malo : Is there any common points between the different research groups presented?

Michel Jébrak : It looks like there is two types of structures : (1) industry-driven, like MDRU, CAMIRO, CONSOREM; (2) university-based with input from the geological surveys and the industry, like DIVEX. The university based networks group specialists from many universities, but only one or two in each one. Teaching would probably one of the bases of the networking and collaboration that we could explore. The actual economic situation may offer a good opportunity to bring this idea as industry might have more free time for their professionals.

Kenneth Hickey: For the MDRU, research problems are brought in by the industry. In recent years, the academic staff has done research in their field of interest and they used the MDRU structure to sell their projects to the industry. Economy will affect projects; it is already started with the juniors not able to give as much money as before.

There is less students right now in the network. For the companies, half of the interest is the students. Training is very important for the industry, for the students and also for people in the companies. There is a demand from companies for short courses for their professionals.

The recipe of success is communication. The director has to be a good communicator; he has to be able to talk to people, to the industry and to create links between university and industry. There need to be someone

that stand up at research meeting and says networking is relevant, useful and interesting.

Michel Jébrak: Propose the idea of a commercial centre of excellence for mineral exploration that would be countrywide.

Gilles Bouchard: Companies have not anymore research units. They rely on universities for the research, through the students has the professors are not consultants.

Consorem has developed an exceptional dynamic and the researchers are committed at 100% in the research for the consortium.

The Matagami project allows having the best of the two options: the university research with the students and professors with DIVEX and the company side with Consorem structure.

Lyal Harris: In Canada, research is almost always university-driven, as in Australia, it is mostly industry-driven. A lot of research meetings are organized by industry for the industry. There is a lack of interest from the university side. The companies have their own research groups and interests and are independent from the universities.

Georges Beaudoin: The style of research depends of the centre, in Australia. It is probably a consequence of the high concentration of the research in the centres.

Michel Jébrak: In Canada, we could take more advantage of our research diversity. We could create small research centres with strong links and networking between them.

There are two trends: (1) either follows the Australian way and there will be 3-4 centres in Canada in the future; (2) or use diversity to justify small research centres and reinforce networking. Networking between the networks!!

Isabelle Cadieux: Like the idea of having students working in the companies, like in Australia. It would be a good way to link universities and industries.

Michel Jébrak: With the economic situation, maybe juniors will have difficulties to keep their employees. We could try to keep the good people here by hiring them on graduate studies when they will have no jobs, with the support of the companies.

Stéphane Faure: The networks/centres could organize a session at the PDAC (2010). I could be the first step to make links between the networks. Each network could send a student to present one of their projects.

Yves Michaud: Centres of excellence exists in Canada but not in geology. Many of the centres were quite successful but we don't know if the Government of Canada will continue to finance this type of networks in the future. The closest equivalent in geology is probably CAMIRO because of its relation with Ontario Centres of Excellence. The second one is DIVEX. Since the beginning (and with lot less money) its structure was well developed and its members demonstrated that they can work together, and with

Consorem. The only big problem is the input (financial and interest) from the industry. DIVEX has to bring the industry onboard!

Denis Bois: We should get in touch with the new Canadian Council for Mining Innovation.

Gilles Bouchard: We always face the same problem: no feedback from the industry. It is not to us to decide what the industry wants. It is maybe a communication problem.

Yves Michaud: Science is good. Students find jobs in the industry. It is not a matter of research quality. It is a matter of how to attract “research dollars” from the industry!

Gilles Bouchard: Not only a question of money. How to attract the interest of the industries for the scientific research? What can the research give to the industry? The industry is driven by discoveries and project success.

Kenneth Hickey: There are not many economic geologists in geology departments. We need the companies to say what they want and what they are expecting.

Michel Jébrak: We should make an effort to communicate with service companies (geophysics for example). We could try to see the science through the services that develop and uses technology, maybe to try to improve the technologies.

Georges Beaudoin: University research is not driven by the same things than industry. If you find a subject that interests the companies, they will participate.

Kenneth Hickey: What is the goal of the network? Answer questions relevant to industry? Attract industry funds? To survive as academic researchers?

?? (André?): There is not enough money that goes in the mineral exploration research. The mining industry has to put pressure on the governments in order to get more investments in research in Canada. There is not enough money for everyone, we all fight for the same money.

Michel Malo: There are two groups in Quebec that are working well for now. We should continue to work together in the future.

The “recipe of success” of the MDRU is COMMUNICATION with the industry!!

We have to continue to form students that will do exploration.

Pierre-Simon Ross: The success of DIVEX depends of the directors. Successful networks have full-time directors. It would be better for the communication with the companies. But of course, it would cost more money.

Tom Lane: We have to push CIM and PDAC to represent the networks and try to have a session at the PDAC for all research organization.

Kenneth Hickey: There is an issue for the academic researchers: Do I want to answer relevant questions with money input from the industry OR do I want to do want I want with no money?!?