

# Funding for Coordinated Research

Sources, sums and sustainability





# Sources

- NSERC
- NCE
- CFI (infrastructure)
- Provincial funds
- Ad hoc funds (rush to fill gap)



Networks of Centres of Excellence Réseaux de centres d'excellence



Canada Foundation for Innovation  
Fondation canadienne pour l'innovation

Fonds de recherche sur la nature et les technologies  
Québec





## Programs

- NSERC and a few others
- Discovery grant is main one
- Still prestigious but eroded
  - Average size has been about \$37 K for over 30 years, so only 1/10<sup>th</sup> the purchasing power





## Progress Continuum

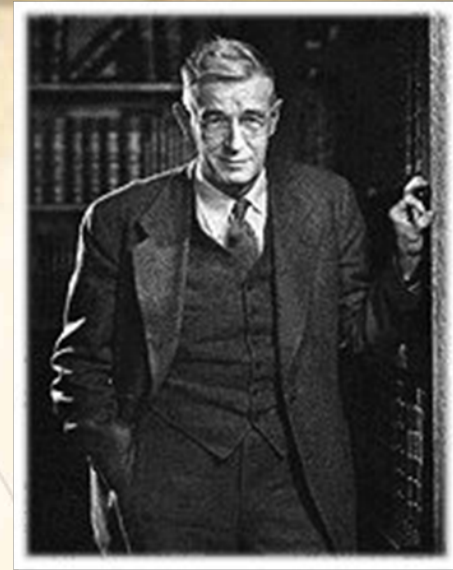
- Show that you have made progress in the area
- Show that the proposed work builds on the progress to date
- You need to show that where you have come from and where you are going
  - This makes it a program





## Beyond Discovery - Partnership

- Starting in the mid-1990's there was a large increase in emphasis on partnership grants
- Governments were looking for ways to reduce their deficits
- The research community had been selling their activities by telling politicians that these resulted in important economic activity
- Increased emphasis on partnership grants
  - Industry pays for part of the cost of national research



## The big shift

- **Post WWII science was at its peak of public approval**
- **V. Bush wrote a “contract” for research in the US: public provides funding and research community provides new knowledge**
  - **Science: The Endless Frontier**
- **During the last decade wealth (and jobs) have been added to the provisions; no one was notified**



## The policy makers:

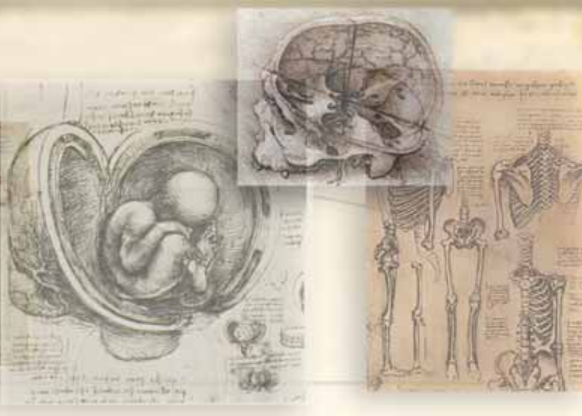
- **With deficit reduction in mind there was an attempt to shift some of the cost of research from government to industry**
- **A large number of industry partnership programs sprang up**



## **The funding agencies**

- **The absolute levels of funding allocated to research were reduced at both federal and provincial levels**





## Universities:

- **Reductions in research funds flowing into universities, which caused them to look for other sources**
- **Suddenly, they began to value their IP and consider the possibility of licensing this, or starting spin-off companies**
- **Some of this had gone on before, but little, and it was considered awkward**



# Why the Universities?

- **Universities are about knowledge**
  - teaching
  - creating (research)
- **If they suddenly begin to work towards commercializing all the knowledge being developed in their laboratories, instead of just disseminating it by publication, are they sitting on a gold mine?**





# Partnership Projects

- Requires industry partner (or sometimes government)
  - Strategic networks
  - Strategic grants
  - Collaborative Research Development grants
  - Idea to Innovation (I2I)



## Most Likely Structure

- **Group of several researchers**
- **Industry partner**
- **Research that has potential application in the longer term**



## The Team

- **Complementary expertise**
- **Strong research records**
- **All enthusiastic and work well together**
- **Cohesive focus that makes all the members fit together**





# The Type of Research

- **Potential for application**
- **Moving toward a product**
- **Build on something where recent important progress has been made, preferably by one of the team members**



## Partners

- **Industry is nice**
- **Cash in almost certainly helps**
- **Can also be in-kind**
- **Enthusiasm for the research and its outcomes is important**
- **Involvement in the development of the project is very helpful**



## Cost:Benefit to the Partner

- **Direct leveraging through NSERC**
  - **Mix of cash and “in-kind”**
- **McGill overhead (15%)**
- **This varies from University to University**



## Enhanced Cost:Benefit – R&D Tax Credits

- **In Quebec the company can then claim both federal and provincial tax credits**
- **Federal – 35% on first 2 million, 20% after**
- **Quebec – 17.5%**
- **So, up to 52.5% back, so now about 12:1**



## R&D Tax Credit Info

- **If the industrial partner is interested direct them to:**

- [http://www.infostat.gouv.qc.ca/iq/section4/4\\_1.htm?lg=an&th=1&rt=1&cp=section4/4\\_1.htm](http://www.infostat.gouv.qc.ca/iq/section4/4_1.htm?lg=an&th=1&rt=1&cp=section4/4_1.htm)
- <http://www.ccra-adrc.gc.ca/taxcredit/sred/publications-e.html>
- <http://www.ccra-adrc.gc.ca/taxcredit/sred/publications/ap2004-01.pdf>
- **Courtesy of Louise Savard, McGill OTT**



## Thoughts on Overhead

- **Overhead charges in industry generally run at 60-70%**
- **Here the company is buying into an established lab with equipment and support for only 15%**





## Some Other Pluses

- **Graduate students are dedicated and cost far less than industry technicians**
- **Given the low cost the university can be the perfect place for high risk, upstream research**



# Negatives

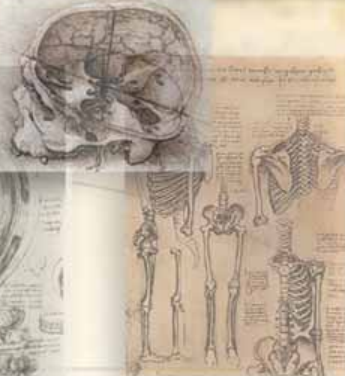
- **At the end of the day, the company does not control the IP**



# IP

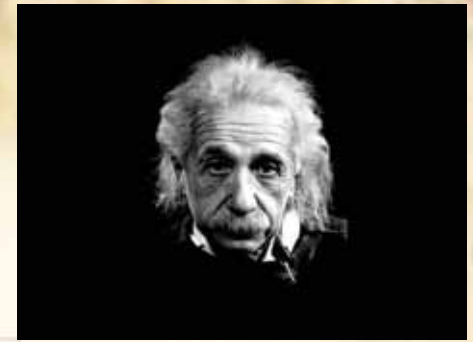
- **There should be some kind of agreement regarding potential intellectual property, in case some does result from the work**
- **At McGill, any IP belongs to McGill and OTT will negotiate the agreement**





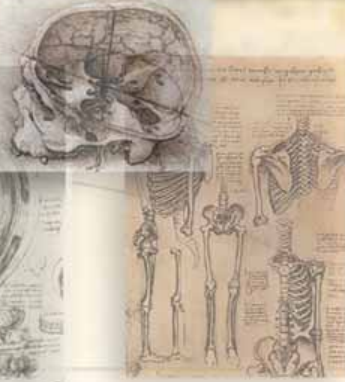
## IP/Partner/Canada

- **The eventual commercialization of research findings is one way to bring benefit to Canada and the taxpayers who fund most of the work**
- **Of course, there can be other benefits, such as improved understanding of elements of environmental processes, but even here there may be potential IP; watch carefully!**



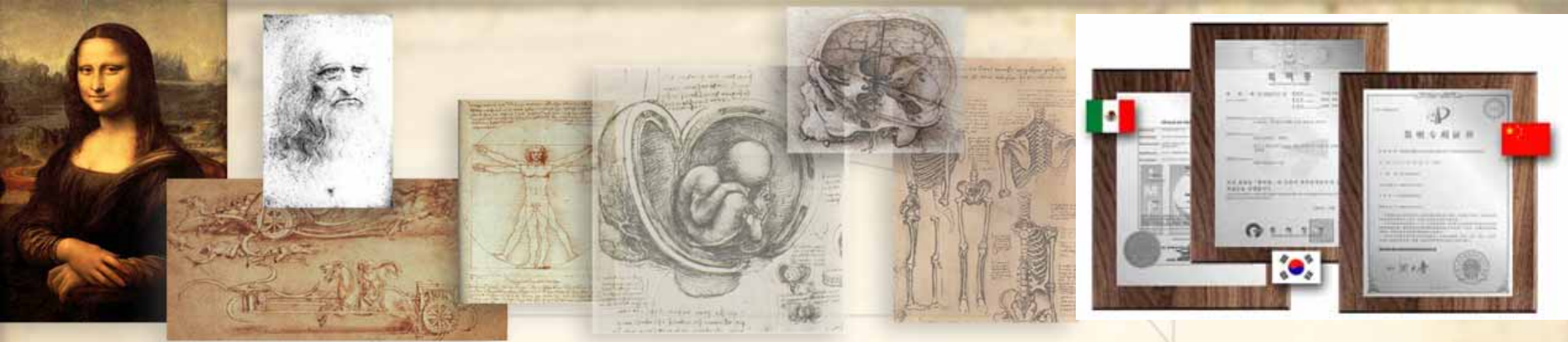
## **Change the way you think**

- **As you do your research, keep an “eye out” for material that can become IP and has commercialization potential**
- **Form some commercial contacts so that you will develop a sense of what is commercializable**



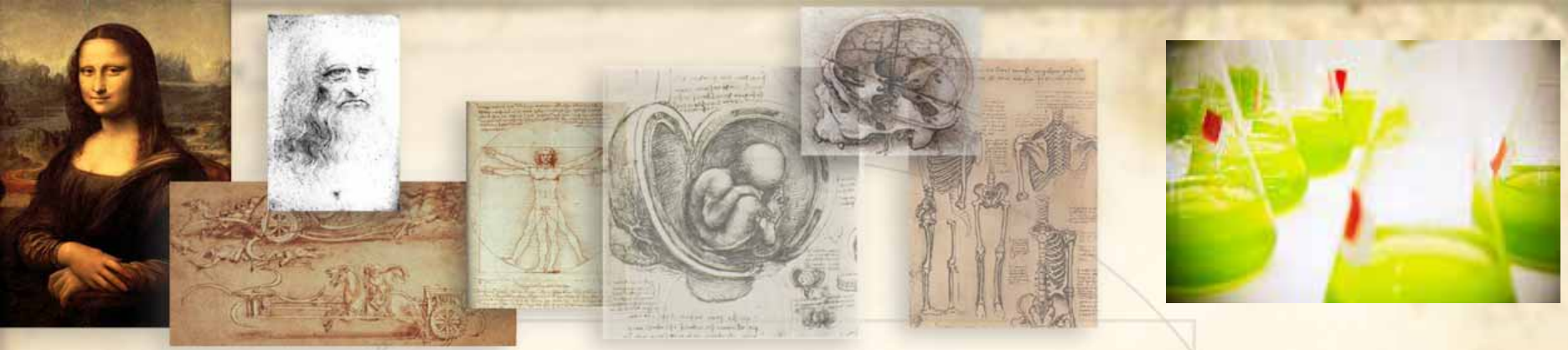
## Why do I think that way?

- **Years of training as an academic lead to a mind set well suited to development of new technologies**
- **Dissemination of information (publication) is first and foremost**
- **Intellectual property is a new idea**



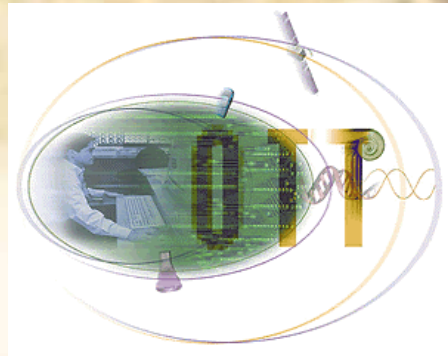
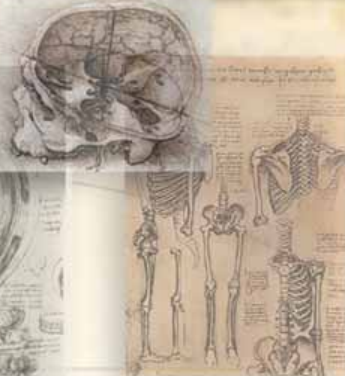
## **Reconciling IP and Publication: A Major Challenge**

- **Eventually a patent is open, the information in it is in the public domain**
- **Granting agencies are now attaching value to patents**
- **So are universities**
- **These can be very valuable for the graduate students involved**



# Technology evaluation

- **Literature search**
- **Patent search**
- **Market potential**
  - **Is it cost effective?**
  - **Are there sufficient potential annual sales to justify commercialization?**



## Approach the university

- **Discuss with the “office of ...” and any one else with relevant expertise the technology**
  - exactly what’s involved here depends on the university
- **Choices:**
  - license to an existing company
  - start a spin-off company



# Coordination - Development

- Frequent meetings
  - Conference calls
  - Skype
  - Things like Marratech
- Involve industry partner(s)
- Involve granting agency personnel if appropriate

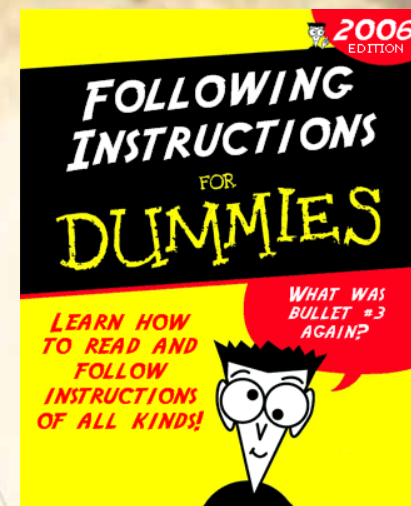




# Feed Back



- Circulate document during development
- Be very open to suggestions
- “Everyone needs an editor”



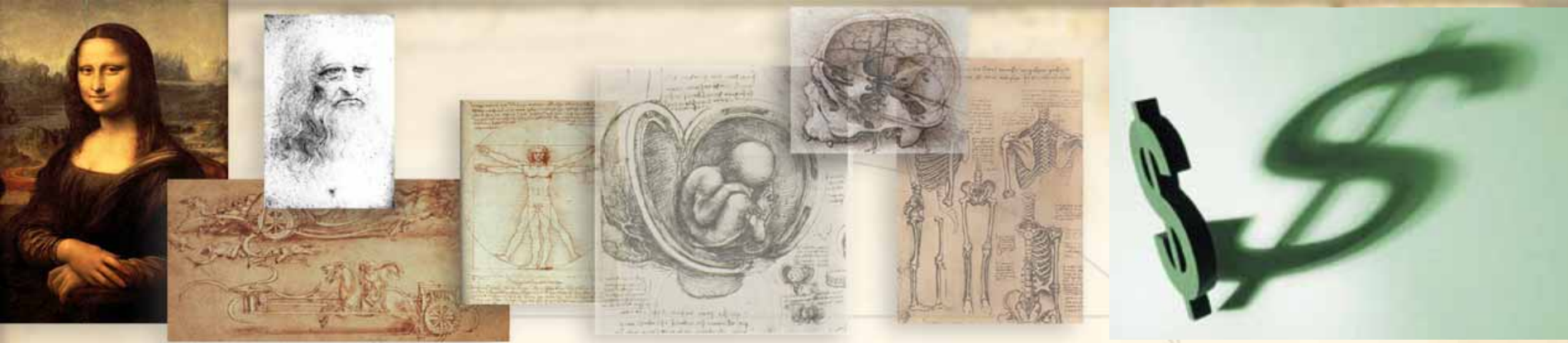
# Follow the Instructions!

- Use the format suggested in the guidelines
- Identify the evaluation criteria and ensure that each of them is addressed
  - It is often possible to use a bit of their wording where a criterium is addressed
  - Do this if possible and also bold or italicize this to make sure the evaluators recognize it



# Take Advantage of Experience

- There are often things that are ambiguous in the instructions (language is not perfect) and you need to avoid misinterpretation
- If you have links to someone who have been successful in these grant applications ask them for advice and feedback



## The Funding Agency

- With larger networks the funding agency will sometimes provide a person to give some guidance as well
- This is invaluable as they will be sensitive to details that are never clearly stated in the instructions

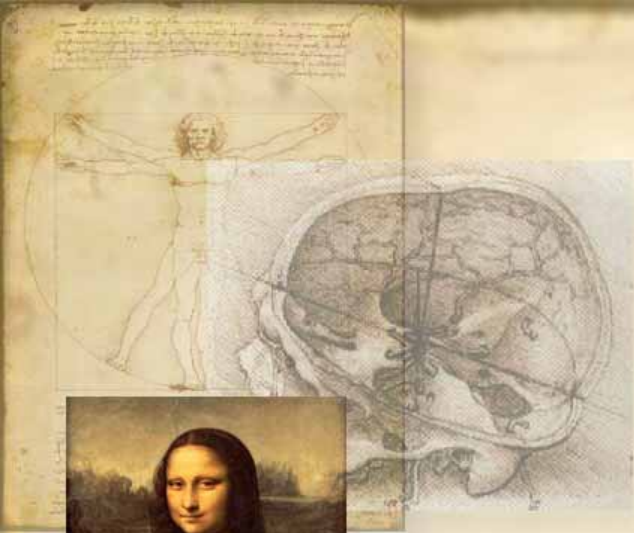
You've Got Funding!



# Simple Stuff

- Don't cheat on fonts or margins
- Don't exceed the page limits (extras are removed before the reviewers see the proposal)
- Make good use of subtitles
  - Can sometimes make them the evaluation criteria
- Make sure all sections that are indicated in the instructions are addressed in the proposal

Best Sans Serif Font    **Best Comic Font**  
**Best Antiqued Font**  
Best Cursive Rough Script Font  
Best Calligraphic Font    Best Brush Script Font  
**Best Grunge Poster Font**  
Best Grunge Script Font  
Best Serif Font    **BEST FLORAL DECO FONT**



# The End!

Press on regardless

