

Transplantation Grand Challenge

Transplantation is the only treatment for end organ failure and is one of the great medical and scientific achievements of the 20th century. However, many challenges remain, so BC Transplant and the CIHR Training Program in Transplantation are calling on Canadian trainees to brainstorm novel approaches for these problems. Entries will be judged based on creativity and feasibility. We are looking for bold new ideas rather than established opinion so all trainees, junior and senior, are equally likely to receive an award and are encouraged to apply. Prizes of \$4000, \$2000 and \$1000 will be awarded to the top three entries.

Grand challenge questions (choose one)

1. Could you design a process for repopulating failing organs with functioning cells to obviate the need for organ transplantation? Keep in mind that there are multiple cell populations within an organ, often requiring interactions with each other for proper function.
2. Describe how you could apply the technology of using a totally synthetic chromosome (as demonstrated by the recently reported creation of a self-replicating mycoplasma) to produce artificial organs for organ transplantation.
3. The problem of kidney and liver organ shortage could be reduced if the risk to living donors were vanishingly small (i.e., similar to the risk of donating blood). How might these risks be reduced?
4. Porcine xenografts could help eliminate the problem of organ shortage. However, a major concern is the potential of pig endogenous retroviruses entering the human population and causing disease. How could these viruses be eliminated or neutralized?
5. Reinfection with hepatitis C is almost universal in hepatitis C positive liver transplant recipients. Blood tests and liver biopsies assessed after routine staining often do not reliably distinguish whether rejection or recurrent hepatitis C is the dominant process. Treatment for these two entities is essentially opposite – increased immunosuppression vs. PEG-interferon and ribavirin. Outline a method that would allow more accurate determination of whether liver dysfunction in an HCV-positive liver recipient is due to HCV or rejection.

Guidelines

1. Entries limited to application form (below) and **3 pages** (not including references, 2.5 cm/1" margins, 12 point font). Please use the following subheadings:
 - a. Background (max 1 page)
 - i. Describes the problem and current approaches
 - b. Proposal (remaining pages)
 - i. Rationale for approach
 - ii. How this idea can be tested or developed (experimental plan)
 - iii. How this idea is innovative and improves upon current approaches
 - iv. The feasibility of the approach
2. Winners will be announced at the XXIII International Congress of The Transplantation Society (www.transplantation2010.org) in Vancouver. Winners agree to allow BC Transplant and the Transplantation Training Program to publicize their names and proposal.
3. All trainees are eligible to submit proposals regardless of whether they are attending the Vancouver Transplantation Congress or not. Collaborative entries with multiple authors are allowed.
4. Ideas remain the intellectual property of the applicant and/or their research institution. Trainees with research supervisors (ie, graduate students, pdfs) should ensure their supervisor complete the "Supervisor's approval" form below.
5. Deadline for receipt of entries is **July 31th, 2010**, midnight pacific daylight time. Please email entries to TxChallenge@gmail.com

About us



BC Transplant (www.transplant.bc.ca), established in 1986, directs, delivers or contracts for all organ transplant services across British Columbia. It is funded principally through the BC Ministry of Health Services, and is an agency of the Provincial Health Services Authority. BC Transplant Foundation is an officially recognized charitable organization.



The Training Program in Transplantation is based in Vancouver. We provide a transdisciplinary program incorporating all major aspects of transplantation to mentor trainees to become the next generation of researchers and clinicians. Trainees come from around the world. Core funding is provided by the Canadian Institute for Health Research (CIHR).

Transplantation Grand Challenge Application Form

Name(s):

Academic Affiliation:

Type of trainee (please place an "X" beside all which apply)

Undergraduate university student
Graduate student
Post PhD research fellow
Undergraduate medical student
Resident
Post MD research fellow

Email address of applicant(s):

Supervisor's Approval Form

I have seen my trainee's Transplantation Grand Challenge research essay application and approve its submission. I understand that the ideas remain the intellectual property of the applicant and/or applicant's institution but that the winning proposals will be publicized.

Signature_____

Name:

Email address:

Institution:

Address:

Please mail this form to:

Transplantation Grand Challenge
Jack Bell Research Centre
2660 Oak St
Vancouver, British Columbia, Canada
V6H3Z6

This form should be postmarked by July 31th, 2010.