

Checklist for ROTRF research projects

The following list is meant as a guiding tool for the preparation of Full Paper Applications to be submitted to the ROTRF. Depending on the research proposed, some items may not apply, however others may be critical for the research project.

- Investigator: training, achievements, collaborations
- Environment and networking: embedded teams
 - Show clear working relationship with transplant clinical team, either for identifying properly classified samples, or guiding relevant investigation. It is preferable to have a working relationship rather than just a letter of support.
- Objectives: are you seeking to define mechanisms, disease phenotypes and classifications, new diagnostics, new treatments
- Descriptive versus Hypothesis-based elements e.g.
 - New aspects of disease phenotypes e.g. relating molecule x to histopathology
 - Analyse existing databases of relevant features e.g. mRNA in biopsy, anti HLA, biopsy lesions, outcome
 - Develop new granular databases of relevant features e.g. liver transplants with HCV
- Design and research plan
 - Specific aims (typically 3); analytical and validation strategy,
 - Background, relevant work by applicant, rationale: about 25% of application
 - Research description according to each specific aims
 - Detailed but concise methods
 - Sample description, cohort description and outcomes data, phenotype description
 - Experimental model description and its relevance for the pathology observed in transplant patients
 - Data analyses (incl. statistical analysis and power calculation)
 - Expected outcomes
 - Potential pitfalls and possible alternative plans.
- Consider design implications:
 - “Cherry picking” (class comparison) versus inclusive populations: if your study compares features of selected classes, it is best to determine performance of features in an unselected population where many phenotypes are present
 - Training versus validation strategy
 - Likelihood of relating current findings to future instructive events/outcomes
- Preliminary data: critically important for competitive ranking
- Access to critical capabilities:
 - Clinical subject identification, sample acquisition and stabilisation, and access to clinical laboratory data in an IRB regulated consented environment.
 - Microsurgery and other specialised techniques
 - State of the art diagnostics according to approved consensus systems as available in routine laboratories and imaging: histopathology, lesions, organ function data and

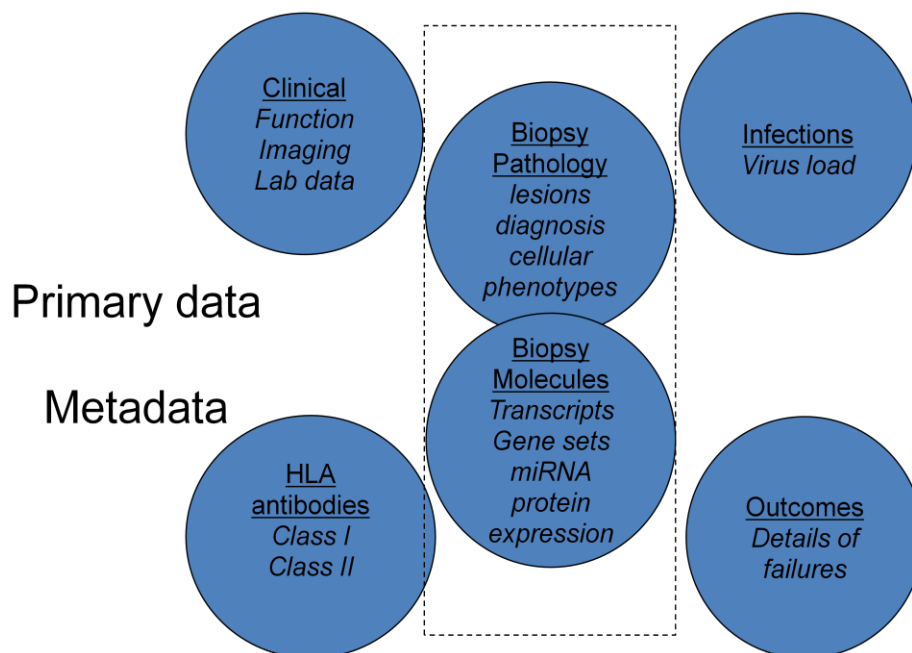
diagnostic imaging.

- High technology platforms such as microarrays, protein chips, etc, as needed.
- Data storage, retrieval, and analysis capabilities appropriate for the types of data analysed.
- Credibility of the experimental modelling or other types of modelling (e.g. simulation)
- Potential clinical impact in organ transplantation: importance and expected timing
- IRB approval and other required approvals (if already available), participant consent forms or plan for it.

These capabilities and phenotyping will not necessarily be obtainable in any one centre and ROTRF understands that. However, the collaborative use of available data bases and establishment of suitable collaborations is encouraged in order to assemble a set of data and capabilities necessary to provide new insights into transplant disease states. Detailed, but concise, description and confirmation of such collaborations should be provided in the application.

Examples:

- 1) Clinical research may require data collection in many dimensions to understand phenotypes and outcomes



2) Teams and capabilities that *should be considered and may be required* for research on clinical organ transplant issues: key members should be identified

