ICON Core Research Principles and Criteria

**Philosophy:** Being integrative is more than being multidisciplinary; it means crossing disciplinary lines, epistemologies and/or worldviews to give full and balanced space to understanding complex problems from multiple perspectives. In striving to do so, it should be recognized that:

- Each discipline and epistemology highlights certain dimensions of a research problem while leaving others out. Integrative research utilizes multiple ways of approaching a problem to highlight more than one dimension of its complexity, thus providing a more comprehensive understanding of the problem.
- When problems are sufficiently complex, it may become impossible to unify the views from multiple perspectives into an integrated whole, requiring that space be made for dissonance and incommensurability.
- Addressing complex socio-environmental issues involves trade-offs no matter what course of action (or inaction) is taken. Integrative research assesses the trade-offs that occur in past, present, and future negotiations of complex socio-environmental challenges, providing a more comprehensive understanding of what is lost and what is gained through particular policies or practices.
- Integrative also means that there is a plurality of audiences and strategies for communication of the knowledge created. This exchange of knowledge is not one-way from the researcher to the end users; rather the development of knowledge is from the start a partnership, a dialogue, and an iterative process that, in fact, shapes and directs the research agenda along the way.

Integrative research values pluralism of perspectives brought to an issue, as opposed to (a) a suite of distinct studies of different parts of a given system (multi-disciplinary studies often fall into this category), or (b) assimilation/synthesis across various parts of a system, which tackles all the complexities of an issue through one unifying analytical approach.

ICON students are expected to be engaged in research and training that attempts to examine complex problems from multiple disciplines and worldviews, bridging different disciplinary ways of thinking and integrating them. ICON students should also strive to conduct transdisciplinary research, reaching outside of academia to engage other actors and other ways of knowing the world, and to cultivate the reflexivity necessary for ethical forms of engagement. In order to ensure that ICON students are able to craft a course of study and dissertation project that will meet the goals of integrative research in the ICON program, students should demonstrate how the most relevant core principles and criteria are integrated into their research (listed below). This should be accomplished through ongoing dialogue with the major advisor, ICON representative and committee members.

**Core principles of integrative research**:  
1. *Complexity:* There are three key elements of complexity: (1) Human and natural systems are inextricably linked; (2) Any important environmental and developmental issues will always involve uncertainty; (3) All models and analytical tools for understanding conservation and development issues engage in some form of simplification of complexity, and none provide a comprehensive picture.
2. *Pluralism:* Conservation and sustainability issues, and the trade-offs they entail, are experienced and understood from a variety of legitimate perspectives. At the root of many long-standing disputes are differing models, metaphors, and ways of understanding the complexity of socio-environmental systems. Each perspective highlights certain dimensions and obscures others. Better formulation of problems can occur when new ways of understanding are developed collaboratively and iteratively with the input of multiple voices and multiple perspectives.

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Diligence is necessary to ensure that the voices of all affected parties are heard, understood and respected. Integrative research deliberately seeks out and incorporates alternative knowledges and experiences that are not traditionally captured in academic research.

- **Context**: Analytical tools and methods should be applied with sensitivity to the political, economic, institutional and social contexts in which research and decision-making occur. There are no panaceas or one-size fits all solutions, nor are there necessarily solutions with long-term staying power. Decisions and strategies will have to be revisited as new knowledge emerges, and as the social, political, economic, and ecological contexts change. Context shapes not only how agents behave and make decisions, but it also shapes the meaning of our research, and the potential consequences of our findings.

Criteria for integrative research:

1. **Multiple theoretical framings**: The doctoral research of ICON students should demonstrate the application and interface of multiple perspectives and/or worldviews, and actively engage questions of the commensurability and completeness of distinct framings. There are multiple levels at which this can be done, depending on the specific research problem. The engagement of multiple perspectives should be evident throughout – from problem framing to literature review, research questions and methodology. This may mean the following:
   a. Problem framing: Integrative problem definition means defining problems through multiple lenses or perspectives, and illustrating the differences between them and what these differences give rise to.
   b. Literature review: At the level of literature review, integrative research means reviewing the literatures relevant to the problem that stem from distinct epistemological perspectives. It means doing so not just in ways critical of other perspectives, but in ways that demonstrate an appreciation of alternative framings and explores in a balanced way the questions that emerge through attempts to simultaneously engage divergent framings of a problem (including whether they are in fact commensurable).
   c. Research questions: To design research questions in an integrative way means asking questions from divergent epistemological or disciplinary framings, and/or designing research questions that can only be answered by engaging methods and theories from diverse disciplines.

2. **Mixed methodology**: An integrative methodology means employing mixed methods from diverse disciplines to answer one or more questions, triangulating methods when addressing a single (integrative) research question, and using multiple methods to explore the interface between diverse perspectives. This may be done to illustrate how bringing multiple perspectives to bear on a problem confounds or clarifies the nature of the problem; to illustrate the roots of misunderstanding so as to facilitate efforts at bridging diverse camps; to demonstrate incommensurability in a way that gives due credence to divergent perspectives but acknowledges trade-offs; or any other aims relevant to the problem context and framings.

3. **Strategic communication**: In addition to striving to evolve along integrative lines, students are required to engage in strategic communications with other fields of practice and with lay audiences in ways that are effective in reaching them and inviting them to expand the scope of their current framing or understanding of problems. To do so effectively, integrative researchers must understand how these audiences currently frame problems so as to communicate effectively in ways that challenge without alienating, while also acknowledging the ‘incompleteness’ of the message being delivered and demonstrating openness to alternative framings of the problem. As students pursue their dissertation research, they will be responsible for developing and implementing a plan for strategic communication related to their research topic and demonstrating how that was achieved at the completion of the dissertation research.

4. **Relevance to practice**: Students should strive to design their research program with the relevance to practice in mind. This involves an intentional engagement with communities, practitioners, or decision-makers outside of academia. There are several ways to do this, including (but not limited to) the goal of having the dissertation directly inform or facilitate decision-making or policy-development; engagement with practitioners or other non-academics in the development of the research program to address real world problems; collaboration with

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communities in addressing issues of concern to them.

*Note:* These guidelines apply to ICON students beginning on or after August 2013. Adherence to these guidelines by students admitted into the ICON program before 2013 is encouraged to the fullest extent possible, but not required.