A Conceptual Model to Help Plan, Manage, and Enhance Transdisciplinary Team Science

**DEVELOPMENTAL PHASE**

The development/phase involves the formation of a group of collaborators who take initial steps to plan and implement the planned research. Scientists/communities elaborate the conceptual model and begin a group environment of awareness, (3) to externalize group cognition, and (4) to develop a group environment of psychological safety.

**IMPLEMENTATION PHASE**

Implementation processes are those associated with the planned research. Scientists/communities begin to launch, conduct, and refine the planned research.

**CONCEPTUALIZATION PHASE**

In the conceptualization phase, collaboration takes root as the first transition to a research team/interdisciplinary group. Scientists/communities begin to develop a research vision and hypothesis, a conceptual framework, and a research design that integrates and represents appropriate contributions from the disciplines, fields, and professions.

**TRANSFORMATION PHASE**

The transformation phase analyzes research and findings that are in progress along the planned research trajectory. As the phase transforms the group, additional “spin-offs” or translation of anticipated outcomes may lead to mid-project changes in the composition of a TD team or in the development of shared understanding of who knows what and the development of shared, collaborative research.

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The Transdisciplinary Team Science Approach

Transdisciplinary/td team science has emerged as a promising approach to address complex scientific questions and to develop effective solutions with immediate relevance and lasting impact. The CIHDR team science approach effectively responded to the growing need for specialization and fragmentation of knowledge by re-integrating expertise across disciplines.

The model is a comprehensive approach to organize and manage transdisciplinary team science activities. It is an evolving methodology that was developed to support the integration of knowledge, methods, and practice across disciplines. The model includes a conceptual framework, a range of implementation strategies, and a set of tools and resources to facilitate the development and management of transdisciplinary team science projects.

The CIHDR team science approach is a multi-level team science approach that involves a set of processes and outcomes across four phases: conceptualization, implementation, transformation, and evaluation. Each phase has specific goals and strategies designed to support the development and sustainability of transdisciplinary team science projects.

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K has a broad range of experience in the field of cancer research, with a particular focus on the development and evaluation of novel therapeutic agents. K has also served as a principal investigator for several clinical trials, and has authored numerous research papers in the field of cancer biology. K is currently the Chief Scientific Officer at a prominent biotechnology company, where he leads a team of scientists dedicated to the discovery and development of innovative cancer therapies. K has a PhD in Molecular Biology from Stanford University, and has held numerous leadership positions in the field of cancer research.

Sarah Gehlert is a Senior Research Scientist at the National Institutes of Health, where she leads a team of researchers focused on the development of novel therapeutic agents for cancer treatment. Sarah has a PhD in Biochemistry from the University of California, San Francisco, and has published over 50 research papers in the field of cancer biology. Sarah is a member of several scientific advisory boards for leading biotechnology companies, and has been a recipient of numerous awards for her research contributions.