

PROJECT APPROVAL

Fluid Dynamics in Sociological Systems

Document: SCS/PA/2026/04
Status: Approved
Date of Approval: June 28, 2026
Authority: Founder, pursuant to §14.4 of the Bylaws (Initial Period)

1 Project Identification

Project Name. Fluid Dynamics in Sociological Systems.

Description. A research project applying the conceptual and methodological apparatus of fluid dynamics to the analysis of sociological systems, examining how continuum, flow, viscosity, turbulence, and related concepts illuminate the dynamics of social structures, value propagation, and collective behavior.

Motivations. Sociological systems exhibit dynamical features — flow of information, value, and influence across populations; the emergence of turbulence in collective behavior; the formation of structured currents within otherwise unstructured fields; the propagation of perturbations through coupled relational networks — that resist analysis by purely discrete or purely statistical means. Fluid dynamics, developed for the analogous problem of describing continuous matter in motion, offers a mature mathematical and conceptual vocabulary for these phenomena. The Project proceeds from the conviction that the rigorous application of fluid-dynamical methods to social systems can yield insight into questions that the Society's broader theoretical work raises but cannot address through discrete or purely qualitative means: the conditions under which a collective movement crystallizes, the conditions under which it dissipates, and the conditions under which value circulates within a relational field. The Project complements and is methodologically distinct from the geometric-graph approach pursued under SCS/PA/2026/03, addressing the continuum aspect of social phenomena where the graph-grammar approach addresses the compositional and structural aspect.

Objectives.

1. To develop and apply fluid-dynamical models to specific classes of sociological phenomena, with particular attention to value propagation, collective behavior, and the dynamics of organized movement;
2. To establish the conceptual correspondences between fluid-dynamical primitives (velocity field, pressure, viscosity, turbulence, vorticity) and sociological primitives in a manner that

is both mathematically rigorous and sociologically substantive;

3. To produce open implementations of the modeling and analysis methods, suitable for use by other researchers; and
4. To contribute to the theoretical bridge, pursued elsewhere in the Society’s research program, between continuum methods (this Project) and discrete-structural methods (the G³ toolchain).

Expected Outcomes. An open repository of methods, models, and analytical implementations; one or more scholarly papers presenting the framework and its applications; and a methodological contribution to the theoretical infrastructure of the Society useful to subsequent applied work.

2 Infrastructural Domain Classification

Primary classification. The Project is classified under **Schedule A, Domain I: Theoretical Infrastructure**, articulated as “understanding clearly how people are actually connected to one another.”

Reasoning for the classification. The Project is methodological and theoretical infrastructure. It provides a mathematical and conceptual vocabulary — drawn from fluid dynamics and adapted to sociological subject matter — for analyzing the connections and flows that constitute a social system. The Project does not, of itself, conduct empirical sociological research; it provides the conceptual apparatus through which such research may be conducted. The classification reflects this character: the Project is theoretical infrastructure, applicable across substantive domains, rather than itself a substantive domain investigation.

Cross-domain applicability. Specific applications of the methods developed under this Project may, when carried out, fall under other domains of Schedule A. For example, application to the dynamics of decision in collective bodies would fall under Domain IV; application to the dynamics of co-creative collaboration would fall under Domain V; application to the conditions under which a fragile relationship is sustained within a field of pressures would touch Domain VII. The primary classification reflects the nature of the Project’s methodological contribution, not the domains of its eventual applications.

3 Publication and Licensing

License chosen. Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0), with copyright held by Serendip Commons Society.

Reasoning for the selection. The CC BY-NC-SA 4.0 license:

1. permits free distribution, modification, translation, and derivative use of the work for non-commercial purposes, supporting the Society’s commitment to open scholarly exchange under §3.4 of the Bylaws;
2. requires attribution, preserving the Society’s institutional record and the author’s contribution;
3. prohibits commercial use, reflecting the Project’s character as theoretical and methodolog-

ical research not intended for proprietary exploitation; and

4. requires that derivative works carry the same license (ShareAlike), preventing the commercial enclosure of derivative work and preserving the non-commercial commitment downstream.

Note on license selection. The Creative Commons organization recommends against using CC licenses for software in the strict sense, on the ground that CC licenses do not address software-specific concerns such as patent grants and contributor terms. The present Project is primarily a research and theoretical undertaking with accompanying code that implements the analytical methods, rather than a software product in the engineering sense. CC BY-NC-SA 4.0 is therefore appropriate for the Project’s character. Should the Project subsequently produce a software component intended for use as a software dependency by other projects, a software-specific non-commercial license (such as PolyForm Noncommercial 1.0.0) may be adopted by amendment of this Approval, applied to that component while retaining CC BY-NC-SA 4.0 for the theoretical and methodological work.

Asymmetry with prior Project Approvals. The G³ Project (SCS/PA/2026/03) is licensed under MIT, a fully permissive license that allows commercial use. The present Project adopts a non-commercial restriction. This asymmetry is deliberate: the G³ toolchain is methodological infrastructure intended for the broadest possible reuse, whereas the present Project’s primary outputs are sociological-analytical methods whose careless commercial application could produce social harm without adequate methodological caution. The license is one mechanism by which the Society signals that such application should be the subject of considered collaboration rather than unilateral deployment.

4 Ethics Review Determination

Determination. Ethics review under §3.5 of the Bylaws is **not required** for the Project as approved at the present scope.

Reasoning for the determination. The Project, at its present scope, is theoretical and methodological research. It does not involve the collection of personal data, does not engage human subjects, is not biomedical or psychological research, and does not, at this stage, involve any vulnerable population within the meaning of §3.5.

Caveat regarding downstream applications. Application of the methods developed under this Project to specific empirical datasets concerning identifiable populations — for example, the analysis of social-media data containing personal information, or the analysis of organizational behavior data drawn from identified employees — would, if undertaken, fall within §3.5 and require ethics examination at the time of such application. Each empirical application constitutes a separate project for purposes of the Society’s project approval procedure. The present approval covers the theoretical and methodological work only, and does not pre-approve any empirical application.

5 Authority and Effective Date

This Project Approval is issued by the undersigned Founder under the authority granted by §14.4 of the Bylaws to approve projects of the Society during the Initial Period. The Project is

approved as of the date set forth above. The Society shall maintain this Project Approval document, together with all subsequent records relating to the Project (including version releases, repository changes, license clarifications, and any future approvals of empirical applications), in the permanent records of the Society pursuant to §5.11 of the Bylaws.

Wanhong, Founder

Date: June 28, 2026