Aurora Research Initiative (ARI)

Roadmap (v1.0.0)

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Creation Date: 2025-11-26
Concept DOI: https://doi.org/10.5281/zenodo.17743096

This roadmap defines the strategic evolution of the **Aurora Research Initiative (ARI)** across multiple phases. It establishes how ARI grows from its foundational architecture into a fully mature institution governing reproducible AI-human scientific workflows and tooling.

The roadmap ensures long-term structural integrity and prevents governance drift.

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1. Phase I — Foundational Architecture (Current Phase)

Objective: Establish ARI as an independent institutional layer.

Deliverables: - ARI repository creation
- `README.md`
- `ARI_ARCHITECTURE.md`
- `GOVERNANCE_MODEL.md`
- `INIT_LOG.md`
- roadmap creation
- initial folder structure

Criteria for completion: - Governance baseline stable
- Architecture baseline established
- Provenance chain active
- No major structural inconsistencies remain

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2. Phase II — Metadata & Epistemic Foundations

Objective: Define the epistemic rules and metadata structures that govern the entire Aurora ecosystem.

Planned documents: - `epistemics/EPISTEMIC_DOCTRINE.md`
- `epistemics/METADATA_POLICY.md`
- `epistemics/PROVENANCE_SPEC.md`

Outcomes: - audit-first epistemology codified
- metadata structure standardized
- documentation invariants defined
- provenance schema formalized

Dependencies:
Requires Phase I to be complete.

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3. Phase III — Integration with AWO v4.2+

Objective: Ensure the Aurora Workflow Orchestration (AWO) method is fully aligned with ARI governance.

Deliverables: - governance compliance criteria for workflows
- metadata enforcement expectations
- role separation boundaries for AWO
- integration guidelines between AWO and ARI provenance

Goals: - AWO adopts ARI policies
- governance and method boundaries clarified
- non-deterministic governance removed from AWO
- execution pipeline operates under ARI-defined epistemic rules

Dependencies:
Requires metadata & epistemic documents from Phase II.

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4. Phase IV — CRI-CORE Alignment & Onboarding

Objective: Transition enforcement and deterministic execution from AWO into CRI-CORE.

Deliverables: - governance requirements for deterministic tooling
- identity-binding rules
- attestation-independence criteria
- provenance verification expectations
- CRI-CORE onboarding guidelines

Goals: - clear separation between method (AWO) and engine (CRI)
- governance constraints formalized for tooling
- deterministic execution fully delegated to CRI-CORE

Dependencies:
Requires AWO integration (Phase III).

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5. Phase V — Governance Maturity & Public Transparency

Objective: Formalize ARI as a public-facing, reproducible governance institution.

Deliverables: - public governance documentation
- licensing strategy
- ARI website section
- maturity model for governance
- transparency dashboards
- versioned public releases

Outcomes: - public trust
- transparent accountability
- governance reproducibility
- institution-level clarity

Dependencies:
Phases I–IV completed.

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6. Phase VI — Certification & Ecosystem Expansion

Objective: Establish ARI as the governing standard for reproducible scientific workflows.

Key initiatives: - reproducibility certification model
- multi-agent governance expansion
- collaboration guidelines
- case study expansion
- governance-based validation pathways

Long-term outcomes: - institutional credibility
- widespread adoption of ARI-aligned governance
- AWO and CRI-CORE recognized as reproducible research infrastructure

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7. Revision & Governance

All roadmap changes must be logged in `logs/GOV_LOG.md` with: - version increments
- rationale
- dependencies noted
- backward linkage

No silent changes permitted.

This roadmap defines the path toward institutional maturity for the Aurora Research Initiative.
