

McIntosh Consulting — Capability Statement

Dr. Vernon McIntosh · Founder & Principal Consultant consulting@vernonmcintosh.com · vernonmcintosh.com · [linkedin.com/in/drvernonmcintosh](https://www.linkedin.com/in/drvernonmcintosh)

PRACTICE DESCRIPTION

McIntosh Consulting is an independent advisory practice serving biotech operators, R&D organizations, and federal R&D programs that need an operator who can move between the lab, the model, and the market. Twenty-one years of delivering scientific outcomes at commercial scale: metabolic engineering, fermentation, microbiome analytics, production ML, and federal proposal craft. The premise is straightforward — hire someone who has shipped, not someone who has only written about it.

CORE COMPETENCIES

- **R&D Strategy & Commercialization** — Roadmap, IP strategy, business model, and the path from lab science to revenue. Pulls in landscape and patent intelligence when the program needs it.
- **AI & Data Pipelines for Bioscience** — Production ML and agentic workflows for bioscience and data-intensive work. End-to-end bioinformatics, predictive modeling, and pipeline architecture, from experimental design through production analytics.
- **Biotechnology & Metabolic Engineering** — Metabolic engineering, fermentation, and bioprocess development from concept through commercial scale with the process discipline that survives the jump from lab to plant.
- **Technical Communication** — Plain-language translation of complex research for executive, investor, and public channels. Heilmeier-style technical narratives for federal proposals.
- **Federal Funding Readiness** — SBIR / STTR / BAA draft review, agency-topic fit mapping, Heilmeier-style thesis rewrite, two-page funder brief, go / no-go resubmission plan.

FEDERAL PROGRAM EXPOSURE

Direct technical and program experience adjacent to: **DARPA · NASA · IARPA · USPTO**. Standard federal-contracting artifacts (W-9, certificate of insurance, SAM.gov registration on request).

PAST-PERFORMANCE SIGNALS

- **2023 Gold Edison Award** — Galleon™ Broiler Microbiome Intelligence (Cargill). Microbiome analytics platform; per-sample cost cut from \$180 to \$25 at production scale.
- **Animal-health diagnostics platform** — reaching more than 80% of the global poultry market.

- **Seven technologies** moved to proof-of-concept in twenty months as part of an IP strategy for a major animal-nutrition business.
- **Named inventor — granted US patents:**
- US 11,034,982 B2 — Method of producing succinate from yeast — USPTO, 2021
- US 9,605,285 B2 — Yeast cells having reductive TCA pathway from PYR or PEP to succinate — USPTO, 2017
- WO 2014/018757 A1 — Yeasts engineered for the production of dicarboxylic acids — WIPO, 2014

FOUNDATION

PhD in Microbiology, University of Tennessee, Knoxville (2010). Dissertation: An Analysis of Global Gene Expression Resulting from Exposure to Energetic Materials — transcriptional response of microbial systems to chemical stressors.

ENGAGEMENT SHAPES

- **R&D-to-Revenue Technical Diligence** — Fixed-scope, ten-business-day diligence sprint. Written report on technical risk, commercialization path, and the next two milestones that determine whether the program ships.
- **Multi-Quarter R&D Retainer** — Six- to twelve-week embedded engagement producing a defensible roadmap (e.g., agentic-AI strategy, bioprocess platform plan) on a board or CSO timeline. Weekly deliverable cadence.
- **Federal Funding Readiness Sprint** — Review of an in-progress SBIR / STTR / BAA draft with Heilmeyer-thesis rewrite and two-page funder brief.

ENTITY STATEMENT

McIntosh Consulting is operated as an independent advisory practice. Dr. McIntosh holds an outside-employment authorization from his employer, Signature Science, LLC; all McIntosh Consulting engagements are contracted directly with this practice. Standard vendor-onboarding artifacts (W-9, certificate of insurance) are available on request.

CONTACT

- Email · consulting@vernonmcintosh.com
- Web · vernonmcintosh.com
- LinkedIn · [linkedin.com/in/drvernonmcintosh](https://www.linkedin.com/in/drvernonmcintosh)
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