

2025-11-01

E024: Lessons Learned and Best Practices

DIP-SMC-PSO Educational Series

January 25, 2026

Overview

This episode covers lessons learned and best practices from the DIP-SMC-PSO project.

Part: Part4 Professional

Duration: 15-20 minutes

Source: Comprehensive Presentation Materials

section0 Three-Category Workspace Structure

Reorganization (December 29, 2025):

New Structure: ‘academic/ (THREE-CATEGORY)‘

- **‘academic/paper/** [203 MB]‘

- Research papers, thesis, documentation - ‘sphinx_docs/‘ (64 MB), ‘thesis/‘ (98 MB) - ‘publications/‘ (13 MB), ‘experiments/‘ (16 MB) - Controller-based experiments + cross-controller studies

- **‘academic/logs/** [13 MB]‘

- Runtime and development logs - ‘benchmarks/‘ (10 MB), ‘pso/‘ (978 KB) - ‘docs_build/‘ (352 KB), ‘archive/‘ (214 KB)

- **‘academic/dev/** [46 MB]‘

- Development artifacts (QA audits, coverage reports) - ‘quality/‘ (46 MB), ‘caches/‘ (133 KB)

section0 Workspace Hygiene Rules

MANDATORY Professional Cleanup Policy:

Cleanup Triggers:

- **MANDATORY:** After multi-file creation - **MANDATORY:** After PDF/LaTeX compilation - **MANDATORY:** Before committing to repository - **RECOMMENDED:** Weekly during active development

Cleanup Actions:

- Archive old versions → ‘academic/archive/‘ - Remove intermediate build files - Add ‘README.md‘ to document final deliverables - Target: 5 active files at folder root

Current Status:

- **Root visible items:** 14/19 (target: 19) [OK] - **academic/logs/:** 13 MB (target: 100 MB) [OK] - **Hidden dirs:** 9 (target: 9) [OK]

section0 Directory Protection Rules

NEVER Delete These Files:

‘D:\Tools\Claude\Switch-ClaudeAccount.ps1‘

Multi-account switcher for Claude Code (EXTERNAL LOCATION)

Deprecated Aliases (DO NOT USE):

- ‘.project/‘ → Migrated to ‘.ai_workspace/‘ (Dec 29, 2025) - ‘.ai/‘ → Migrated to ‘.ai_workspace/‘ or ‘academic/archive/‘ - ‘.artifacts/‘ → Migrated to ‘academic/‘ - ‘.logs/‘ → Migrated to ‘academic/logs/‘

Centralized Configuration (CANONICAL):

- [OK] ‘.ai_workspace/‘ – AI operation configs, tools, guides (HIDDEN) - [OK] ‘academic/‘ – Academic outputs (VISIBLE, three-category structure) - [OK] ‘.cache/‘ – Project root ephemeral data (pytest, benchmarks)

Resources

- **Repository:** <https://github.com/theSadeQ/dip-smc-pso.git>
- **Documentation:** See docs/ directory
- **Getting Started:** docs/guides/getting-started.md

Educational podcast episode generated from comprehensive presentation materials