

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