# Exploring Computer Science

## Overview

| About: | ECS professional development is connected directly to course implementation, supports teachers as learners and reflective practitioners and builds a national learning community of ECS teachers. |
| Institution | UCLA (Howard University-DC) | Data for: | 2012/13 |
| PI/Leader: | Jane Margolis (Nicki Washington-DC) | Age of Program: | 5 (1) |
| Location: | UCLA (Howard University) | School Districts: | Los Angeles Unified School District (Washington, DC Public Schools) |

## Teachers Served

| Served: | Varies by number of first and second year teachers teaching in a given year | Dosage: | 80 |
| Grade(s): | 9-12 (8-10-DC) | Characteristics | In-Service ECS teachers (prior to first and second year teaching the course) (In and pre-service teachers in DC) |

## Program Budget

| Sources: | NSF | Budget: | {Annual Budget} |
Learning Goals

Teachers will be able to:

• Use engaging pedagogy to make explicit to their students the intersection of computer science knowledge and computational thinking practices.

• Become reflective about ECS classroom teaching practices.

• Understand how issues of access, instructional practices, assessment, and culturally relevant curriculum all have the ability to impact participation.

• Participate in a teacher professional community that can provide support, guidance, and mentorship for one another.
PD Structure

- Connected directly to supporting ECS course implementation
- Two year model: Summer week long institutes + quarterly PDs
- Three focus areas of PD: equity, inquiry, and CS content
- ECS Teacher-Learner-Observer Model: teachers co-plan and co-teach ECS lessons, followed by lesson debrief discussion to discuss lesson strengths and areas for growth.
- *Stuck in the Shallow End* research shapes discussions on equity and belief systems in computing classrooms and how this relates to equitable teaching practices in ECS
- Reflection on student work, student learning, and formative assessment.
- On-going teachers’ learning community online and face to face
Successes and Challenges

- Student engagement increases when teachers follow curriculum and use inquiry strategies
- Teachers are positive about both the PD and how it is impacting practice
- Teachers becoming more reflective on their practice
- Falling back into old habits of teaching when pressed for time
- Hard to change classroom norms
- Teacher turnover
Measures of Success

• Observations of classroom practice
• Feedback on PD surveys
• Student and Teacher interviews
ECS PD Guiding Philosophy

Teachers learning is a process with growth over time.