% Women Earning Bachelor's Degrees in CISE 1966-2019

Data from IPEDS via Betsy Bizot, CRA
Motivation for the BPC Pilot

“It will take more than good intentions or business as usual, however, to reverse longstanding underrepresentation. **It will take committed, focused, and sustained efforts on the part of many in the computing community.**”

- CISE AC BP Strategic Plan (2012)
Motivation for the BPC Pilot

“CISE will address BP programmatically both through focused activities and through the inclusion of BPC efforts as an accepted and expected part of its research and education award portfolios”

- CISE AC BP Strategic Plan (2012)

• **Requirements**: Require meaningful BPC activity in an expanding set of CISE Programs

• **Support**: Provide resources and support for PIs & Reviewers

• **Review/Report**: Provide feedback on all BPC plans submitted, and require reporting of BPC outcomes in annual reports of awarded projects
Vision: Broadening Participation in Computing

• Goal: Measurable progress towards diversifying the CISE Research Community

• CISE research proposals must include a meaningful plan to broaden participation in computing

• Approach: Individual PIs offer BPC plans for Medium (and larger) proposals in Core, CPS, SaTC

• Key Concept: Individual PIs plug into departmental and national plans and expertise

• Increase collaboration, coordinate efforts, broaden expertise
5 elements of a meaningful BPC plan

1. **Context:** Does the plan describe a goal using institutional or local data?

2. **Intended population(s):** Does the plan identify the characteristics of participants from an underrepresented group listed above, including school level (e.g., African-American undergraduates or female high-school students)?

3. **Strategy:** Does the plan describe activities that address the goal(s) and intended population(s)? Is there a clear role for each PI and co-PI?

4. **Preparation:** Does the plan describe how the PI is prepared (or will prepare or collaborate) to do the proposed work?

5. **Measurement:** Is there a plan to measure the outcome(s) of the activities?
Challenges for BPC Plans

• A meaningful BPC plan should answer positively for all five elements for all PIs and co-PIs.
• The BPC Plan activities do not need to relate to the proposed research.
• Novelty in the BPC plan is not required. PIs can implement a best practice.
• There are two types of project plans: a standalone plan and a connected plan (where the PIs connect their plan to a departmental plan that s/b verified by BPCnet.org).
• Do not confuse broader impacts with broadening participation. Proposed projects require both. The proposed activities for the two can be related.
BPCNet provides resources for CISE PIs

- [https://bpcnet.org](https://bpcnet.org)
- Developed and curated by CRA, NCWIT
- Best and promising practices: Evidence-based and vetted resources
  - Not just *What* but *How*
- Departmental data and teaching efforts
- Departmental and Individual BPC Plan Workshops
  - + Ongoing 1-1 Consulting Office Hours
  - Vetting, Hosting Departmental Plans in a Single Library

Department and Campus-Level Resources and Plans

National-Level Resources and Plans
Creating your Project BPC Plan

Project BPC Plans are submitted to the NSF and must follow the NSF’s current guidelines on formatting in the Proposal & Award Policies and Procedures Guide (PAPPG).

In a Project BPC Plan, each PI must select and describe a BPC activity they are participating in. These can be described either in a Connected Project BPC Plan or a Standalone Project BPC Plan.

- A **Connected Project BPC Plan** may be used when each PI will engage in an activity listed in a Verified Departmental BPC Plan from their institution. The document is organized as a 3-page document per institution, where each institution includes 1 page describing how the PIs from that institution are participating in a Verified Departmental BPC Plan from their institution, along with a copy of that Verified Departmental BPC Plan (2 pages), as outlined in the Checklist for a Meaningful Connected Project BPC Plan.

- A **Standalone Project BPC Plan** does not include Departmental BPC Plans; instead, the BPC activities of all PIs are listed in a single 3-page document for the whole project, as outlined in the Checklist for a Meaningful Standalone Project BPC Plan.
IPEDS: Institution Computing Degrees Awarded

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Institutional Efforts to address BPC

• Encourage units to develop their own departmental BPC plans to which their faculty can contribute
  • e.g., 1-2 pages of department plan + 1 page of project-specific plan
  • Enable *sustained* cultural change & *assessment* of impact

• Departmental BPC Plan Components
  • Header: Who are you and how will you manage this plan?
  • Context: What are the local demographics w.r.t. BPC?
  • Goals: What are your SMART goals? How do they address the CISE underrepresented groups?
  • Activities & Evaluation: What specific activities can PIs can contribute to? How will you monitor and review progress toward BPC goals?
Partner with DREU to host two REU students each summer

Analyze Retention Data for the CMD-IT University Award

Volunteer to Teach CS in a Girl Scout Troop

NCWIT 101 - Learn about BPC
Thanks to CISE colleagues!

- Margaret Martonosi
- Gurdip Singh
- JD Kundu
- Michelle Rogers
- Jill Denner
- Allyson Kennedy
- Tracy Camp