

Title: Innovations and Opportunities in Liberal Arts Computing Education

Abstract: Organized by members of the SIGCSE Committee on Computing Education in Liberal Arts Colleges, this Pre-Symposium event will let us share and further develop the work being carried out by three working groups of the Committee as well as support networking and collaboration within the liberal arts computing community. Building on priorities identified at our SIGCSE 2020 Pre-Symposium event, this event will cover three major topics. First, we will continue to discuss uniquely liberal arts approaches to computing curricula through presentation of selected curricula. Next, we will explore models and best practices for “CS+X” courses, considering what the outcomes should be for such courses in order to take both disciplines into balanced consideration. Finally, we will consider a proposed workshop targeted at PhD candidates and postdocs that presents the realities and benefits of teaching computer science at a liberal arts institution. In all cases, participants will have an opportunity to learn about work already taking place within the liberal arts computing community as well as to engage in Q&A and breakout discussions. The event will conclude with a short business meeting where participants will help identify and define opportunities for the Committee to further support the liberal arts computing education community. All interested faculty and students are welcome.

Proposers:

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Event URL: <https://computing-in-the-liberal-arts.github.io/SIGCSE2021-PreSymposium-Event/>

Significance and Relevance of the Event Topic/Purpose: The SIGCSE Liberal Arts Committee is charged to support and represent faculty teaching computing as a component of a liberal education. This includes a commitment to providing opportunities for members of our community to gather, share information, collaborate, and discuss our goals. The three topics featured in this event are those identified by the attendees of our SIGCSE 2020 Pre-Symposium event. The event is also designed to continue the conversation from our 2020 event, acknowledging that many of our intended participants were unable to attend last March. We anticipate significant interest in the event; in 2020 we had to cap attendance at the room capacity of 50 and even with cancellations 25 participants attended in person.

Intended Audience: The intended audience consists of faculty teaching computing as a component of a liberal education. We expect these faculty will come primarily but not exclusively from liberal arts colleges. Attendees may also include graduate and undergraduate students with an interest in liberal education. Based on email list membership, survey responses, and participation in past Committee events including our 2020 pre-symposium event, we are anticipating approximately 50 attendees.

Expertise of Organizers: The event proposers represent the leadership of the ACM SIGCSE Committee on Computing Education in Liberal Arts Colleges and are leaders of the Committee Working Groups on Curricular Innovation, CS+X Courses, and Strategies for Recruiting and Hiring.

Rough Agenda for the Event: This will be a fully virtual event. To reduce the risk of participant “burn-out,” we suggest splitting it across two days. We would like to hold it a week or more prior to or following the Symposium, to give participants a chance to recharge in between. The “presentation” parts of each session will be asynchronous; presenters will upload position statements or project summaries to the event site at least a week ahead of time for review by participants. The “discussion” parts will be synchronous, during the two days of the actual event. We provide a tentative agenda below. We are able to use our own software for hosting the event. As a SIGCSE committee, we would like to have our event included in the Symposium

schedule with a link to our website. We are hoping that fees can be waived or minimized in the virtual setting, particularly if we do not make use of the conference software package. Needless to say, we are open to further discussions of any and all elements of this plan.

Pre-Event Preparation (Available a week prior to the event; 2-3 hours of reading/viewing)

Asynchronously, participants will read and/or view the position statements and project summaries accepted by each Working Group, as described below.

Day One (2:00 PM - 6:00 PM EST/11:00 AM - 3:00 PM PST)

Welcome and Overview of Event (30 minutes)

Session One: Liberal Arts Approaches to Computing Curricula (90 minutes)

Discussion of the presented curricular models for computing education in the liberal arts in a panel setting. Followed by breakout rooms focused on particular topics in liberal arts computing curricula.

Break (30 minutes)

Session Two: CS + X Courses (90 minutes)

Discussion of the presented approaches to designing an effective CS+X course as well as discussion of the outcomes and assessment within these courses. Followed by breakout rooms focused on particular topics in developing and offering CS+X courses.

Day Two (11:00 AM - 2:15 PM EST/8:00 AM - 11:15 AM PST)

Welcome Back and Overview of Day Two (15 minutes)

Session Three: Mentoring, Recruiting, and Hiring for Liberal Arts CS Education (90 minutes)

Discussion of the proposed workshop and associated strategies for successful mentoring, recruiting, and hiring. Followed by breakout rooms focused on particular issues and strategies.

Break (30 minutes)

Business Meeting (60 minutes)

Types & Topics of submissions: Submissions will be solicited contributing to each of the three planned sessions. Templates and examples for submission will be provided on the event website. All on-topic submissions will be shared with the community through our online repository. Those submissions most suitable to adaptation/adoption across institutions will be given preference for presentation and discussion.

- **Liberal Arts Approaches to Computing Curricula:** Brief (2-page) descriptions of curricular models will be solicited, from which the program committee will select a sample for presentation during the event. Submissions describing models that are particularly innovative, or that leverage particular opportunities and/or challenges presented by the liberal arts context, and/or show potential for broadening participation will be encouraged.
- **CS+X Courses:** Brief (2-page) descriptions of CS+X courses currently being offered will be solicited, from which the program committee will select a sample for presentation during the event. Submissions describing models that are particularly innovative or effective at balancing the contributions and perspective of both perspectives will be encouraged.
- **Recruiting Proposals:** Very brief (1-page) position statements regarding mentoring, recruiting, and hiring for Liberal Arts CS positions. The first paragraph should be a short career biography; subsequent paragraphs should discuss your ideas for or potential contributions to community efforts such as the workshop proposed above.

Program Committee:

Curricular Innovations Working Group: Douglas Baldwin, SUNY Geneseo; Jakob Barnard, University of Jamestown; Grant Braught, Dickinson College; Jim Teresco, Siena College; Henry Walker, Grinnell College

CS+X Courses Working Group: Luke Gusukuma, Virginia Tech; Bruce Maxwell, Colby College; Mario Nakazawa, Berea College

Strategies for Recruiting and Hiring Working Group: Janet Davis, Whitman College; Andrea Tartaro, Furman University