Paper Categories

FIE'2021 welcomes Full Papers up to eight-pages and Work-in-Progress Papers up to four-pages that address the broad tracks of (1) innovative practice, (2) research-to-practice, and (3) research. Work-in-progress papers are typically in frontier areas where it is understood the work is in an early or intermediate stage and authors are seeking feedback from the community. Further, FIE'2021 welcomes proposals for panels, workshops, and special sessions to disseminate scholarly efforts in non-traditional ways.

Since we cannot predict possible restrictions that may be in force when FIE'2021 is due to be held, we are preparing for different potential scenarios. Specifically

- If travel is not possible for some regions, we will be flexible and allow virtual presentations for affected speakers;
- If travel is possible but an author chooses not to travel due to individual health concerns or institutional restrictions, we will be flexible and allow them to present virtually; and
- If we must cancel our on-site event due to local conditions or restrictions, FIE 2021 will be completely virtual.

Regardless of the form of presentation, in person or virtual, every paper accepted and presented for FIE 2021 will be published in the proceedings.

The anticipated audience for FIE'2021 represents a broad spectrum of backgrounds. Attendees cover all disciplines relating to engineering and computing education and come from a variety of institutions and organizations worldwide. Typical interests range from education research to extending promising results into their own educational settings. Attendees are eager to learn not only of your results but how your results might be applied in their particular discipline at their particular institution.

We encourage authors to consider the FIE'2021 conference theme of "Envisioning Convergence in Engineering Education." Convergence can be defined as integrating knowledge and techniques from multiple disciplines and from both academia and the workforce while also providing students the opportunity to develop their professional skills to competently address societal opportunities and challenges, such as those related to diversity, equity, and inclusion. Specific topics of relevance include incorporating convergence into programs, curricula, and continuing education; integrating team science into convergence education; teaching convergence and responsible science via research; and using technologies to advance convergence in education and training.

You can categorize your paper as:

1. Innovative Practice
2. Research-to-Practice
3. Research

Please note that one author from each paper is expected to register for and participate in the full conference.

These categories influence the overall structure and contents of the submitted work. Each category follows with suggestions for expected paper contents.

1. Innovative Practice Category

The innovative practice category is for scholarly proposals of reflective or novel practice in engineering

and/or computing education. Excellent proposals are well situated in prior literature on teaching and learning and outline an innovation of value and interest to engineering and/or computing educators.

Abstracts: Innovative Practice Abstracts should be 300-500 words and should clearly present the paper's relevance to engineering education and how the work is innovative. In addition, each abstract must define at least one topic keyword.

Each abstract must briefly state the specific contribution of the paper to the innovative practice of engineering and/or computing education. Contributions may be made in various forms, and should include a description of what is unique about the innovative practice, how the innovative practice differs from and builds on previous practice as documented in the literature, and new ideas that conference participants would take away from this paper. The abstract should describe the setting for the innovative practice in the broad context of engineering and/or computing education, (not necessarily the particular institutional context), motivations for the innovative practice, and the results obtained. Abstracts must present the paper's relevance to engineering and/or computing education and how the work is innovative. **Review criteria follow on page 3.**

2. Research-to-Practice Category

The research-to-practice category is for scholarly proposals that outline applications of research in engineering and/or computing education. Excellent proposals are well situated in the theoretical framework(s) that support teaching and learning and apply these theoretical frameworks to the practice of engineering and/or computing education.

Abstracts: Research-to-Practice Abstracts should be 300-500 words and should clearly present the theoretical frameworks of teaching and learning being applied, and the implications for the practice of engineering and/or computing education. In addition, each abstract must define at least one topic keyword.

Each abstract must briefly state the specific contribution of the paper towards illustrating how engineering and/or computing education research informs educational practice. Contributions may be made in various forms, but they should describe the setting for the practice in the broad context of engineering and/or computing education, (not necessarily the particular institutional context), motivations for the practice, research that supported the practice, and results obtained. Abstracts must outline the theoretical frameworks that inform the practice and state the implications for educational practice with a focus on action. **Review criteria follow on page 4.**

3. Research Category

The research category is for scholarly proposals that outline contributions to research in engineering and/or computing education. Excellent proposals are well situated in prior literature on teaching and learning, and outlines research methods and findings of value and interest to engineering and/or computing educators.

Abstracts: Research Abstracts should be 300-500 words and should clearly present the paper's research contribution and its relevance to engineering and/or computing education. In addition, each abstract must define at least one topic keyword. Each abstract must state the specific research contribution of the paper. Contributions may be made in various forms, and should include the research questions addressed, methods used, and results found, and a description of how the results build on prior research. Abstracts must provide a summary of the research contribution/expected results and brief statement of the implications for educational practice with a focus on action. **Review criteria follow on page 5.**