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Abstract for an Invited Paper  
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**Instructional modules to assist you in educating pre-service physics teachers and in conducting professional development for in-service physics teachers**

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This workshop will introduce the participants to a series of modules that they can use in their physics teacher preparation programs as supplements to the existing physics teaching methods courses, as an independent study course (the material will be enough for 3 credits) or as resources for the students to use without attached coursework. They can also be used in professional development programs and in PER courses for doctoral students. The modules address the following issues: a) How to plan instruction (how to write unit plans and lesson plans); b) How to use multiple representations (such as motion diagrams, force diagrams, and momentum and energy bar charts) to help students develop expert-like approaches to reasoning in physics; c) How to make experiments an integral part of learning physics (to help students construct ideas, test them and apply them to solve problems). The modules materials are seamlessly connected to the Next Generation Science Standards science practices and crosscutting concepts. During the workshop we use the Experiments in Physics Instruction module as an example to give the participants an opportunity to experience module-based learning. We will also discuss possible ways of implementing the modules, assessment strategies and support for those who wish to implement them.