

1154-97-1309 **sarah-marie belcastro*** (director@mathily.org). *Identifying very strong high-school students + An early-college REU.*

We will describe two aspects (one relevant to discovery, and one relevant to training) of the {MathILy, MathILy-Er, MathILy-EST} ecosystem. All three programs are very selective intensive inquiry-based summer mathematics experiences.

1. MathILy and MathILy-Er use an admissions instrument, the Exam Assessing Readiness (EAR), to select high-school participants. The EAR also functions as a tool for discovering students who have untapped potential. We will use the EAR as a context to discuss the creation of instruments to identify mathematically capable students, and describe *why* the attributes we highlight are important.
2. MathILy-EST is a new early-college NSF-funded Research Experience for Undergraduates (REU) that is co-sited with MathILy. We will explain how the MathILy-EST REU is structured and focus on the aspects designed to train students with less formal classwork background to approach open problems quickly.

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