AR/VR Environmental Realism for SE

SYSE 544
Fall
Dr. Marie Vans

STAT 301/303/315 or equivalent or MECH 231 (Engineering Experimentation)

Dr. Marie Vans has academic and industry experience developing virtual reality simulations for education, product introduction, and analytics. Dr. Vans was at HP Labs for more than 20 years and is the author of 55 publications and 35 U.S. granted patents.

Design realistic environments for systems engineering using AR/VR.

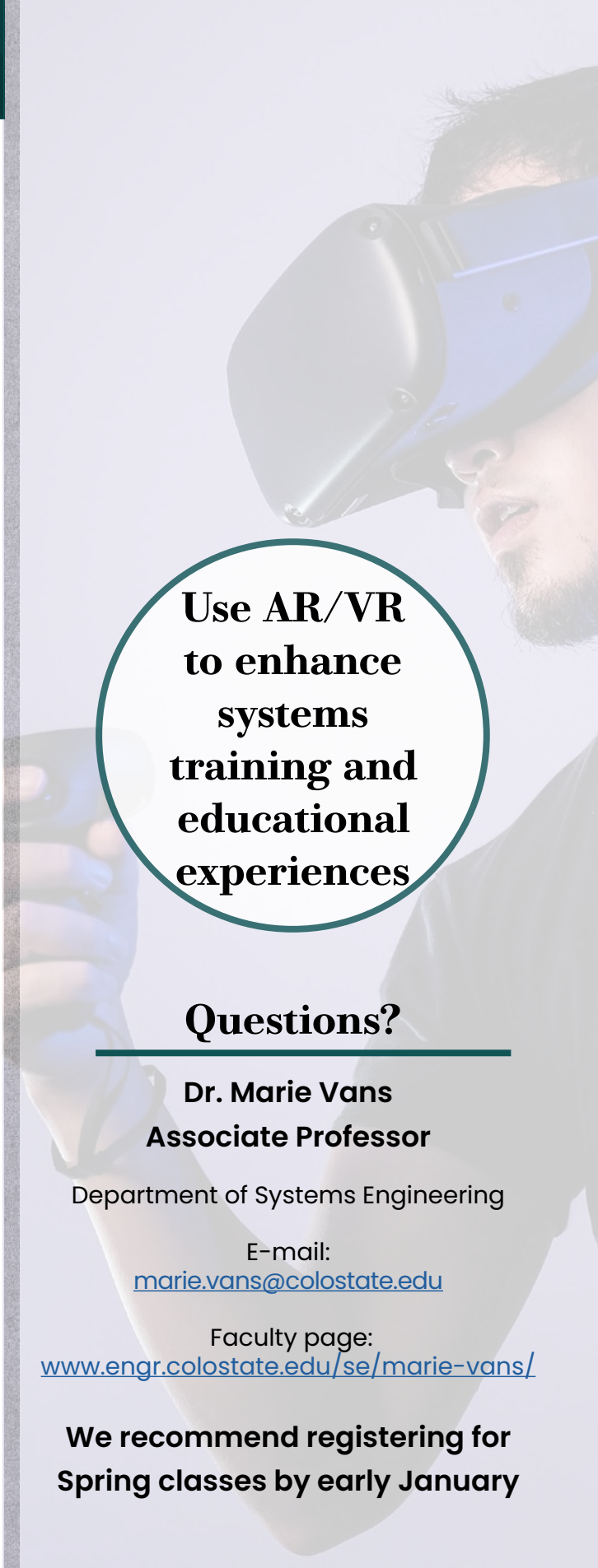
Systems approaches to create environmental realism in augmented reality/virtual reality (AR/VR) applications, with examples in manufacturing, agriculture, space flight, and healthcare. Topics include test, measurement, and qualification of the environments of interest, functional/quantifiable verification of replication, and systems engineering practice-inspired means of designing/specifying the content of the AR/VR applications.

Students completing this course will be able to:

- Develop safety protocols, test plans, inclusive design, learning measurements and assessments
- Interpret learning models by developing curricula and then designing VR experiences
- Generate a complete requirements document including functional and quality of service requirements for handoff to downstream engineering

Topics covered in this course:

- General discussion of AR, MR, and VR and of industries that will/are being transformed by the application of them
- Discussion of use cases and immersive-suitable domains for AR/VR/MR
- Discussion of how people learn, including learning models and developments of curricula



Use AR/VR to enhance systems training and educational experiences

Questions?

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We recommend registering for Spring classes by early January

SYSTEMS ENGINEERING
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