NE697: Introduction to Geant4

Git, CMake, and more C++ Basics

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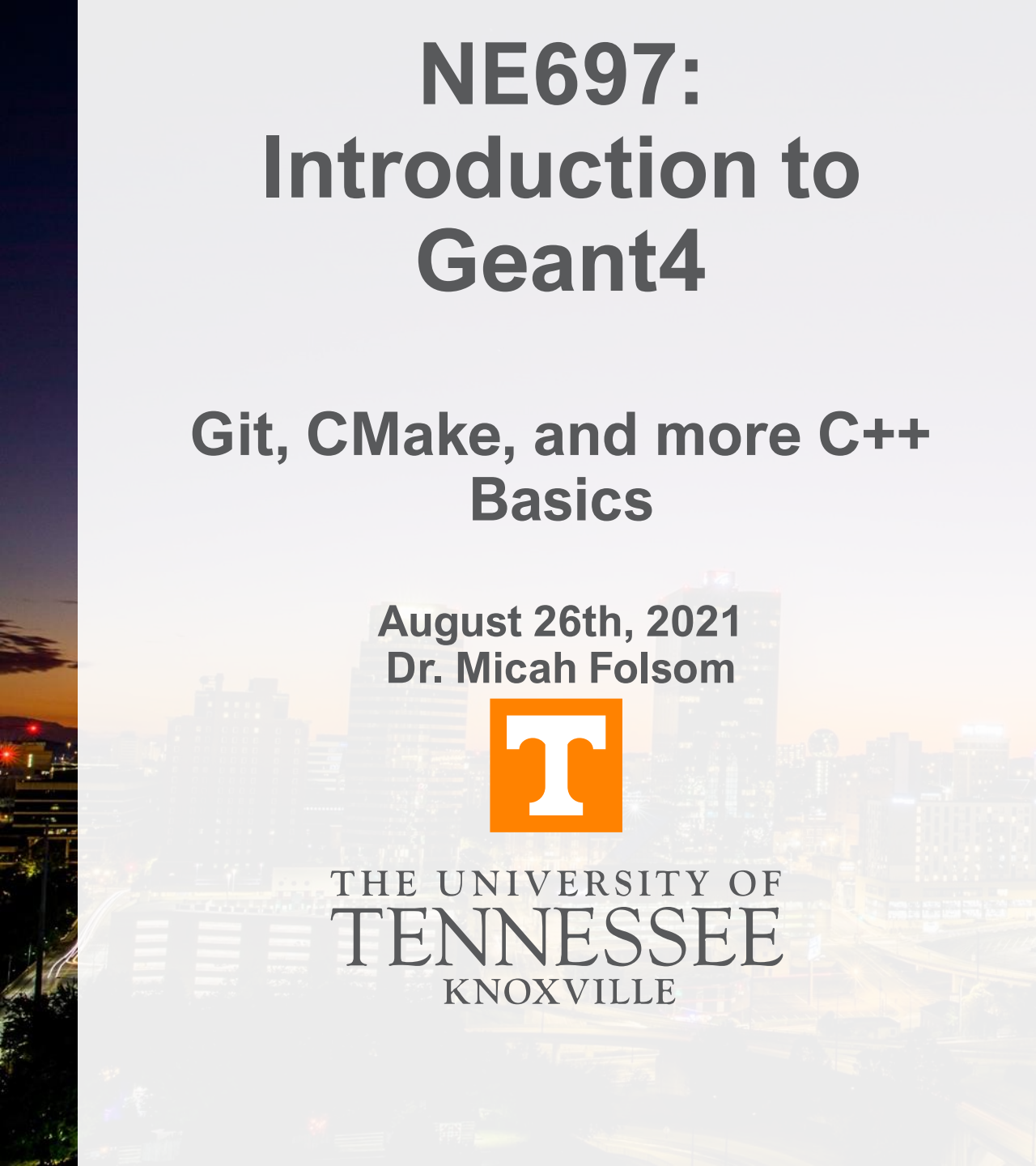

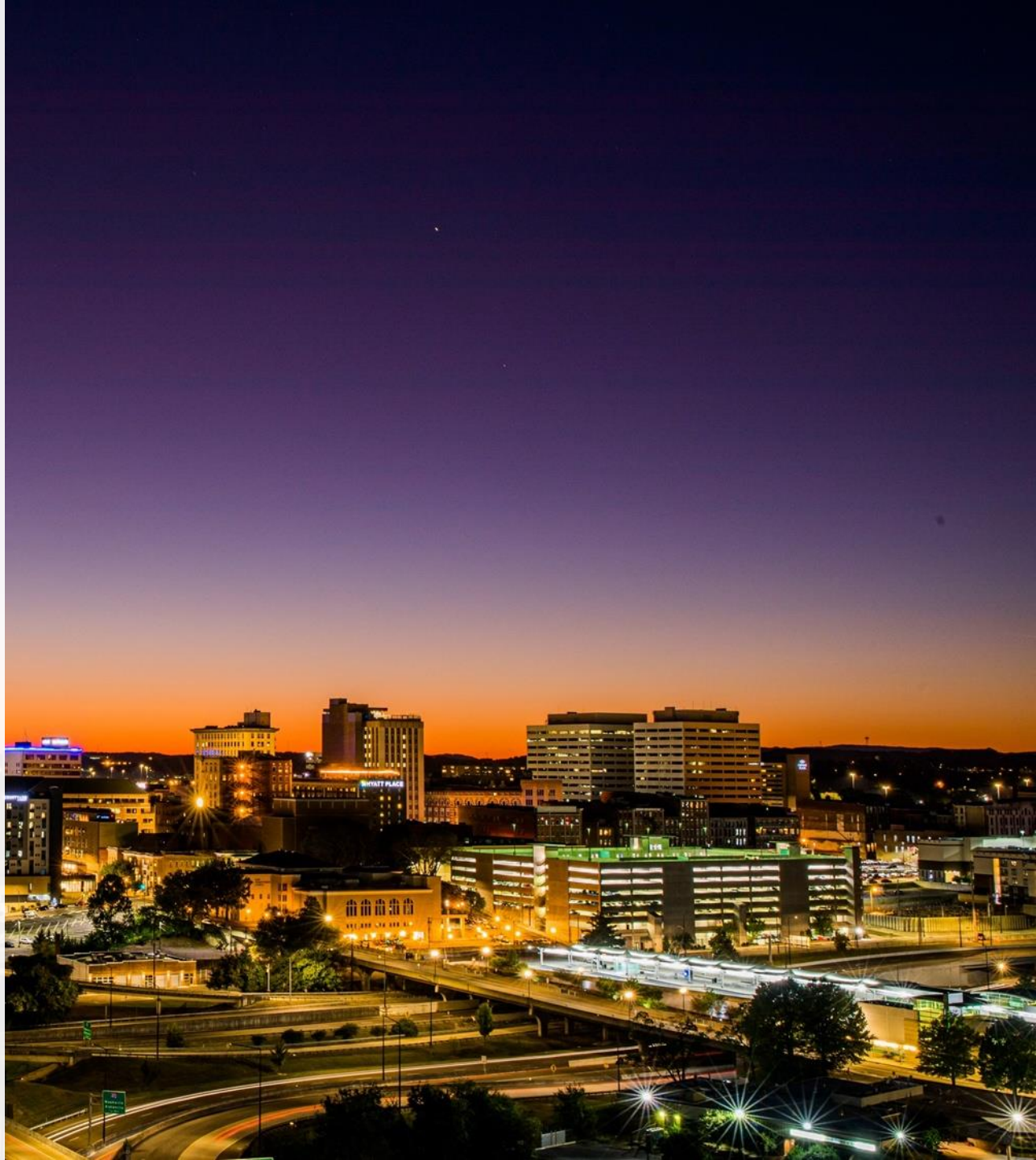

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Today's Agenda

- Server access & Github – officially due Tues

- All set on code editors? VSCode?

- CMake
- Git
- C++

Server Access & Github

- I remade your accounts to fix them (useradd vs adduser…Linux, please…)
- VSCode Remote should work now
- Slack
- Lecture 1 and 2 videos + slides posted to Canvas

CMake

- The hierarchy of building C++ code:
  - **g++/clang**: program that compiles the code into an executable
  - **Makefile**: scripting language for generating g++/clang commands
    - You won't need to touch these at all thanks to CMake! Yay!
  - **CMake**: higher-level scripting/configuration that generates **Makefile**s
- Includes tools for assembling lists of file paths
- Can set up build options, compiler flags, etc
- Copy files to build or install directory
  - We won't generally be "installing" since we're developing for ourselves

CMake

- 3 lines needed for minimum functional CMakeLists.txt (entrypoint)
  - cmake_minimum_version(VERSION <version>)
  - project(my_project)
  - Something to do, e.g. add_executable(hello main.cpp)
- [DEMO]
  - Command line first, then VSCode; VSCode is just running these commands!
- [DEMO]
  - Geant4 example B1