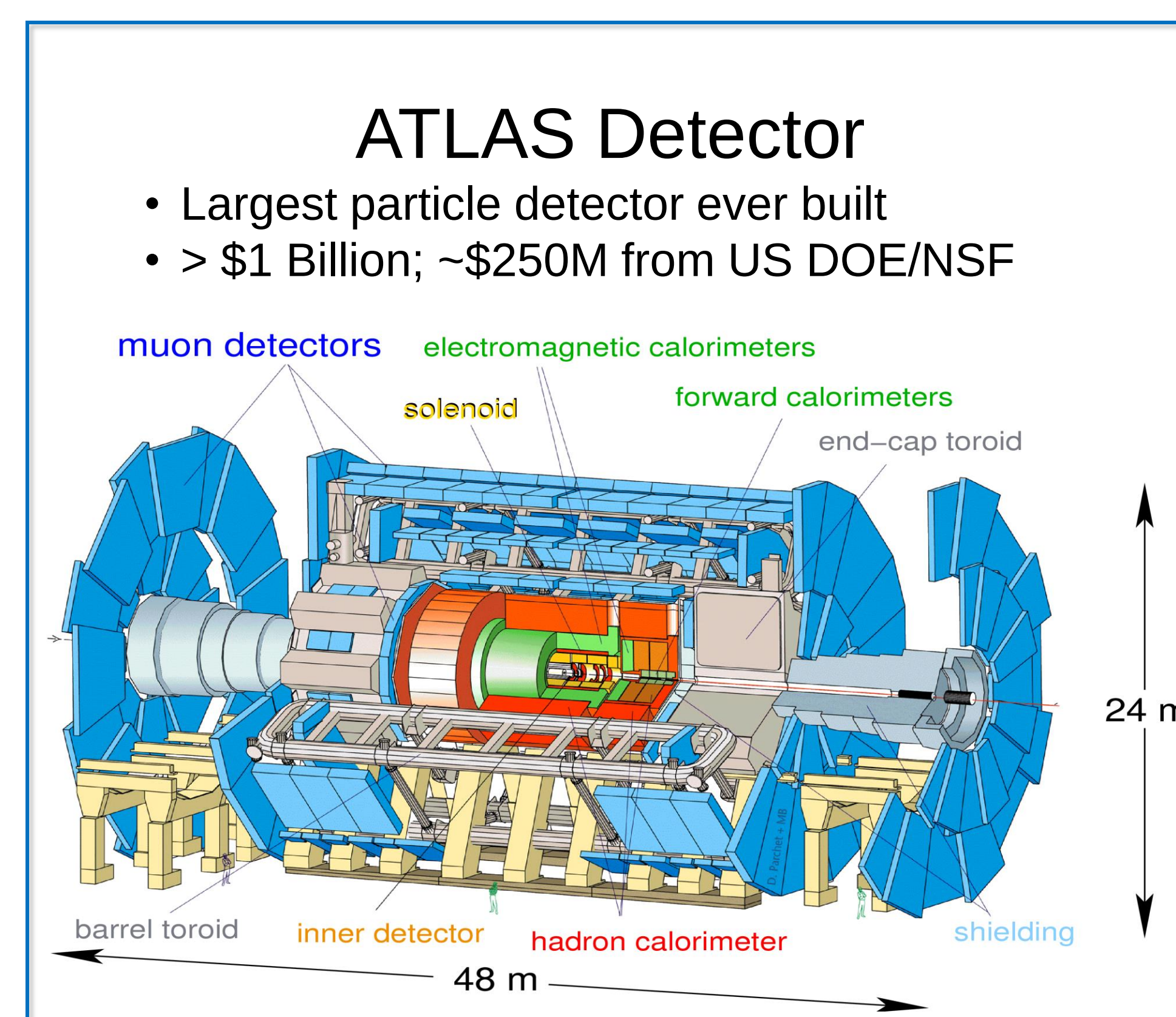
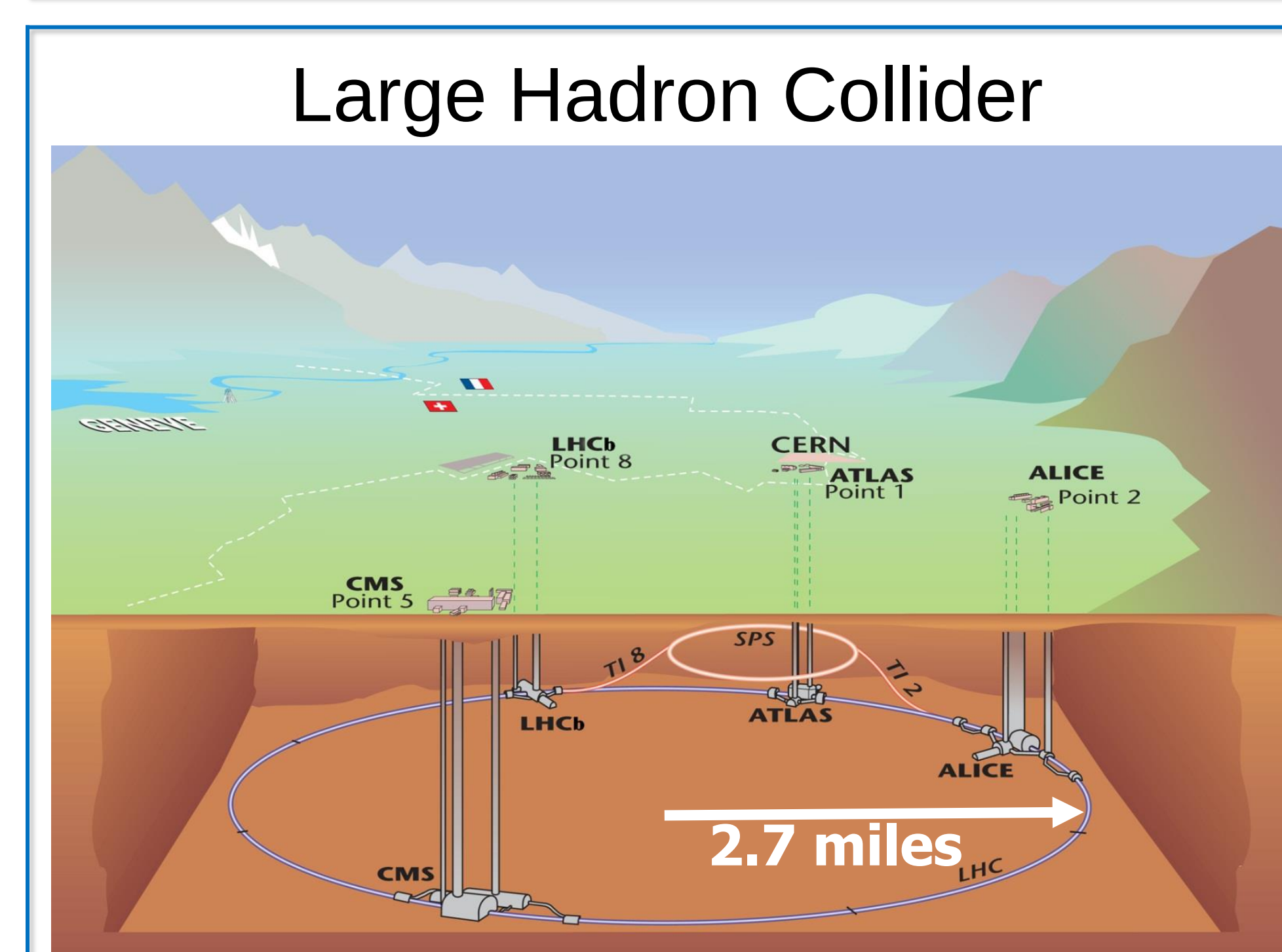
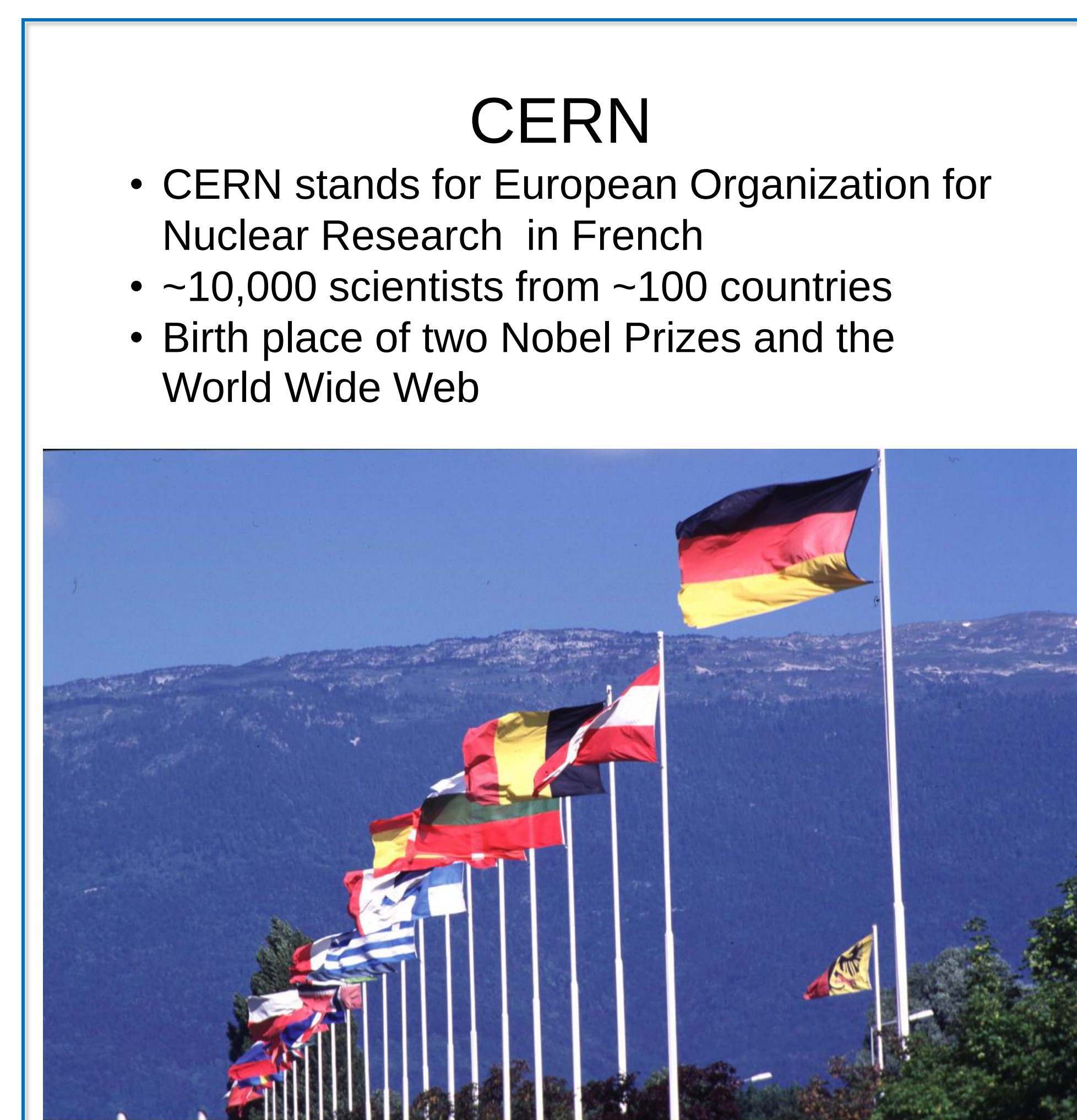
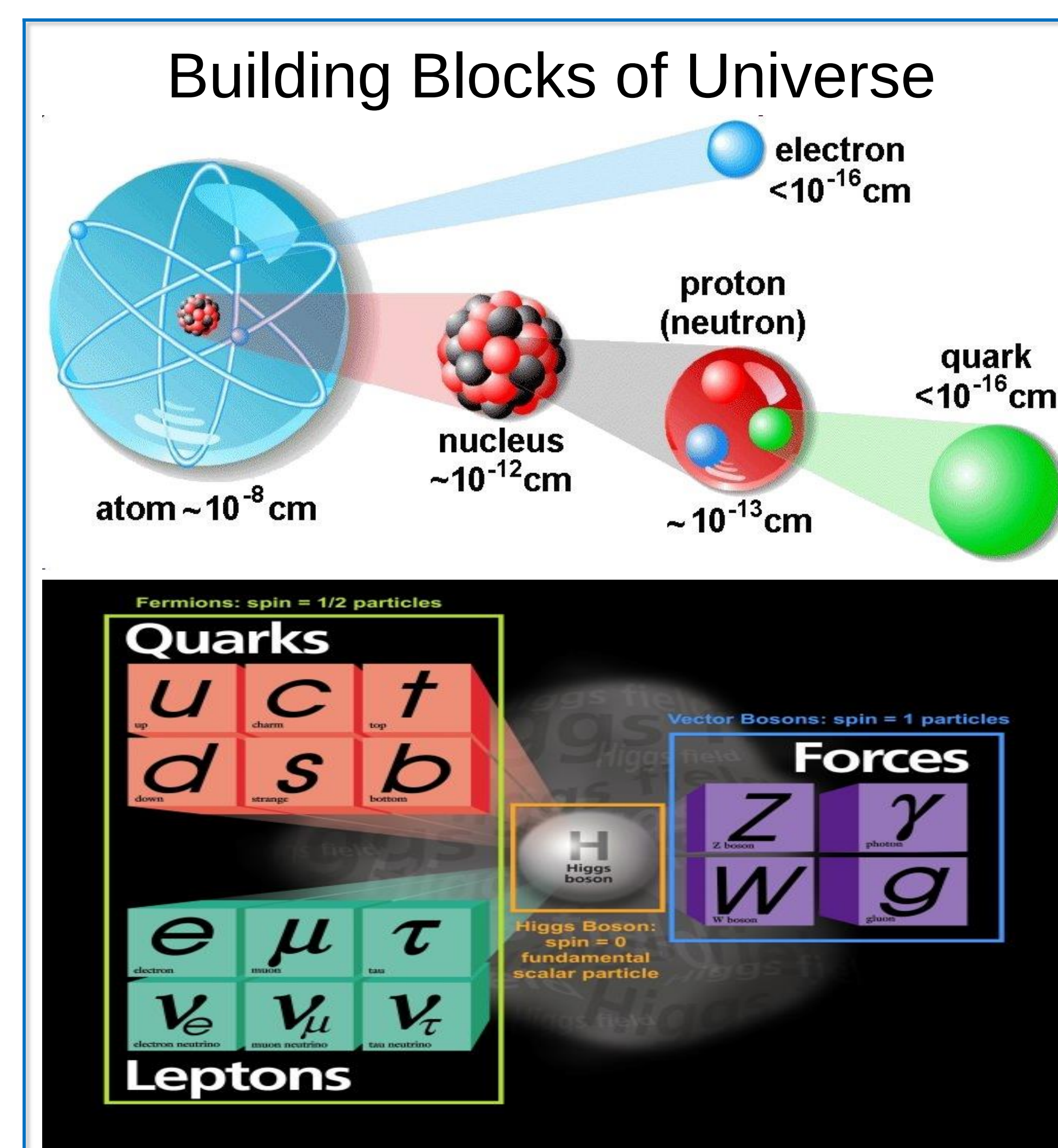
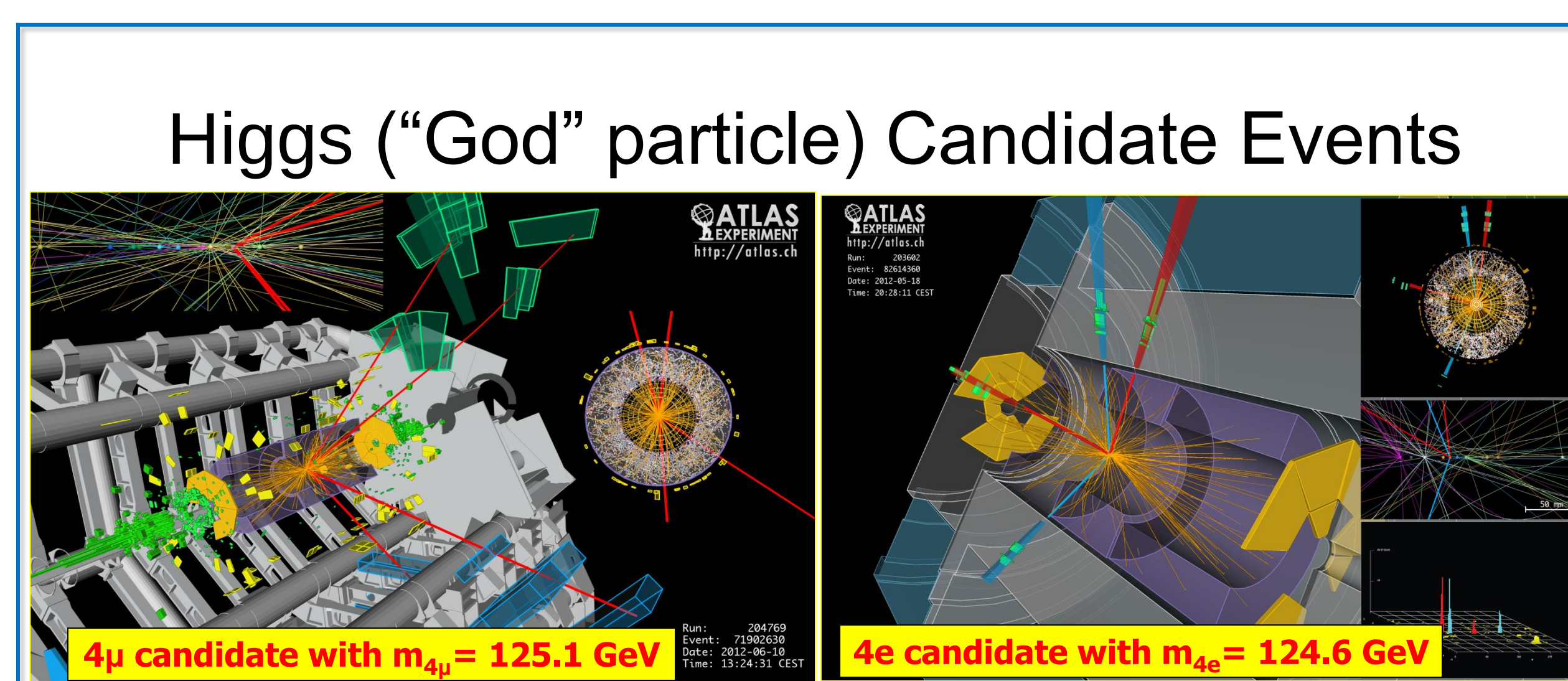
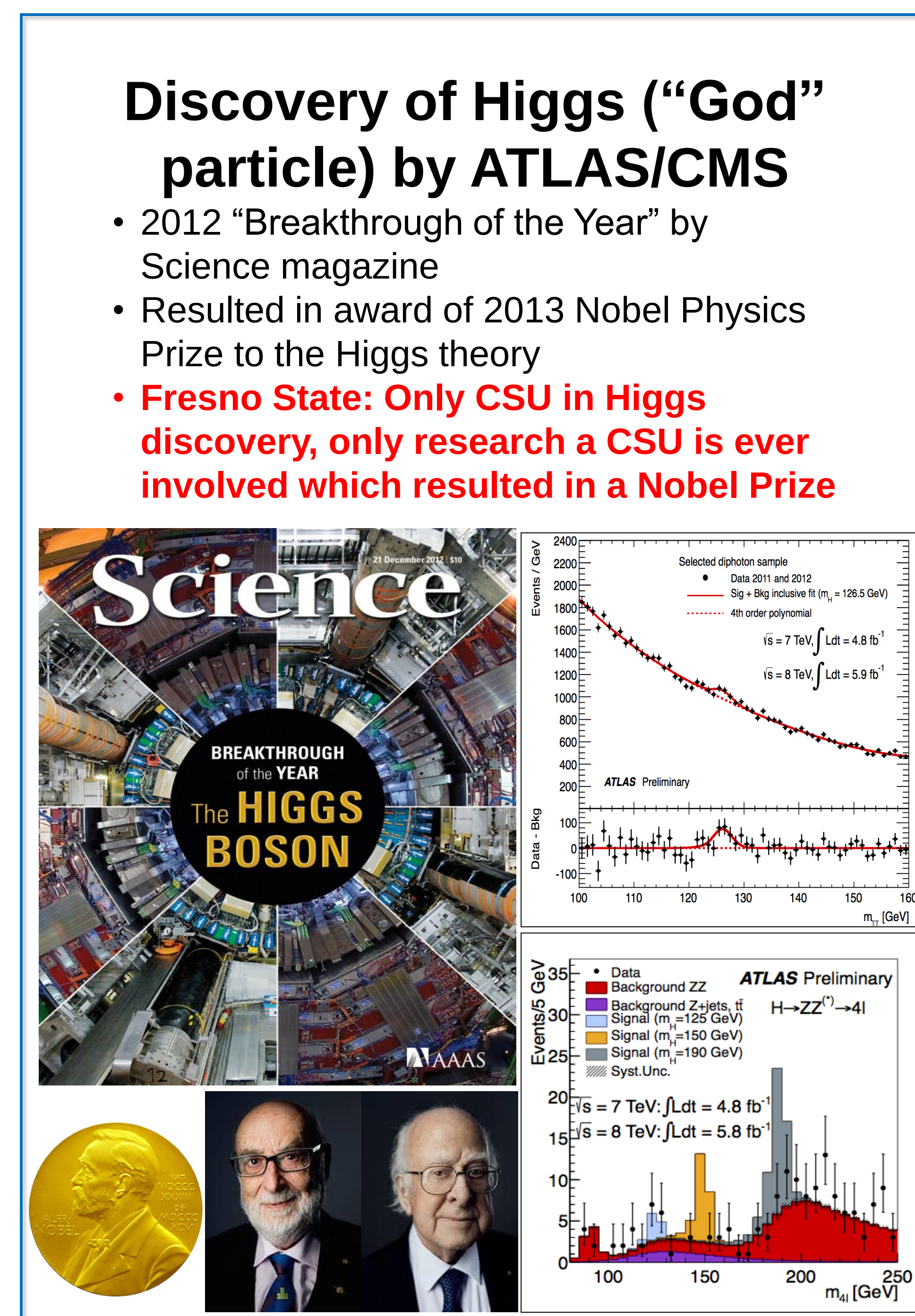


Fresno State ATLAS Program at Large Hadron Collider (LHC) of CERN

Dr. Yongsheng Gao (Dept. of Physics, CSM)



- ### ATLAS Collaboration
- ~3000 physicists from ~200 institutions of 40 countries all over the world
 - ~500 physicists from 40 US universities (Harvard, Yale, MIT, Chicago, Columbia, UC-Berkeley, Michigan, Stanford, UPenn, Washington, Wisconsin, etc.) and 4 US national labs (ANL, BNL, LBL, and SLAC)
 - Fresno State is the only CSU campus on ATLAS**



- ### Fresno State ATLAS Program
- Faculty: Dr. Yongsheng Gao (2007 to present)
 - Postdocs: Dr. Harinder Bawa (2008 to present) and Dr. Andrew Lowe (2010 to 2012)
 - 11 Master graduate students and undergraduate students
 - Supported by \$145K (CSM), \$183K (Provost), \$100K (ORSP), \$15K/year (CSM) and ~\$6K/year (IRA), etc
 - \$460K NSF Elementary Particle Physics (EPP) core grant (2009 to 2012 with \$138K indirect): First ever such grant to a CSU campus.
 - \$620K NSF Major Research Instrumentation (MRI) grant (2010 to 2012 with \$90K indirect): Fresno State (Lead) with 8 subcontractors: U. of Chicago, Columbia, Hampton, Michigan State, Northern Illinois, New York, Stony Brook, and U. of Washington)
 - \$511K NSF Elementary Particle Physics (EPP) core grant (2012 to 2015 with \$142K indirect)
 - \$360K NSF Elementary Particle Physics (EPP) ATLAS membership fee to CERN since 2007 (~\$17K per physicist per year)
 - Pending ~\$250K NSF International Research Experience for Students (IRES) proposal (2015 to 2018): Is being recommended for funding by NSF
 - Pending ~\$840K NSF Elementary Particle Physics (EPP) core grant renewal proposal (2015 to 2018 with ~\$240K indirect)
 - Pending ~\$1M NSF Major Research Instrumentation (MRI) grant proposal (2015 to 2016 with ~\$152K indirect): Fresno State (Lead) with 17 subcontractors: U. of Chicago, Columbia, Cornell, Florida International, Kansas, Michigan State, Nebraska, Northern Illinois, Northeastern, Notre Dame, New York, Purdue-Calumet, Rutgers, Stony Brook, SUNY-Buffalo, Vanderbilt, and U. of Washington
 - Fresno State has authorship in every ATLAS publication (~100 papers each year in top physics journals)
 - Reported by ABC-30, CBS-47, KSEE-24, Fresno Bee, etc.
 - Center of CSU Nuclear and Particle Physics Consortium (NUPAC) which consists of 17 CSU campuses: Bakersfield, Channel Islands, Chico, Dominguez Hills, East Bay, Fresno, Humboldt, Los Angeles, Long Beach, Northridge, Pomona, Sacramento, San Bernardino, San Francisco, San Luis Obispo, Sonoma, and Stanislaus.
 - CSU Chancellor's Office is interested in forming a new CSU-wide affinity group in physics & astronomy with Fresno State ATLAS program and CSU NUPAC as key components. Assistant Vice Chancellor Jim Till hosted meeting at Chancellor's Office on 5/23/2014 about forming the new affinity group.



- ### Student Success
- 5 to 7 students from CSU NUPAC campuses to CERN every summer since 2008 on ATLAS research
 - ~40 CSU students (mostly from Fresno State but also includes Channel Islands, Long Beach, Pomona, Sacramento) on ATLAS research so far
 - Reported results at ATLAS Working Group meetings, regional/national conferences, and attended famous CERN Summer Student Lecture Series given by top physicists from all over the world
 - Fresno State Online class to CSU NUPAC campuses
 - After working at CERN: Teaching, high-tech companies, and Ph.D programs (UC-Berkeley, UCSD, UCSC, Iowa, Hamburg, CEA Saclay, HEPHY Vienna, etc.)
 - <http://zimmer.csufresno.edu/~yogao/ATLAS/>
 - ATLAS/CERN working experience prepares CSU students for their personal and professional success in an increasingly competitive, global, and multi-cultural society