

NIST is a scientific leader (example: Atomic, Molecular, Optical science)

Pursuit of scientific excellence and leadership

- Outstanding scientific & technological breakthroughs
- Basis for the core mission of metrology
- Strong administrative support and funding

Challenges in Precision Science

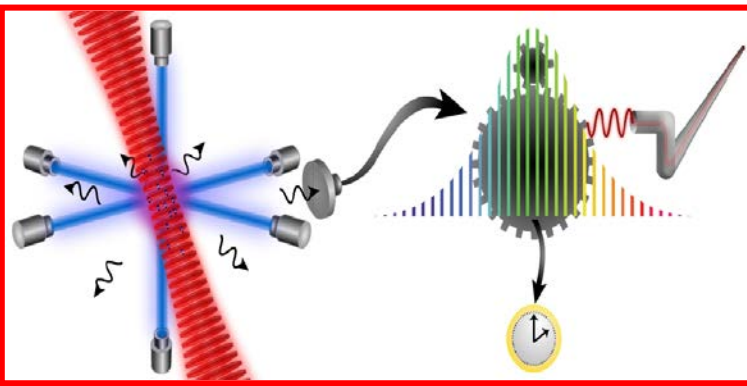
Understanding physical systems with “clock” precision and control

Help answer some central challenges in many areas of physics:

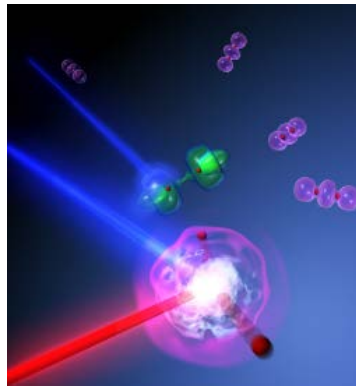
- Measurement science frontier
- Quantum many-body physics (CM)
- High energy and nuclear physics (symmetry, gravitation)
- Unknown territories (“dark” physics), connection to astrophysics
- Impact to chemistry and biology

AMO physics → Optical atomic clock

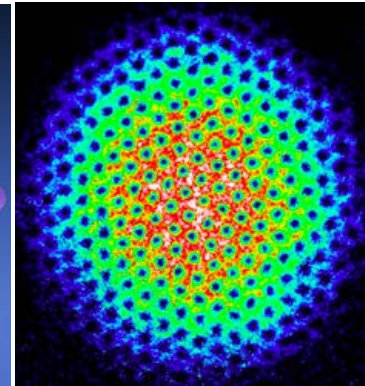
Ultraprecise



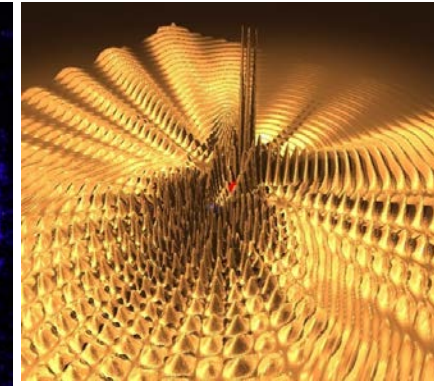
Ultrafast



Ultracold & Quantum



Theory



Excellent staff members

Scientists, postdocs, graduate students

Top scientists collaborate closely

creating an intellectually rich environment

Postdocs from some of the best institutions

bringing new ideas & experiences, spreading NIST science & technology

Graduate students from internationally top pools

working on challenging experiments, familiar with modern technologies, resourceful, creative, persistent, and “Yes we can”.

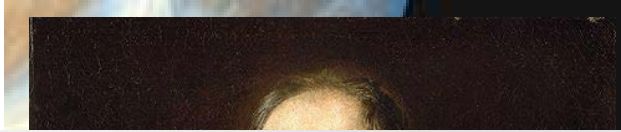
They are the best source for the next generation workforce, including at NIST

A scientifically open environment

fostering creative thinking, strong collaboration, cross-fertilization between science and technology, attracting the very best minds all over the world

Science often takes unexpected turns

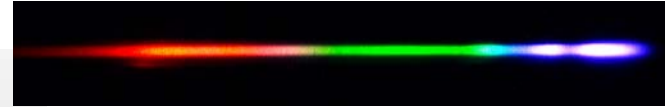
- Galileo's telescope x20



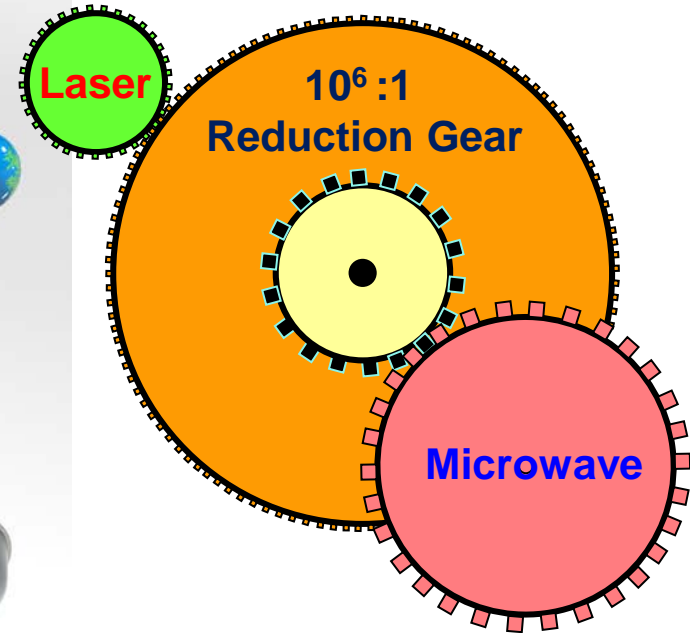
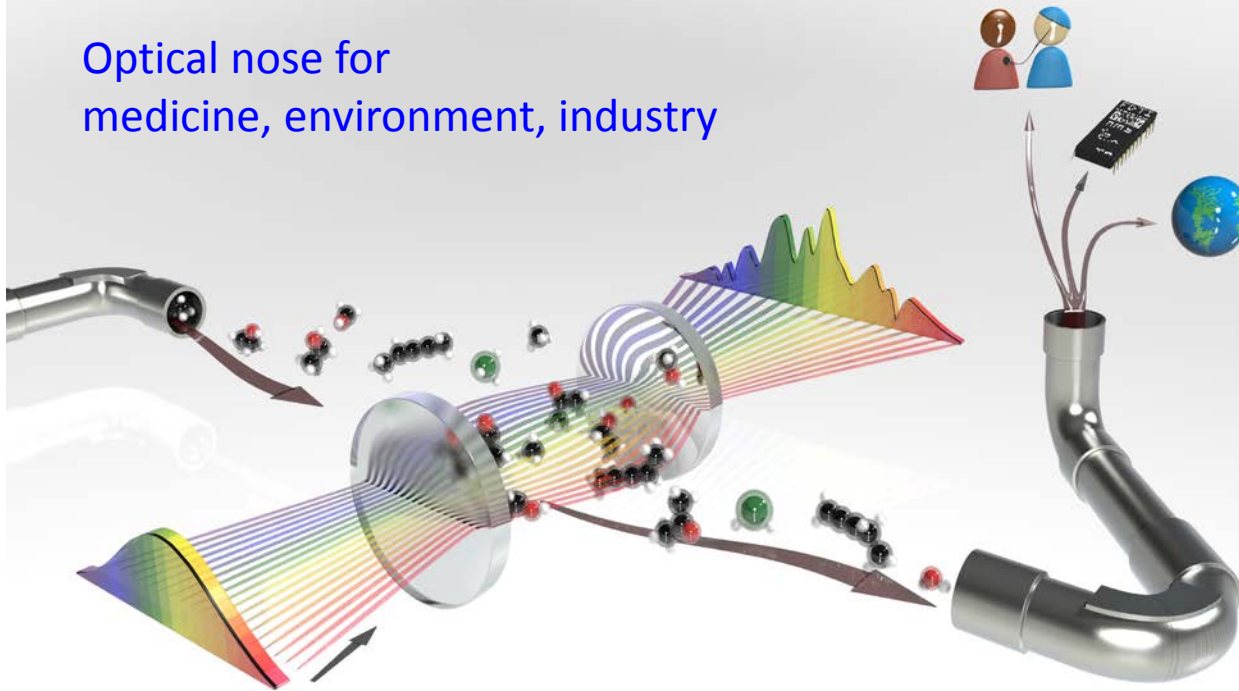
- Ramsey's spectroscopy



- Optical frequency comb



Optical nose for
medicine, environment, industry



Science always opens new windows, allowing us to see new phenomena, and will inspire us to do new things we would have never dreamed of doing before