

**Physics 566 – Quantum Optics I**  
**Final Project Assignment**  
**Due: Thursday, Dec. 14, 2023 at 5:00 PM.**

As a final project for the class, you are to create a “Wikipedia Article” on a subject in quantum optics of interest to you. This should include *both theory and experiment*. There may be an existing or closely related page on your topic, but in this case you must present a major extension, or include material that is substantially different from that already posted. The length of the article need not be very long, but it should be at least two pages, include at least one figure, and a complete set of primary references.

**Due Dates:**

- **Monday Nov. 27: Abstract of proposed project, emailed to [ideutsch@unm.edu](mailto:ideutsch@unm.edu).**

A short paragraph with the title of your article, and at least three references you plan to use. If existing Wikipedia articles about your project exist, please reference them and describe how your article will be substantially extended, or be different from these. If you need suggestions on a topic, please ask me.

- **Tuesday Nov. 28: Project approval by me**

- **Thursday Dec. 14: Final project due at 5:00pm. Email URL of your page to me.**

There are numerous tutorials on the web about how to create a page. A first source is:

<http://en.wikipedia.org/wiki/Wikipedia:Tutorial>  
[https://en.wikipedia.org/wiki/Wikipedia:Your\\_first\\_article](https://en.wikipedia.org/wiki/Wikipedia:Your_first_article)

To proceed, **create a user account** on Wikipedia.

You will create an article that is officially a **draft as a subpage of your user page**. Then the Wikipedia police won't delete it, and it will have a URL. To do this, follow these instructions: Adding the template to indicate it is a draft:

[https://en.wikipedia.org/wiki/Wikipedia:User\\_pages#User\\_pages\\_and\\_user\\_space](https://en.wikipedia.org/wiki/Wikipedia:User_pages#User_pages_and_user_space)

A good way to see how editing is done is to look at the source of other pages.

You can find bare bones syntax for instructions on formatting your article at:

[https://en.wikipedia.org/wiki/Wikipedia:Simple\\_guide\\_to\\_creating\\_your\\_first\\_article](https://en.wikipedia.org/wiki/Wikipedia:Simple_guide_to_creating_your_first_article)

Citations are included according to:

[https://en.wikipedia.org/wiki/Wikipedia:Citation\\_templates](https://en.wikipedia.org/wiki/Wikipedia:Citation_templates)

If you are not comfortable with the Wikipedia “markup language,” there is now a WYSIWIG visual editor:

<https://en.wikipedia.org/wiki/Wikipedia:VisualEditor>

**Some suggested subjects:**

- EIT in atomic vapors
- Quantum memory in atomic vapors
- Boson sampling with linear optics and photon counting
- Grangier/Aspect experiment on heralded single photon measurement
- Haroche experiment on cavity QED
- Vacuum Rabi splitting
- Circuit QED
- Observation of photon antibunching in resonance fluorescence
- Two-photon interferometry
- Quantum cryptography – BB84