



# Titus Pratt

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## SUMMARY

Ambitious experimental physicist with over 5 years of experience specializing in quantum optics and cryogenic measurement techniques. Holds a PhD in Physics focusing on developing innovative quantum photonic systems. Proven track record in collaborative research and prototyping, significantly contributing to advancements in quantum information science. Skilled in publishing impactful findings and enhancing laboratory capabilities through targeted development initiatives. Dedicated to engaging with peers for knowledge exchange and fostering partnerships that drive exploration in this evolving field. Eager to bring expertise to novaTech Solutions, inspiring the next generation of quantum breakthroughs.

## EXPERIENCE

**Senior Quantum Physicist** June 2021 - Present  
Quantum Research Institute Cambridge, MA

Lead efforts in research and prototype development within various quantum systems focusing on spin-photon interfaces. Collaborate closely with partner institutions to integrate control mechanisms for quantum bits essential for future computing architectures. Participate actively in project planning and execution while improving laboratory capabilities to maximize efficiency.

- Developed novel quantum photonic circuits that enhanced integration of spin-photon technologies.
- Collaborated with notable institutions on projects advancing quantum bit generation and utilization.
- Authored papers presented at major scientific conferences, bolstering the institution's academic reputation.
- Implemented advanced measurement techniques, leading to significant lab capability improvements.
- Fostered external partnerships to spur innovations within quantum information science.
- Mentored junior researchers, promoting knowledge sharing and increasing team proficiency.

**Quantum Physicist** January 2018 - May 2021  
Photonics Innovations Waltham, MA

Executed experimental techniques focused on solid-state photon sources, conducting rigorous analysis within optical labs. Contributed to groundbreaking research on electromagnetic interactions within quantum systems by designing and implementing experiments supporting theoretical frameworks.

- Conducted hands-on lab experiments exploring solid-state single photon sources under cryogenic conditions.
- Facilitated development of prototypes culminating in advances in quantum photonics technology.
- Coordinated with cross-functional teams to enhance understanding and execution of experimental methodologies.
- Demonstrated project management skills overseeing ambitious research timelines and objectives.
- Secured grant funding through compelling proposal contributions aimed at expanding research horizons.

**Research Scientist** August 2016 - December 2017  
TechQuantum Labs Lowell, MA

Focused on quantum optics research investigating fiber optic behaviors and free-space measurement techniques. Employed software simulations alongside experimental setups to establish predictive models aligning quantum mechanics with practical applications.

- Pioneered new-based research on fiber optics as related to quantum measurement processes.
- Developed simulation models using tools like COMSOL Multiphysics to aid empirical experimentation.
- Published influential articles in peer-reviewed journals capturing critical advancements made.
- Partnered with engineers in creating quantum photonic solutions integrating microwave principles.
- Played an integral role in onboarding new team members within safety training practices.

## LEADERSHIP & AWARDS

- Best Paper Award, International Conference on Quantum Physics, 2025
- Research Excellence Award, Quantum Research Institute, 2023

## EDUCATION

**PhD in Physics** 2021  
Massachusetts Institute of Technology GPA: 4.0 Cambridge, MA  
*Coursework: Quantum Mechanics, Statistical Mechanics, Optics, Electromagnetic Theory*

CERTIFICATIONS

- Certified Quantum Computing Specialist 📅 2026
- Advanced Quantum Measurement Techniques Certification 📅 2025

TECHNICAL SKILLS

- **Optical Laboratory Tools:** Zemax, LabVIEW, Oscilloscope
- **Simulation Software:** COMSOL Multiphysics, Ansys, MATLAB
- **Measurement Instruments:** Cryostat, Photodetector, Laser Devices
- **Quantum Computing Frameworks:** Qiskit, ProjectQ, Cirq
- **Research Databases:** arXiv, IEEE Xplore, SpringerLink
- **Statistical Analysis Systems:** R, Python, SAS
- **Photonics Equipment:** SPADs, Beam Splitters, Wave Guides
- **Coding Languages:** Python, R, NanoSim
- **Presentation Tools:** PowerPoint, LaTeX, Canva
- **Collaboration Platforms:** GitHub, Mendeley, Slack

SKILLS

- |                                 |                        |                        |                          |
|---------------------------------|------------------------|------------------------|--------------------------|
| • Quantum Optics                | • Research Methodology | • COMSOL               | • Noise Control Methods  |
| • Cryogenic Measurements        | • Project Management   | • MATLAB               | • Spectroscopy           |
| • Photonics                     | • Collaboration        | • Copper Connections   | • Signal Processing      |
| • Optical Laboratory Techniques | • Python               | • Software Development | • Electromagnetic Theory |

PROFESSIONAL AFFILIATIONS

- Member, American Physical Society
- Participant, Quantum Computing Forum

LANGUAGES

- English (Native)
- Spanish (Proficient)

ADDITIONAL INFORMATION

**Work Status** : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST