



Bridge to Doctorate Meeting Minutes

October 22, 2018

Facilitator: Roman Mays

Minute Taker: Pierre Dens Fils

Duration: 10:30 am – 12:00 noon.

Presentation

Quantum Dots & Applications

1. Quantum Dot (QD)

Quantum dot = a 3D bulk material that has been confined in 3 directions

- From Bulk Material (0 DOC) → Well Material (1 DOC) → Wire Material (2 DOC) → Dot Material (3 DOC)
 - Where DOC = Degree of Confinement

Properties / Uses

- Energy can be stored in quantum dot by means of a latus structures (Super latus made of silicon and silicon oxide)
- Creation = Germanium powder + milling container + nitrogen filed environment → scraping the power → scrapings + ethanol+ benzoyl peroxide → Sonification → centrifuge → solution + ethyl alcohol +HF == Gives us dots
 - Why not buy them
 - Quantum dots cost between \$200 to \$1000
 - More cost effective to make them!

Fabrication

- Small disk with hundreds of Quantum dots

2. QD-Waveguide

Allows for optical modulation

Allows for the shortening of the waveguide

Mach-Zehnder Modulator for phases changing

3. QD-Solar Cell

This topic is under Lit review



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Budgeting & Discussion

This talk is based on the idea of how-to manage money.

Set A

Invariable- Rent, Car payments, etc.

Variable – Food, Utilities, etc.

Set B

Life Happens – Books for class, Car troubles, etc.

Treat Yourself – Movies, Games, Other luxuries

Savings- Funds that should be taken out before budgeting happens

Concluding remarks:

- Taxes can be done for free on TurboTax, and at the UConn Business School
- Save money on car maintenance by going to Brandon for teaching / assistance
- Taxes are expected from this fellowship (Budget around \$2000 for the year)
- You can have Student Admin take takes out automatically → contact Financial Aid Services for more information

Upcoming meeting: November 5th, 2018.

Facilitator: Victor Calle

Minute taker: Steven Torro

Attendees:

Kevin Rivera

Pierre Fils

Cristian Aviles Martin

Brandon Williams

Roman Mays

Godwin Dzidotor

Steven J. Toro

Aida Ghiaei

Brandi Mendes