

# QuantTera

Matt Kim

*Integrated Materials and Devices  
for Microelectronic Applications*

**Career Paths for Physicists**

**Joint KPS-AKPA Symposium**  
Sunday, March 4, 2018,



**QuantTera** Matt Kim, cell: 602-214-3524, email: [mk@quanttera.com](mailto:mk@quanttera.com)

# History of My Journey

## Core Expertise: Transistor and Laser Technology

### QuantTera: Semiconductor Company, SBIR Funded

Founder, President (2005-present)

- Novel IP valued technology: Telecom, RF
- Heterojunction Transistor technology
- Laser Technology
- Heterogeneous Integration (Wafer Bonding)

### American Physical Society:

Chair (2018-2019) Forum on Industrial and Applied Physics  
Arizona Nanotechnology Cluster  
Chairman (2004 – Present)

### MicroLink Devices: Small Manufacturing, Ventured Funded

Co-Founder, VP (2000-2004)

- Epitaxy of GaAs and Transistor HBT RF Power Amps for Cell Phones

### Motorola: Large Telecom Corporate Research

Principal Staff Scientist (1994-2000)

- RF Power Amplifiers for Cell Phones & Lasers (Epitaxy)
- Epitaxy GaAs PHEMT RF Power Amp

### Bandgap Technology: Small Epitaxy Company

Research Engineer & Supervisor (1989-1994)

- GaAs Heterojunction Bipolar Transistor
- Vertical Cavity Surface Emitting Laser



QuantTera

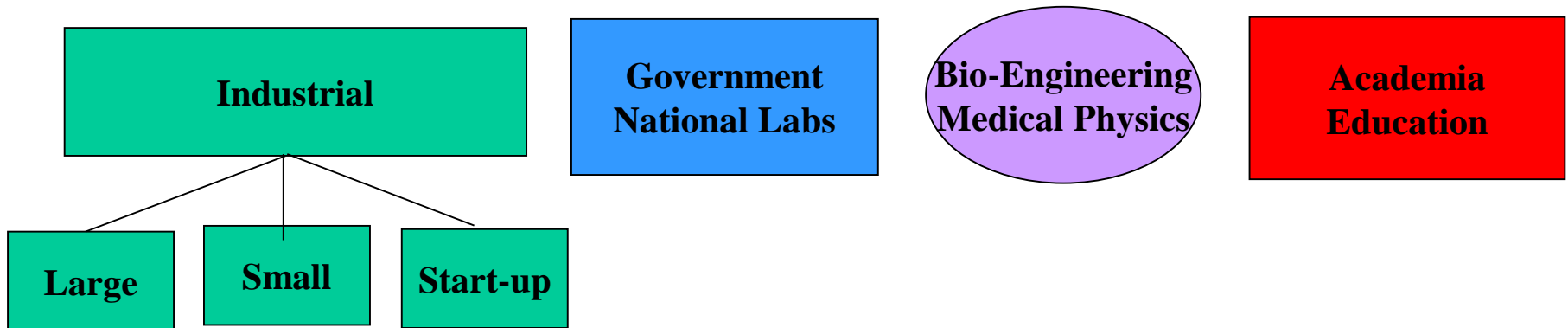
Matt Kim, cell: 602-214-3524, email: [mk@quanttera.com](mailto:mk@quanttera.com)

Joint KPS-AKPA Symposium , March 4 , 2018

Slide 2

# Career Paths

- Typical Methodology



- Better Methodology: Where you will be successful contributor?



# Example of typical choice in a career path

## Large/Small vs. Start-ups

	<b>Large or Small Company</b>	<b>‘True Start-up’ Company</b>
<b>Role of Leaders</b>	Milestones driven	Hands-on, Survival mode
<b>Prospective Candidates</b>	Looking for recognized skilled Persons	Looking for Generalist: Expert in one area, Will learn critical areas, good teaming, can pinch hit in any position!
<b>Org charts</b>	Structured roles: CEO, CFO, COO, Managers, Engineers, Technician	CEO (chief everything officer), Fire Fighting Roles
<b>Hiring people</b>	Base on completeness of organization (management, technical, clerical, etc.) Salaried labor	Critically needed people hiring may be delayed based on cash flow issues. Salaried, Contract, Part time labor
<b>Compensation and incentives</b>	Standard 4 year vesting schedule, bonuses, stock options	Ownership will be given with skin in the game, Bonuses paid only if company profitable
	<b>More Stable</b>	<b>More Dynamic</b>



# Importance of Building My Team: Become a Successful Contributor

## **My Team**

Efficiency for getting my commitments, obligations or future projects done!!!!  
They are a sound board for your ideas, problems, daily occurrences.

## **First need to know who am I!**

What do you consider your expertise, How well do you know your abilities,  
What are your strengths and weaknesses  
“Value” proposition: What makes you or your company special, where do you fit in.

## **Teaming or Networking Relationships:**

Recognition of Opportunities, Synchronicity, Timing, Value of money, Personal Contact,  
Need to develop relationships early.

## **Real Question --- Who to team with:**

Need network of small companies (non-competing), Vendor's (credit, pay your bill's on time),  
Large Companies validate your existence,  
Business colleagues's (who do you trust----look at their modus operandi)

## **Team's Core Values:**

Philosophical, personal belief's,  
Can you hang out together, “Does anyone know what time it is”  
“Honor all your promises, and even the one's people think you made”,

**Strength of our Team, our value: Time, Credibility, Commitment.**



**QuantTera** Matt Kim, cell: 602-214-3524, email: [mk@quanttera.com](mailto:mk@quanttera.com)

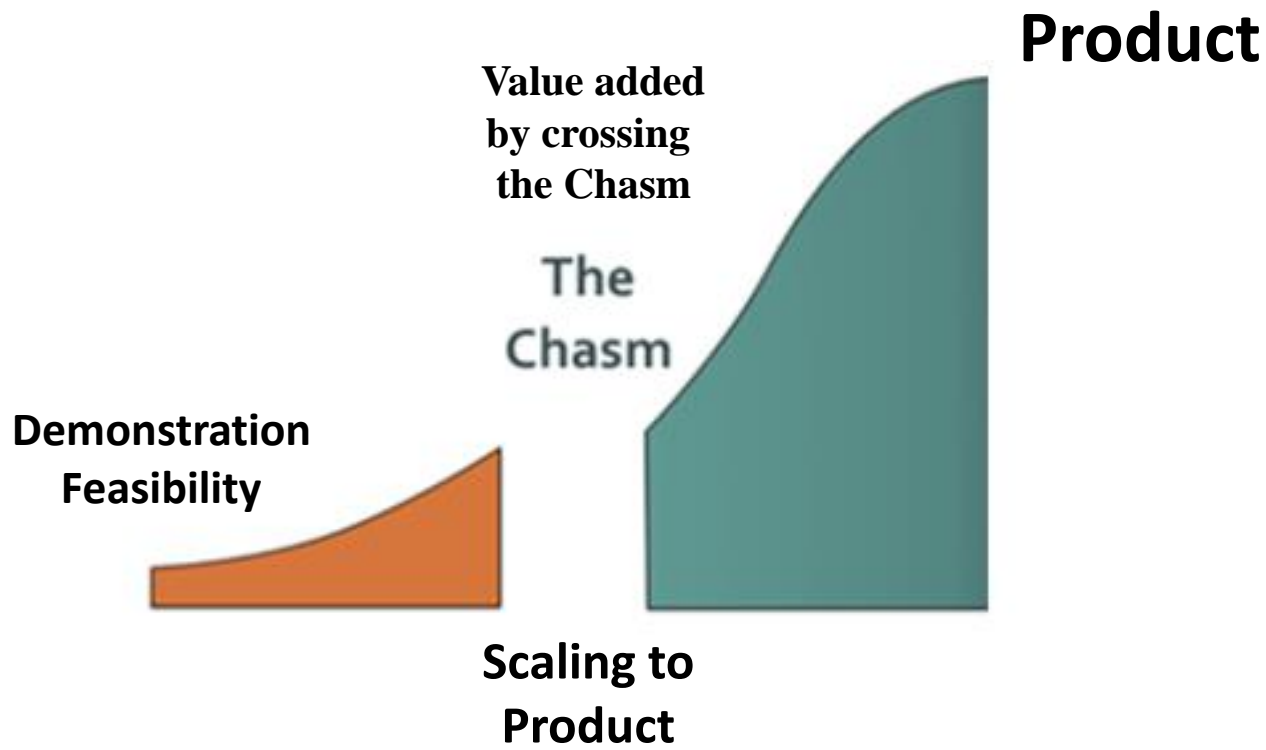
Joint KPS-AKPA Symposium , March 4 , 2018

Slide 5

# Skill Sets and Weakness

---

- Physicist's greatest skill set: Problem Solving, Ability to Learn Quickly
- Physicists' greatest weakness: Confirmation Bias and Crossing the Chasm



# Career Path Skill Sets for Physicists “Who are you?”, What do you offer!

- **Experience (Hand’s On):** What do you consider your expertise, How well do you know your abilities, Can you multi-task, or single focused
- **Desire to succeed:** Passion! When working on something “does anybody know what time it is?”, What will you do? (are you humble, can you do menial things)!
- **Recognition of Opportunities:** Synchronicity, Timing, Value of money, Personal Contact
- **Strategic Relationships:** Need network of small companies (non-competing), Vendor’s (credit, pay your bill’s on time), Large Companies validate your existence, supportive business colleagues’s (who do you trust) (look at their modus operandi).
- **“Value” proposition:** What makes your company special, where do you fit in. Better be a unique small fish than big fish with many competitors
- **Core Values:** Philosophical, personal belief’s. Glen Vaughn said’s “Honor all your promises, and even the one’s people think you made, Only say thing ‘s you would say to the person directly, There are only lags in information”.
- **Things we sell:** Time, Credibility, Commitment.
- **Business Commercialization Opportunities:** Main problem is communication!
  - Electronics and photonics
  - Medicine
  - Energy
  - Environment
  - Military

