

The background features several flowing, wavy lines in shades of green and teal, set against a solid black background. The lines have a slight transparency and a fine grid-like texture, giving them a sense of movement and depth. They curve and sweep across the frame, creating a dynamic and modern aesthetic.

# Ideation

Techniques for Idea Generation

# Introductions



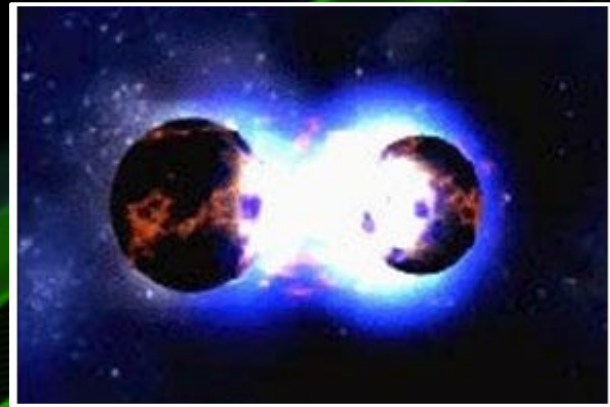
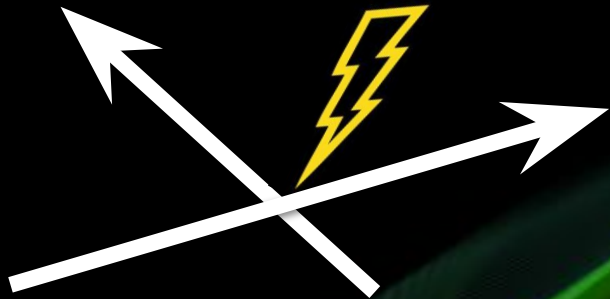
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# The Intersection of Ideas

- Innovation occurs at the intersection of needs and ideas



*The Medici Effect: Breakthrough Insights at the Intersection of Ideas, Concepts, and Cultures by Frans Johansson*

# Where Needs Come From

- Open Innovation
  - Innovator identifies a need
  - Needs are the core to your problem statement
- Targeted Innovation
  - Innovator is presented with a need



# The Job

- “Necessity is the mother of invention” -Unknown (sometimes attributed to Plato)
- The Theory of “Jobs To Be Done”



*The Innovator's Dilemma and The Innovator's Solution by Clayton Christensen*

# What's Your Job?

- Identifying the need
- Understanding your customer
  - If possible, speak with a customer
- Use the Heilmeier Catechism

<https://www.darpa.mil/work-with-us/heilmeier-catechism>



DEFENSE ADVANCED  
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# Heilmeier Catechism

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What is new in your approach and why do you think it will be successful?
- Who cares? If you are successful, what difference will it make?
- What are the risks?
- How much will it cost?
- How long will it take?
- What are the mid-term and final “exams” to check for success?

# Diversity and Inclusion

- Many studies show that diversity is a key driver of innovation
- Homogenous environments tend to produce the same results
- Diverse backgrounds, perspectives, needs, and experiences widen focus, challenge assumptions, and drive newer, stronger ideas



# Breakout: Diverse Perspectives

- We're designing a new product to allow students to manage their unwieldy backpacks
  - What are some of the base considerations?
  - Widen the aperture - what are some ways we might go beyond?



## **Collaborative Breakout Sessions**

Breakout sessions are NOT recorded.

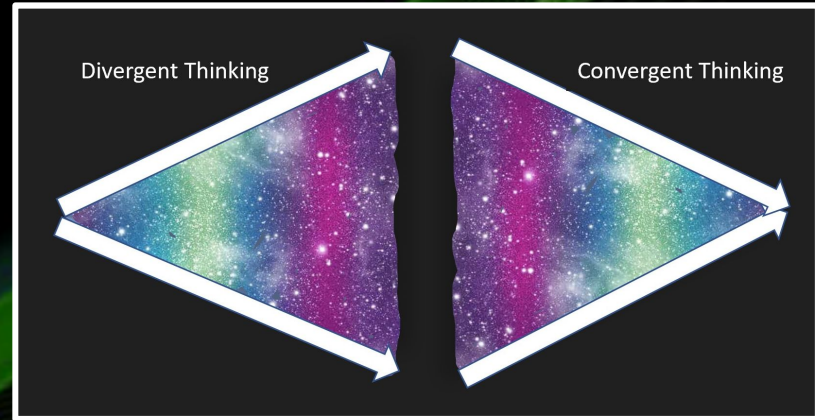
Don't be shy to show your friendly smile and participate!  
Join back into the main room after to share and learn more.

# Breakout: Diverse Perspectives

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# Diverge and Converge

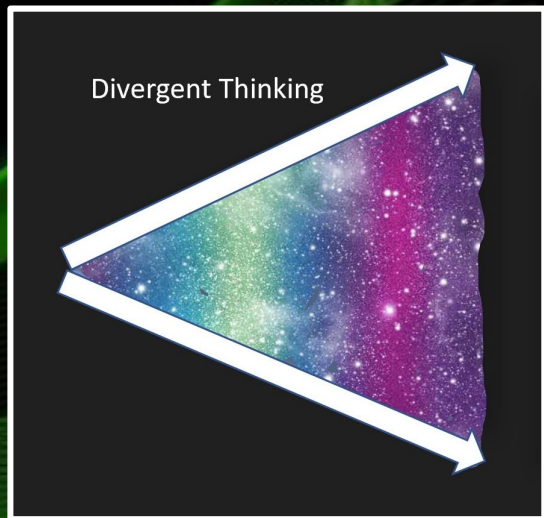
- Expanding ideas and narrowing candidate solutions are distinct, separate steps
- Storming and Norming



*“Developmental Sequence in Small Groups” by Bruce Tuckman*

# Divergence

- Widen the aperture
- Expand the pool of ideas
- Risk is not bad
- Give all ideas a chance



# Points to Consider

- Clarity
- Novelty
- Customer Value
- Key concepts\*

# Some Divergence Tools

- Sharing
- Mindwriting
- Round Robins
- Reversing Assumptions
- Working Backwards

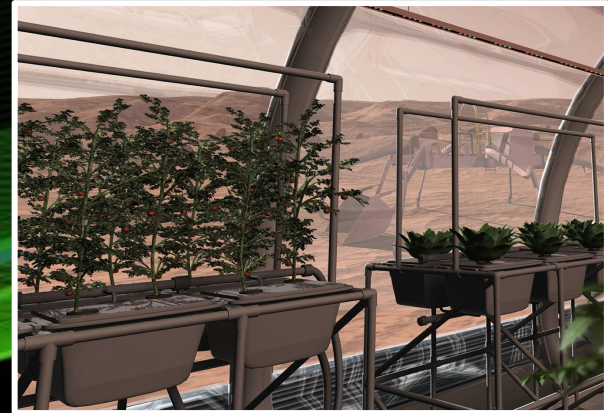
# Sharing

- Ideas love to be shared
  - Informal and briefings
- Frequent Feedback
  - Understand your strengths and weaknesses



# Mindwriting

- It all starts with a seed
- Work individually or with groups
- Just start writing (no editing)



# Round Robins

- Define subject matter groups
  - For example: novelty, utility, and feasibility
- Each group evaluates the idea from their assigned perspective

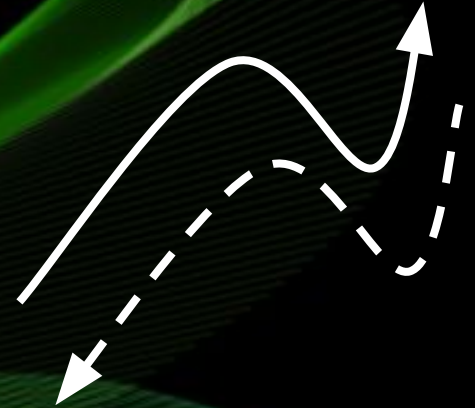


# Reversing Assumptions

- Many people get stuck on why an idea won't work (the assumption)
- Instead, write down the reverse of the negative assumption
- Lastly, consider how the reversed assumption might be accomplished

# Working Backwards

- Begin with the end in mind
- Starting with the ideal end state and work backwards to your current state can sometimes be easier to achieve



*The 7 Habits of Highly Effective People by Stephen Covey*

The background features several overlapping, wavy, translucent green lines that create a sense of motion and depth. These lines are set against a solid black background, which makes the vibrant green color stand out. The lines vary in opacity and thickness, giving the overall composition a layered, ethereal appearance.

Questions?