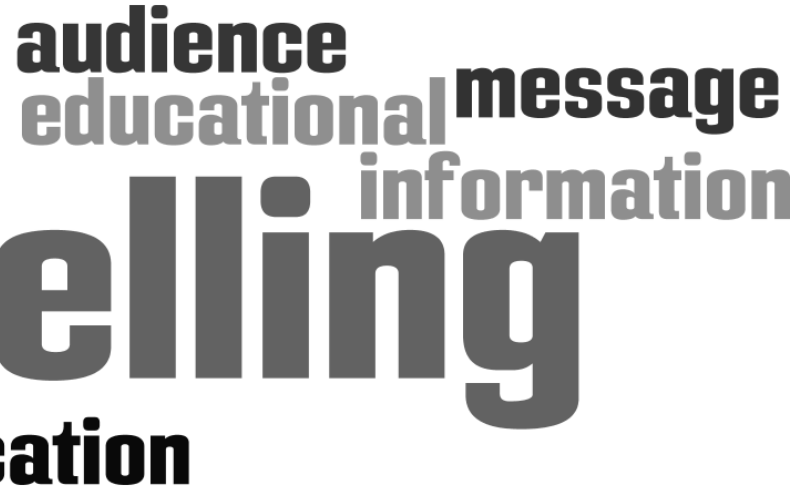
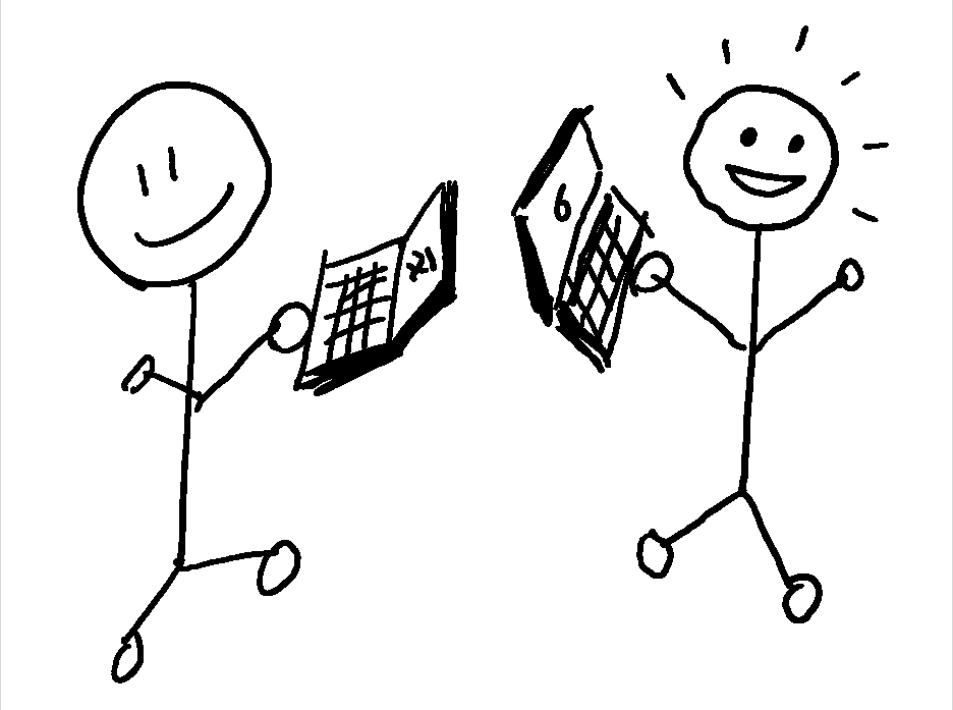
The Art of Storytelling



Jennifer L. Green, Shannon Willoughby, Bryce Hughes, Leila Sterman, Brock LaMeres, Christopher Organ, & Kent Davis

Montana State University

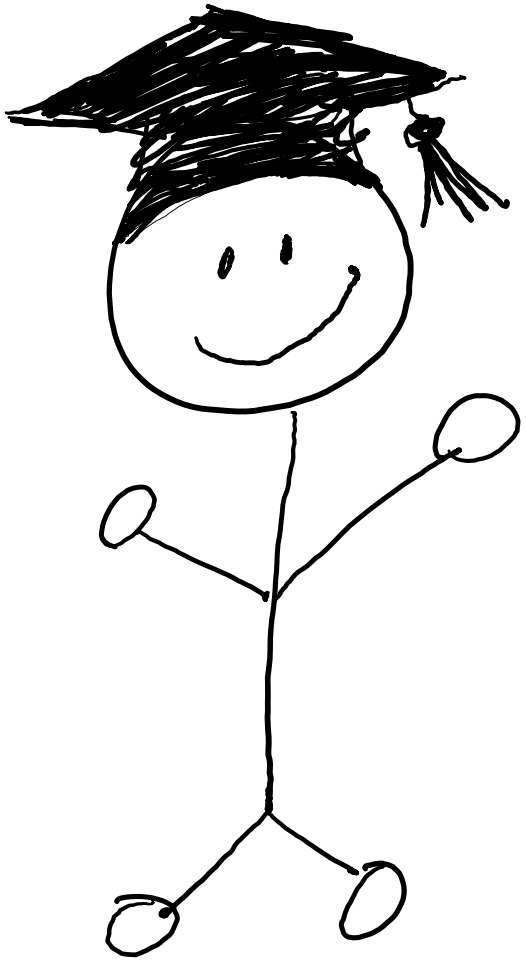
Describe your latest research project…



Statistician

Turkish Airlines

Airplane Acquaintance



Graduate Training

coursework

research

writing

presentations

teaching

consulting


mug
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electrolyte
harmful
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Oxide
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names
novel
ceramic
cyclic
Essentially
focuses
power
mix
pet
conditions
research
vase
environment

How do we translate science for the public?

Physics

Engineering

Math Sciences

Earth Sciences

Library Sciences

Education

Author & Actor

Three Elements of Communication

- Storytelling
- Delivery
- Improvisation

“The Story…Matters, Not Just the Ending”

--Paul Lockhart

Storytelling

- Break away from the norm
  - Suspense! Surprise!
- Clear structure and purpose: So what?
- Clarity and focus: What is the take-away message?


populations
between
redesignations
human-wildlife
across
conservation
prioritization
critical
requires
rigorous
outside
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Parks
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WordItOut


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Using
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order
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Cushman
parents
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human
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Human-wildlife
information
potential
WordItOut

Lion Podcasts

Africa's human population is expected to increase threefold by the end of this century and growth is expected to be highest near protected areas….

Accelerating declines of carnivores as a result of human-carnivore conflict and habitat loss are likely.

The movie the lion king has been captivating audiences since 1994. … Many people dream of visiting Africa and seeing lions in their natural habitat.

However, ***people may be the bigger threat that lions face***.

Lion Podcasts

Spatial prioritization of conservation actions is ***critical*** given extensive land use redesignations that are reducing the extent and increasing the fragmentation of lion populations.

It is ***important*** to look at how and where animals move…to prevent issues like inbreeding and … common issues between local people and lions…

Identifying these areas allowed the researchers to determine where conservation actions should be placed to best protect lions and people.

Storytelling

- Break away from the norm
  - Suspense! Surprise!
- Clear structure and purpose: So what?
- Clarity and focus: What is the take-away message?
- Analogy and metaphor

Lion Podcasts

[G]rowth is expected to be highest near protected areas.

The fastest growing areas in Africa are along the borders of protected areas. ***This would be like the US having major human development occurring around Yellowstone and Yosemite national parks as opposed to around metropolitan areas***.

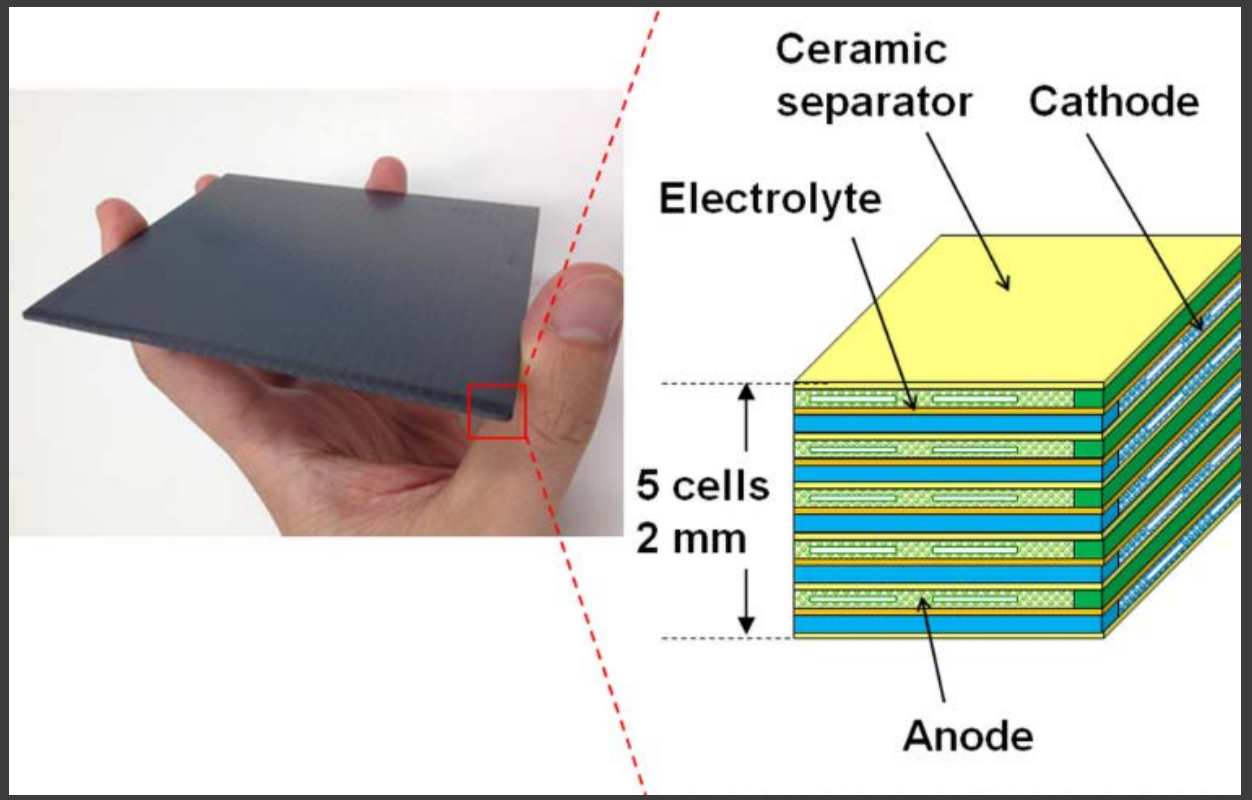
Microbe Communities

Scientists…research…microbe communities…by looking at the community as a whole, and making educated guesses about the characteristics of individuals…

However, I only have to say, ***"You're from Montana, you ride a horse to school, right?"*** for you to see just how much we might miss by drawing conclusions about individuals by only looking at the community.

SOFC Operation Times

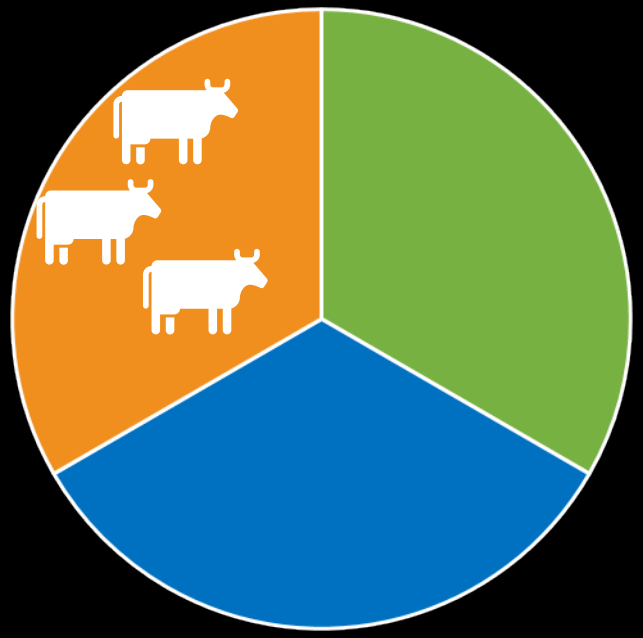
40,000 hours is 1,667 days
1,667 days is 4.6 years!



“It’s All in the Delivery”

- Animate with voice 
- Nonverbal communication
- Visuals

Hormay rest-rotation



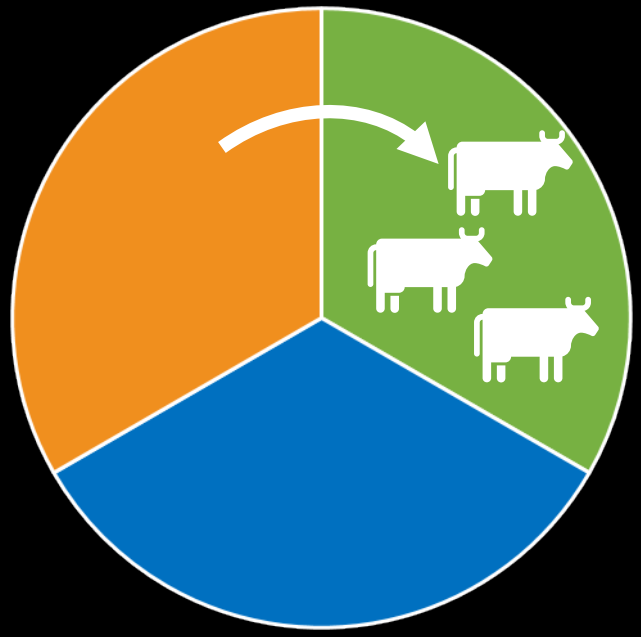
Year 1

Grazed during growing season

Grazed post-growing season

Rested

Hormay rest-rotation



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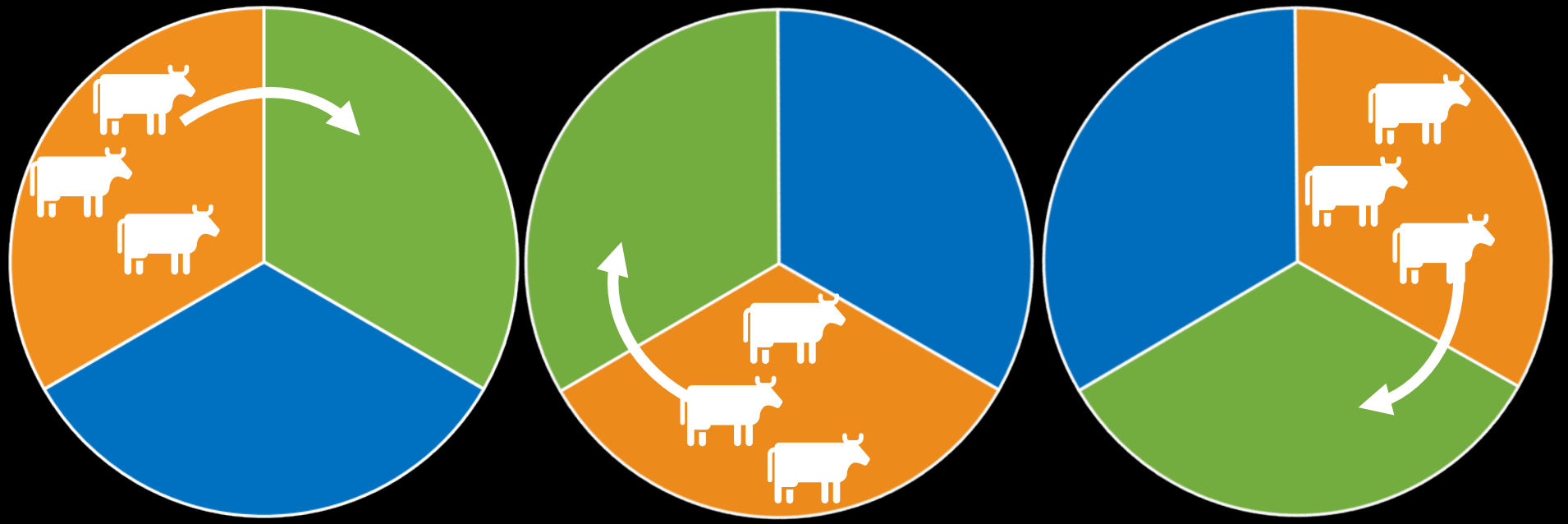

Grazed during growing season

Grazed post-growing season

Rested

“All the World’s a Stage”

--Shakespeare

Improvisation

- Normalize stress and vulnerability
- Build confidence
- Actively listen and adapt to audience
- Develop stage presence

Implications

- Broader impacts apply to *anyone*
- Faculty benefits
  - "Yes, **AND**" vs. "Yes, **BUT**"
  - Slides + Words
  - Ongoing

Questions?

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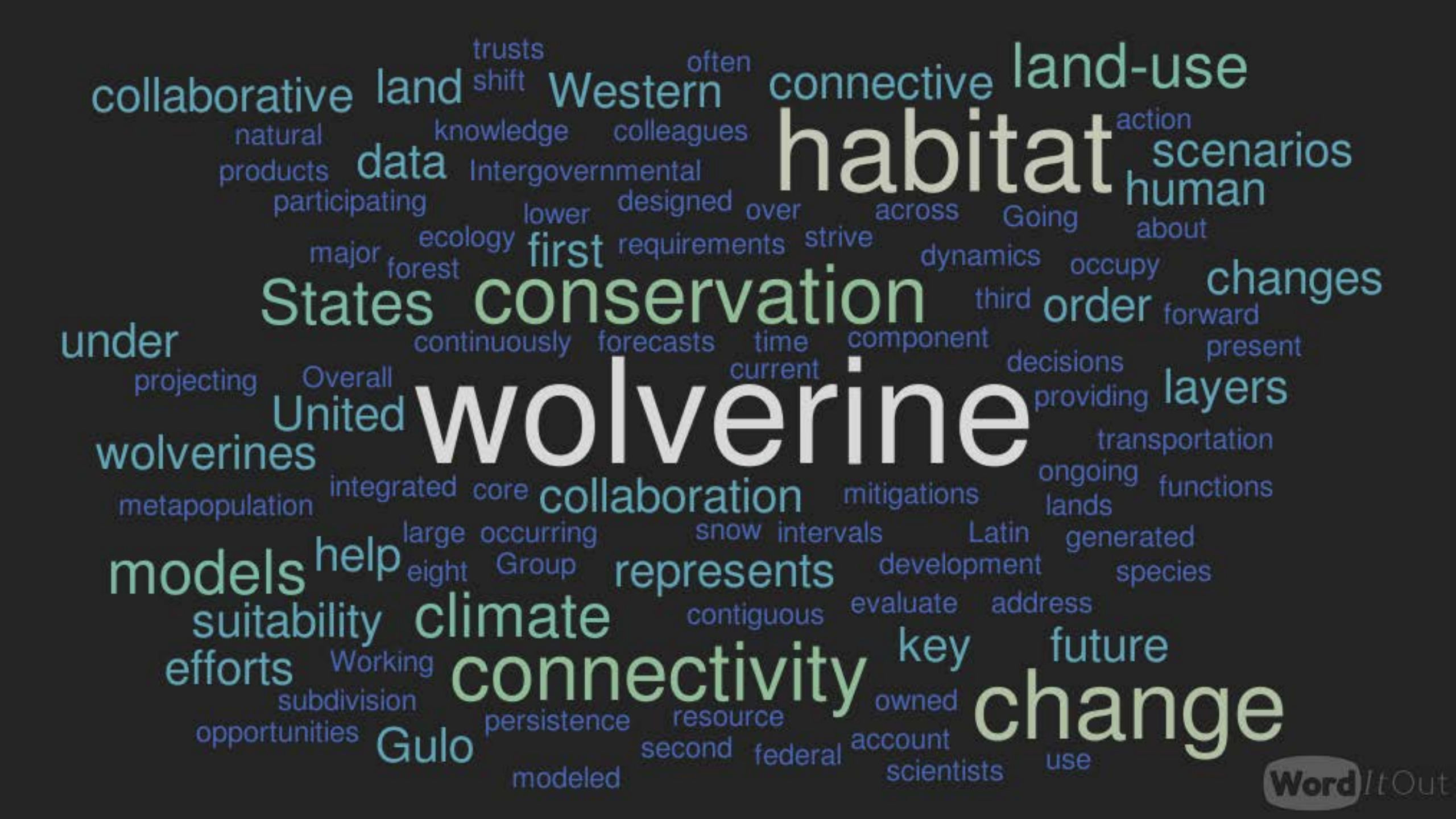
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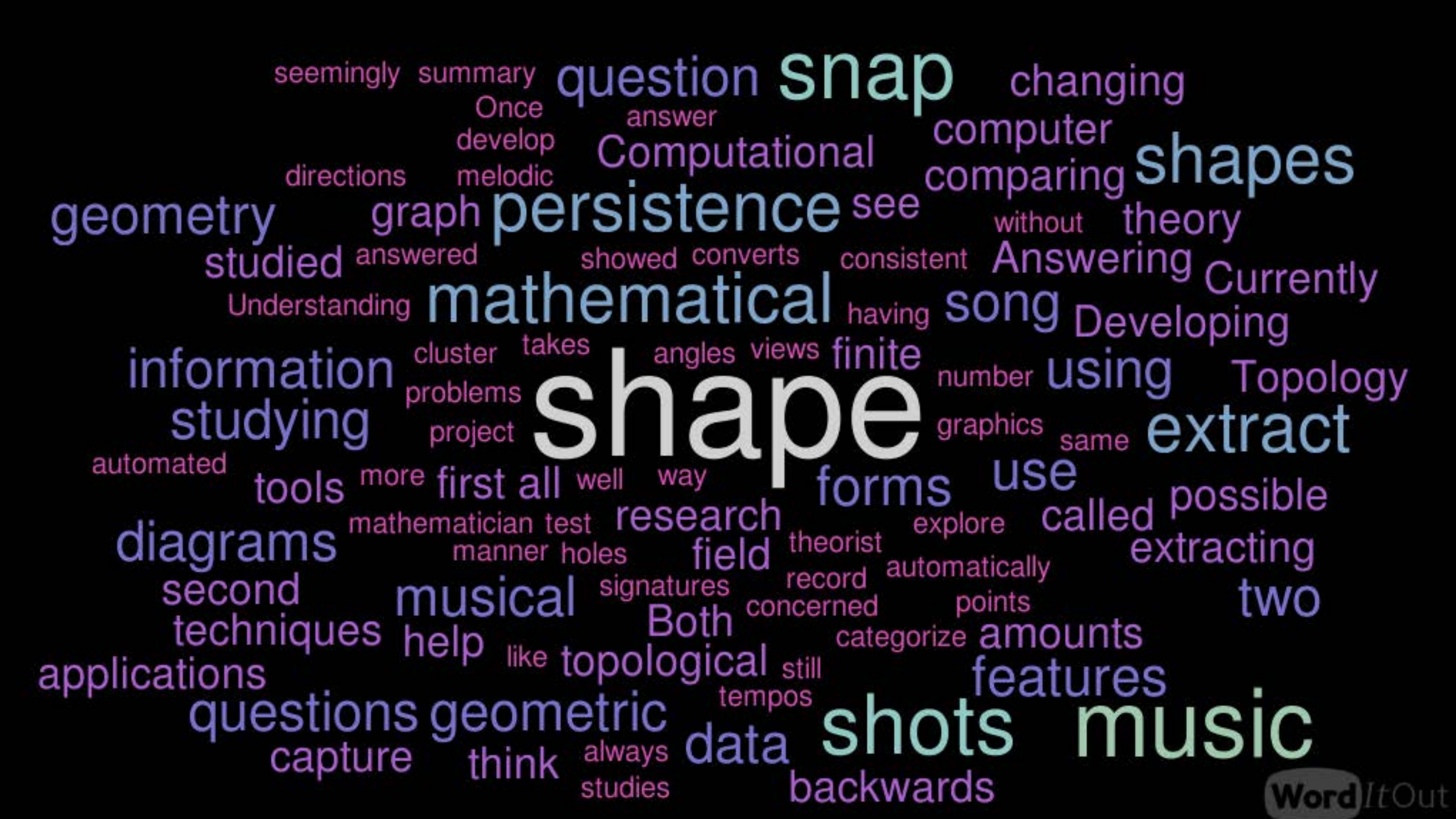
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alternative rigorous linkages loss large southern declines recognized requires
kaza landscape considered outside actions parks transfrontier reducing
authors identified human-lion functional empirically across
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connectivity prioritization population leading important africa
expedient
establishing importance habitat fragmentation extent
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also conservation risk
use recent increase
critical movement empirical discussion presented
integrity
area populations areas
high study given translocations
protected lion increasing spatial range core
expected present
identify value possible
result
protect dispersal corridors
strategy


determine makes
inbreeding national gardens though movie
lion
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protected Additionally
spend practices killing Kavango-Zambezi
threats protect high important close
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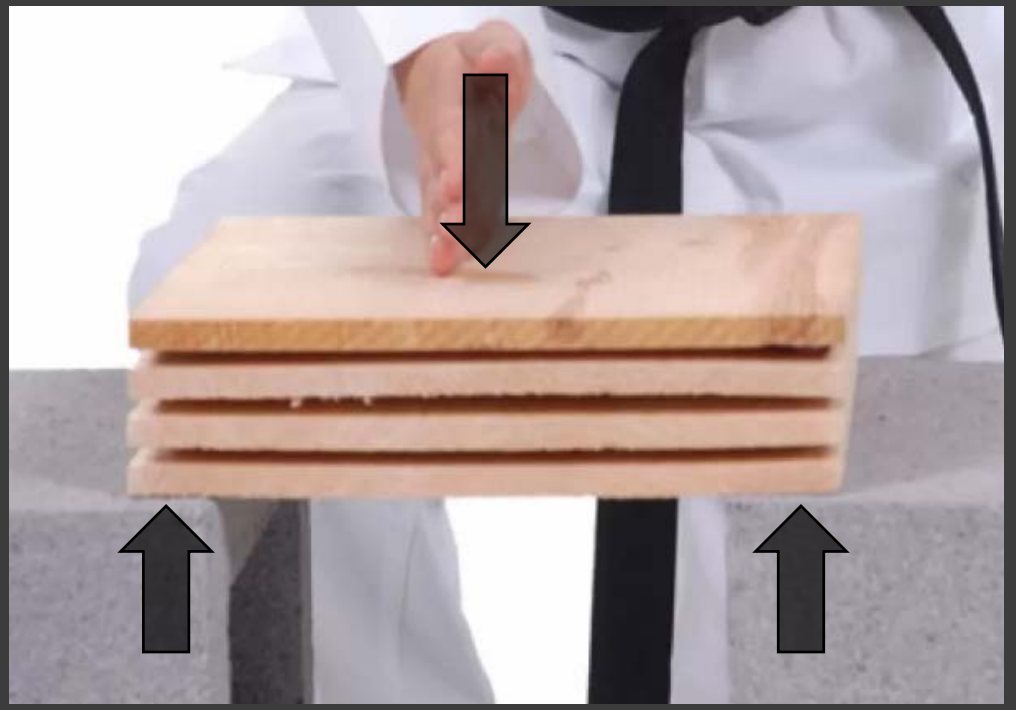
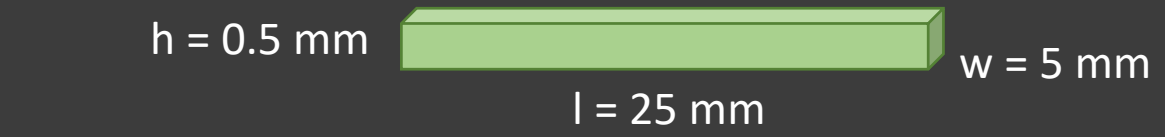
Breaking the Batteries: With Purpose

Input

Tweak the “recipe” by adding new material (Aluminum titanate)

Three-point bending



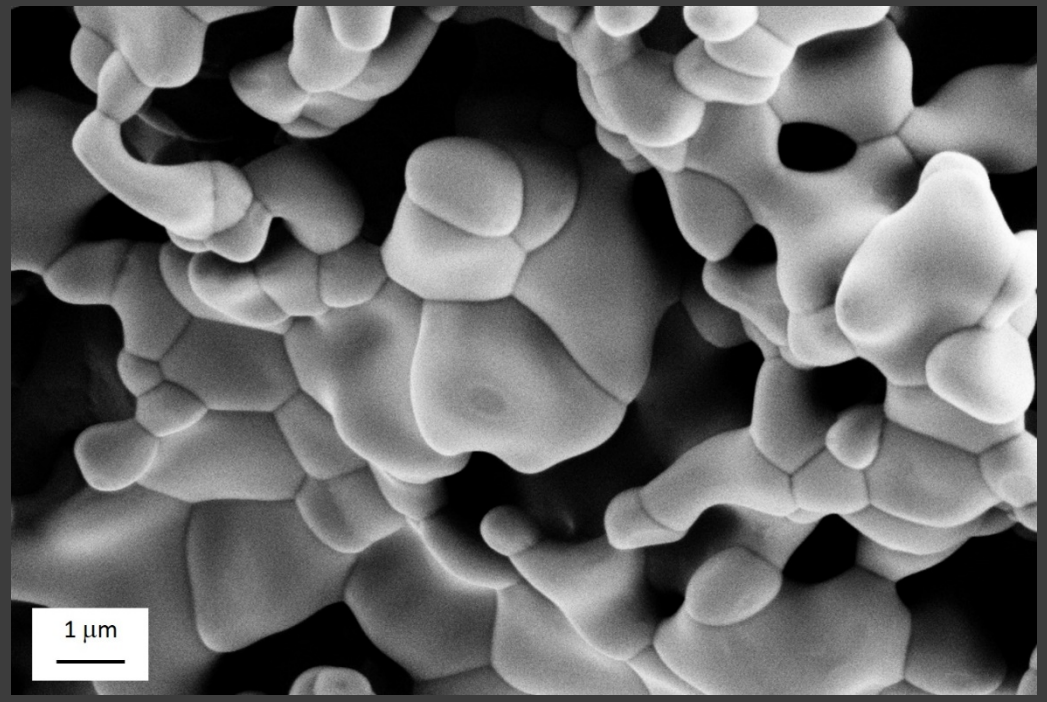


Output

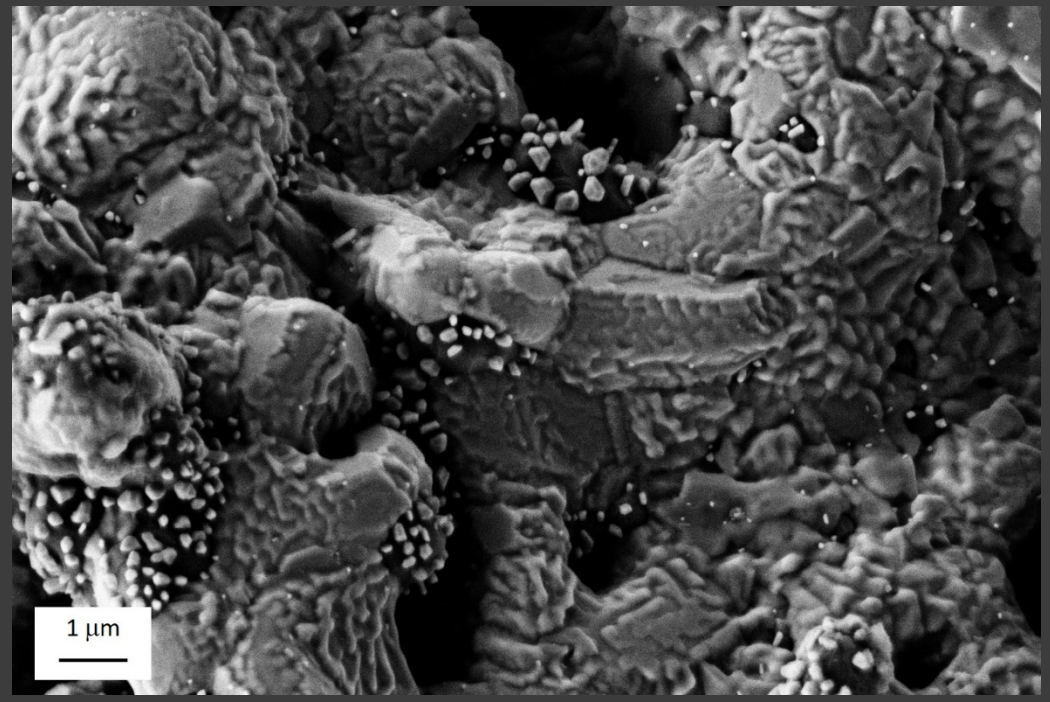
0.5 mm = 5 human hairs

Strength was increased 166%!

No New Material



With New Material



Delivery

- Animate with voice
- Nonverbal communication
- Visuals