Accelerated Innovation Pilot

Disruptive Research and Development – Human Health and Performance
“Exploring Space – Enhancing Life”

November 15, 2012
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• Why? Disruptive research & technology development for sustainable benefits in human health and performance themes

• What?
  – Space: use pull of exploration class missions to accelerate to exploration capabilities
  – Earth: address global concerns – human health and environmental health (water, air)
  – Identify: candidate examples for breakthroughs
    • Example: eliminate refrigeration for health care
    • Example: portable water purification, external monitoring
    • Example: eliminate antibiotics
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• Opportunities
  – Engage NASA team (examples)
    • Research and technology calls – provide suggestions to AES, HRP, OCT
    • Use NASA@Work to solicit other ideas; (possibly before R+D calls)
  – Stimulate collaboration (examples)
    • NHHPC
    • Wharton Mack Center for Technological Innovation (Feb 2013)
    • International - DLR - :envihab (July 2013)
    • Accelerated research models – NSF, Myelin Repair Foundation
  – Engage public
    • Prizes (open platform: InnoCentive, yet2.com, NTL; Rice Business Plan, etc.)
  – Use same methods to engage STEM
Specific Opportunities

- External near-term opportunities:
  - Rice Business Plan prize winners (student teams)
    - 2010 – LyoGo (received NASA prize, now has series A funding for development, credits NASA for success) – a unique container to fly medications without refrigeration
    - 2011 – Diagenetix – has USDA grant – DNA probe to give yes/no answer to bacterial pathogens, could be used for ISS surface samples, originally developed for agriculture
  - InnoCentive, yet2.com competitions for non-invasive intracranial pressure monitoring
  - NTL challenges
  - Education challenges
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• How?
  – Cycles of technology calls starting in 2013 with short development timelines (1-2 years)
  – Some selected technologies may fly on ISS as technology demonstrations
  – Develop timelines/plan
    • Project plan
    • Project team
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• When?
  – Seek HQ approval November 15th
  – NHHPC June 2013 workshop to promote concept
    • 1784 ready for submission
    • Cost <$20,000
  – Assign team and actions – December