



FANTASY, FICTION AND FACT: PUSHING THE LIMITS THROUGH SCIENCE AND MATH

Dan Rockmore
Professor of Computer Science
Chair, Department of Mathematics
Director, Neukom Institute for Computational Science
Dartmouth College

Goal

- ▣ Extend the building blocks of science literacy to two new adult audiences: rural librarians and adults in the communities they serve.



Rationale(s)



- ▣ General science awareness
- ▣ Rural adults: underserved ISE population
 - Special problems: fewer venues for ISE in rural areas (e.g., few/no science museums)
- ▣ Librarians are generally not comfortable facilitating science inquiry

Organization

- ▣ Product: “Science Evening Kits” (“Pushing the Limits!”) for rural libraries
 - How people are using STEM to push their own limits every day

Organization

- ▣ Use popular literature as a “hook” to draw audiences into STEM community events
 - Combination book club and science café
- ▣ STEM-content videos used to anchor public programming series in rural libraries, which
 - 5 Kits on STEM topics, libraries choose 4
 - Highlight popular related literature
 - 2 Professional quality videos:
 - Author/Science Advocate Pairing
 - Human interest story: Real Science, Real People, Real Stories
 - Non-NOVA for a non-NOVA audience!

Units

- ▣ Nature
 - Author: Clive Cussler (TBN)
 - Human Interest: The new technologies of prostheses
- ▣ Life
 - Author: TC Boyle (“When the Killing’s Done”)
 - Human Interest: TBD
- ▣ Power
 - Author: Erik Larson (“Thunderstruck”)
 - Human Interest: A “green” drag racer (Lelani Munte)
- ▣ Survival
 - Author: Margaret Atwood (“The Year of the Flood”)
 - Human Interest: Demolition combines! (Shrums)
- ▣ Knowledge
 - Author: Jean Auel (The Earth Children series)
 - Human Interest: The transmission of tradition and genetic information over time (Sean Brock)

Goals

- ▣ PD for librarians: “How to Host a Limits Event”
 - Associated Outcome: Make librarians more comfortable in creating science events; more comfortable as science gateways;
- ▣ PD for scientist facilitator: “How to Host a Limits Event”
 - Associated Outcome: Create “local” science facilitators
- ▣ Rural adults
 - Raise awareness of/interest in science in everyday lives;
 - ▣ Second order effects transmitted to families
 - Connect with a “local” scientist; create awareness of library/librarian as place/person to learn science;

Timeline

- ▣ Phase I: Fact-finding (librarian focus groups); Topic (re-) formulation
- ▣ Phase II: Media development (materials/webinars); Library recruitment for initial 20 test sites
- ▣ Phase III: Full Deployment (100 libraries nationwide)
- ▣ Phase IV: Summary Evaluation

Key Personnel

- ▣ Scientists: D. Rockmore (PI, Dartmouth), M. Gleiser (co-PI, Dartmouth)
- ▣ Video Production: M. Maloney (DMG), H. Dawson (DMG)
- ▣ Librarians/Library Professionals: A. Bennett, L. Crowe (co-PI, Califa), K. Brown (DU), P. Barber, L. Grieco (ASRL, Gilpin Library)
- ▣ Evaluators: K. Gareis (GRG)
- ▣ ISE Specialists: J. Falk (co-PI, OSU), M. Rice (co-PI, DMG)