ResearchChannel

ResearchChannel

Think Forward.

Amy Philipson
Executive Director

The ResearchChannel Consortium

- **An intellectual community, we make knowledge available to all by sharing our developments, insights and discoveries with a global audience.**
- **We bring together ideas from many of the world's premier academic and research institutions and disseminate those ideas to the public directly, without interference.**
- **We are committed to technological innovation to enable leading-edge exchanges of our resources.**

Consortium Members

A.B. Freeman School of Business at Tulane University
California State University, Sacramento
Duke University
George Mason University
Johns Hopkins University
Massachusetts Institute of Technology
National University of Singapore
New York University
Oregon State University
Pennsylvania State University
Rice University
Rutgers, The State University of New Jersey
Stanford University Medical Center
Texas A&M University
Tufts University
Universidad de Puerto Rico
Universidade de São Paulo
University of Alaska - Fairbanks
University of Chicago
University of Hawaii
University of Maryland
University of Michigan
University of Pennsylvania
University of Southern California
University of Virginia
University of Washington
University of Wisconsin-Madison
Virginia Tech
Yale University

Consortium Members

AARNet
Advanced Network Forum
AJA Video Systems Inc.
CENIC
Fujinon
Howard Hughes Medical Institute
IBM Corporation
Intel Corporation
Internet2
Johnson & Johnson
Library of Congress
Microsoft Research
National Academies
National Academy of Engineering
National Academy of Sciences
National Institute of Nursing
National Institute of Standards and Technology
National Institutes of Health
National Library of Medicine
National Science Foundation
National Sea Grant College Program
Pacific Northwest Gigapop
Poznañ Supercomputing and Networking Center
R1edu.org
SURFnet
Vulcan Northwest Inc.
Wisconsin Public Television

Our Newest Members

ResearchChannel

ResearchChannel
Distribution

U.S. Television Distribution

21.9 million households

- DishNetwork satellite system
  - **11.5 million homes**
- Cable systems
  - **10.4 million homes**
  - **35 states**

U.S. Television Distribution: New Markets

- **850,000 new subscribers in past 12 months**

Charlotte, NC

Douglas County, WI

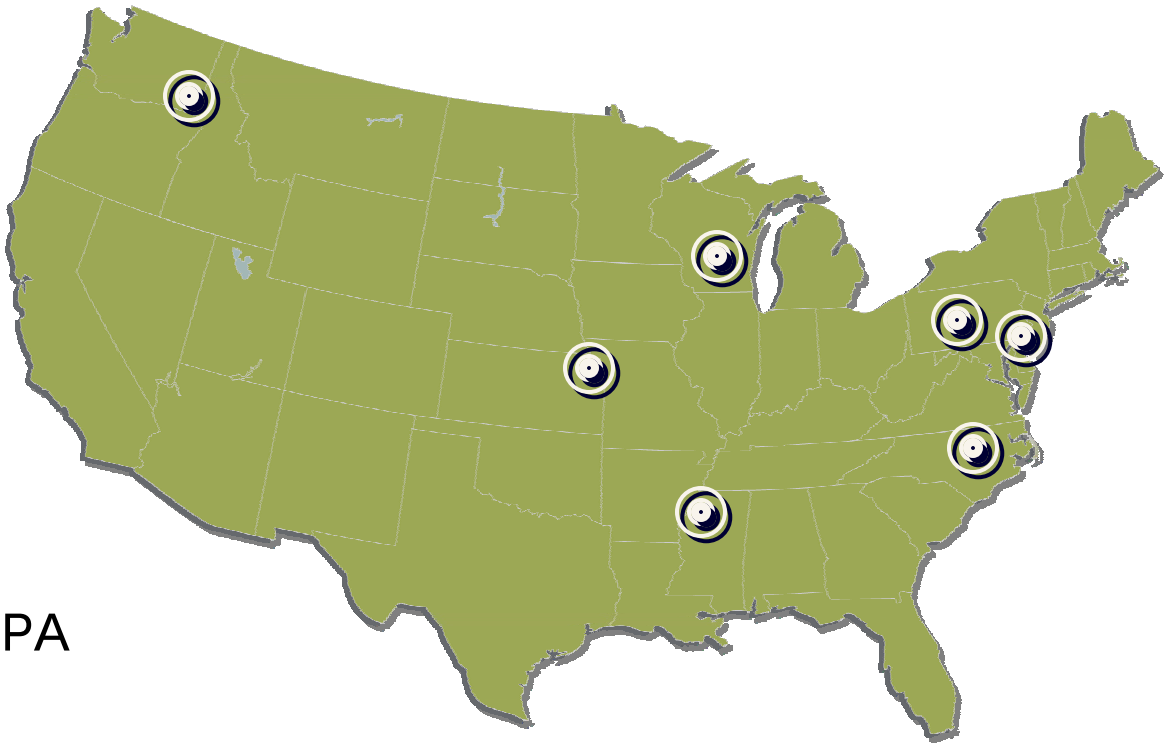
Lawrence, KS

Oxford, MS

Princeton, NJ

Pullman, WA

South Luzerne County, PA



ResearchChannel Audience

- **The ResearchChannel audience is important and influential –** they have the highest levels of education, income and profession.
- **They range in age from 25-64 years;**
- **They have higher than average Internet use;**
- **They are twice as likely to take a college course** next year than the average media market.
- **The "Young with Money" group** (18-34 year olds with $100K plus income) is 333% times more likely to watch ResearchChannel than the average media market.

Source: MediaAudit 10/05

New Distribution Initiatives: Cable VOD

- **Ideally suited to free VOD platform**
- **Charter Communications agreement adds 2 million VOD subscribers**
- **Launch first quarter 2006 with 15 titles per month**

New Distribution Initiatives:
ResearchChannel in India

Dr. Vijay Kumar
Assistant Provost and Director
Academic Computing
Massachusetts Institute of Technology

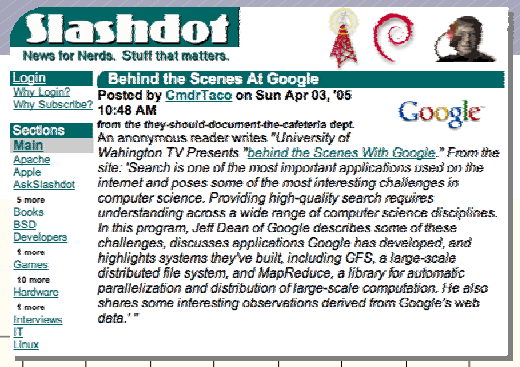
Dr. Mangalam Srinivasan
Senior Fellow
Weatherhead Center for International Affairs
Harvard University

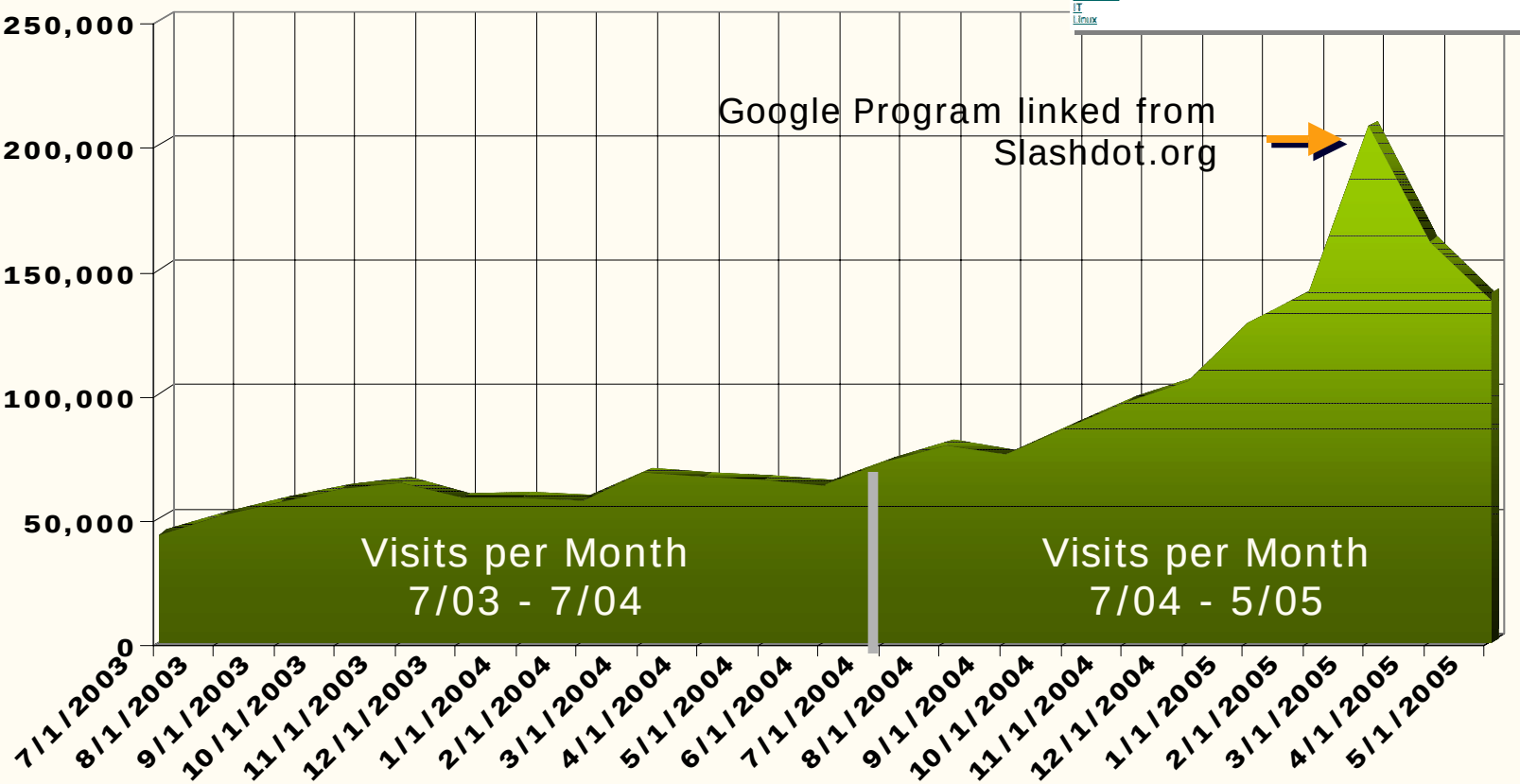
Online Usage on the Rise

	July '04	July '05
Yearly Web Visits:	756,484	1,634,088
Average Visits Each Day:	2078	4489
Streaming Content Plays Each Year:	49,222	1,394,144
Average Plays Each Day:	135	3830

Web Trends: Website

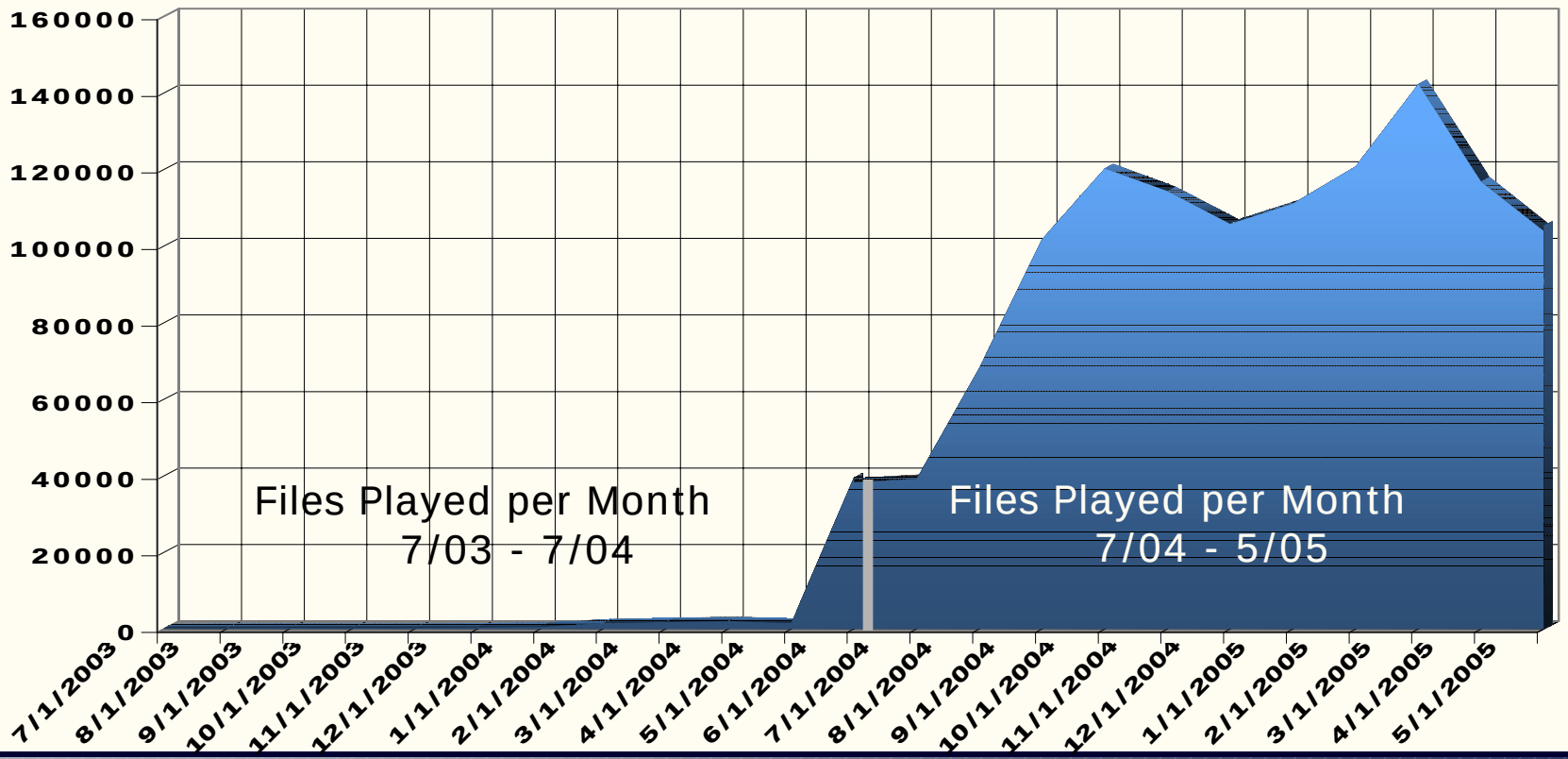
Total visits up **99%** over last year





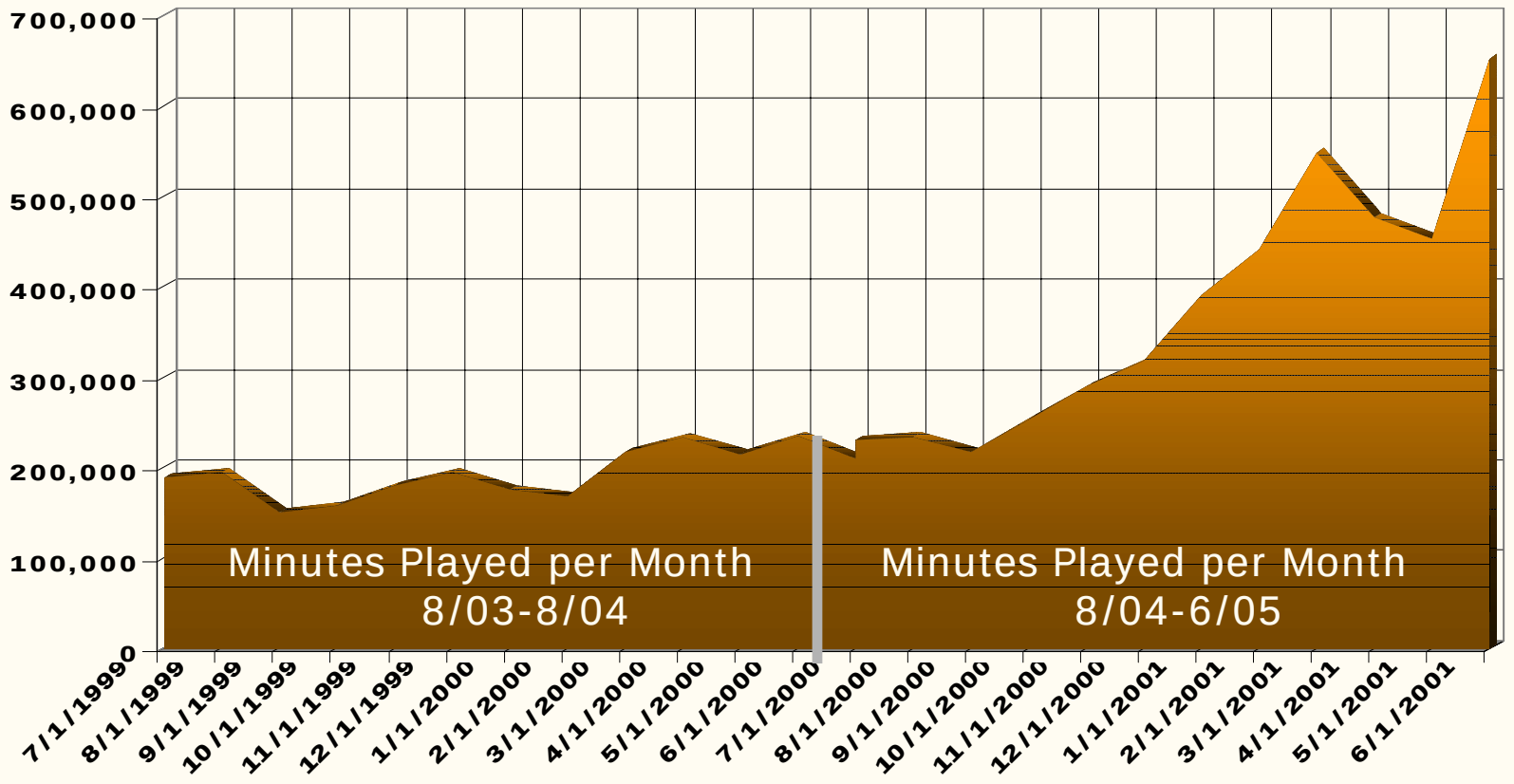
Web Trends: Streaming Media

Programs Played up **1,600%** over last year



Web Trends: Viewing Duration

Total program viewing time increased **345%**



Audience Feedback

“ResearchChannel is what one hopes to find more of on television. ResearchChannel seems to be the best-kept secret in broadcasting today. I am delighted to be in the know … ”

ResearchChannel

ResearchChannel
Programming

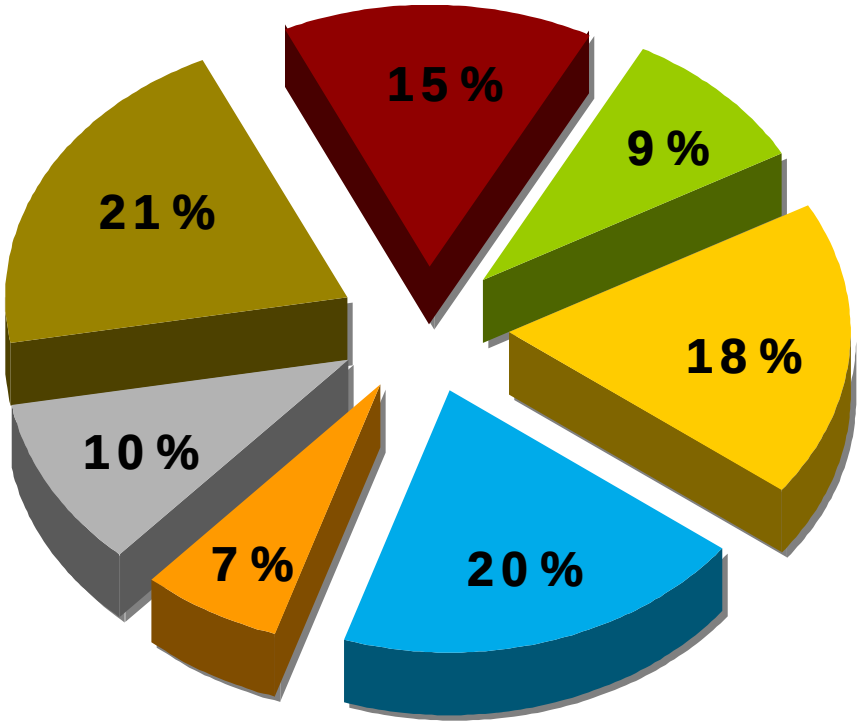
ResearchChannel Programming

- **Our content is unmediated and uncut.** We respect our audience's desire for insights into today's most important discoveries and discussions.

ResearchChannel Programming

- **We deliver a broad range of subjects.**
- **Our library includes over 2,100 hours of programming – with nearly 400 programs added this year.**

Programming Subject Areas

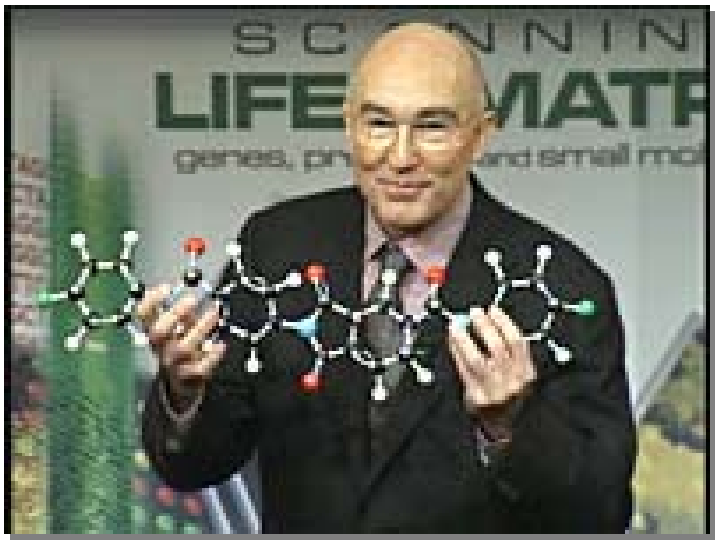


- Arts and Humanities
- Business and Economics
- Computer Science & Engineering
- Health and Medicine
- K-12 and Education
- Sciences
- Social Sciences

The Stanford University Medical Center
Health Hour

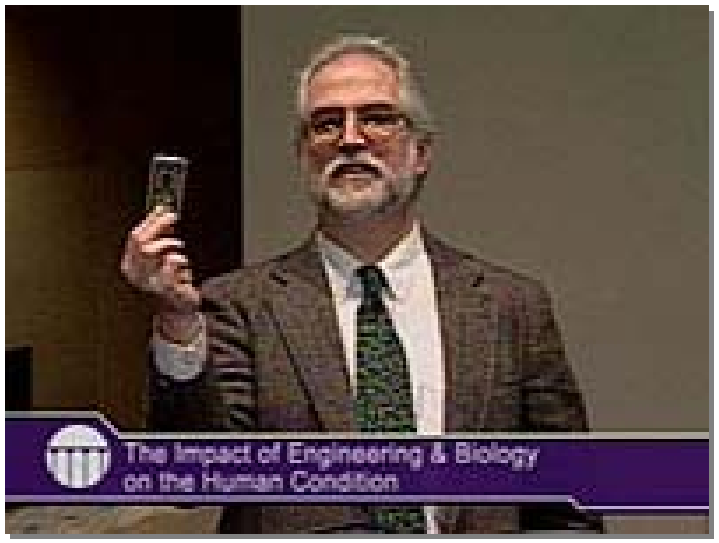
- Like New: Dental Implants
- Advances in Weight Loss Surgery
- Preserving Fertility in Cancer Patients
- Understanding Cardiovascular Disease in Women

Howard Hughes Medical Institute
Understanding Biomedical Research Series



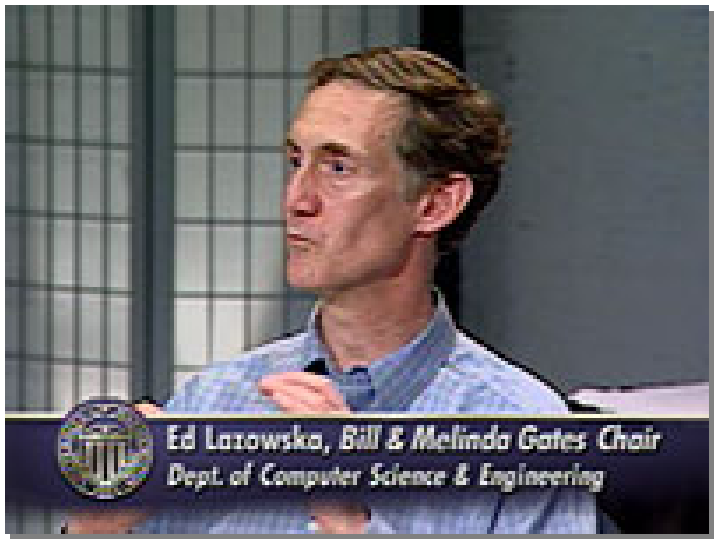
- Chaos to Cure: Bringing Basic Research to Patients
- Chemical Genomics: New Tools for Medicine
- Research Mechanics: Putting the Brakes on Cancer
- Emerging Infections: How Epidemics Arise

University of Washington
Engineering, Biology & Human Health



- Appropriate Technology in Health
- Biomedical Research in Space
- Science & Technology in Global Health
- Tissue Engineering & Life-On-A-Chip

University of Washington
2040 Vision

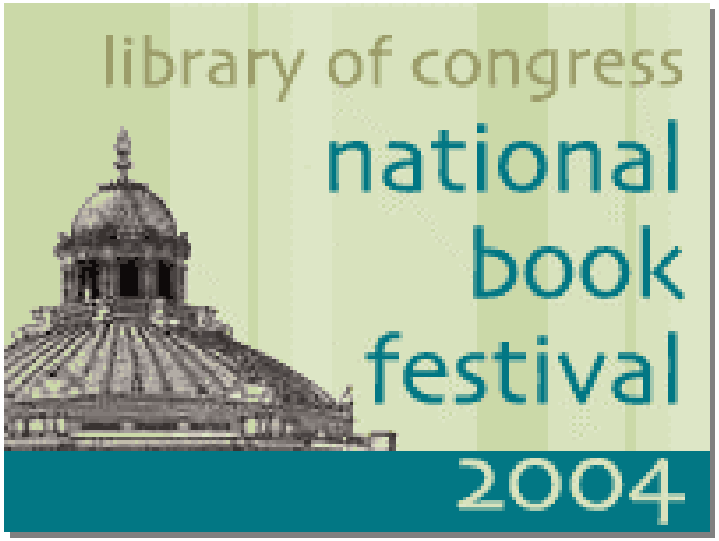


- The Impact of Research in the Decades Ahead
- What Will Science be Like in the Future?
- What Will the University of Washington Contribute to the Future?

From **Johns Hopkins University**

- Working Together for Success
- Quantum Physics Model of the University
- Protein-Protein Interaction: A 3-Dimensional Jigsaw Puzzle
- Arab Women Speak Out: Strategies for Self Empowerment

The Library of Congress
2004 National Book Festival



- R. L. Stine
- Leigh and Leslie Keno
- Cokie Roberts
- Kareem Abdul-Jabar

University of Southern California
USC Presents...CU@USC

- CU@USC with Tom Hanks
- CU@USC with George Lucas
- CU@USC with Michael Cunningham
- CU@USC with Professor Cynthia Young

Microsoft Research

- Lectures are coming in daily to be part of ResearchChannel collection
- Between five and nine new lectures each week

ResearchChannel

Innovations in Technology

Why?

- To advance global networking technologies
- To explore new methods of media distribution and sharing for teaching learning and research
- To further multidisciplinary multinational scientific collaboration
- Because the consortium is uniquely qualified to do so

On the Leading Edge

- **ResearchChannel is a collaboration among experts in Internet networking, storage/search infrastructure development, emerging streaming media and interactive technologies, digital television engineering, and video production.**

Projects

- **First Internet HDTV transmission - IHDTV**
- **Digital Asset Management System Development - DigitalWell**
- **Automation of multiple format encoding**
- **MPEG2 Multicast (**SD broadcast quality over IP)
- **Streaming to handhelds**
- **ResearchChannel Internet2 Working Group**

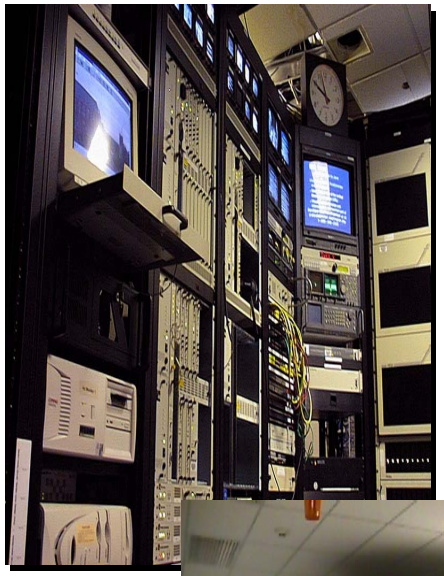
DigitalWell: Digital Asset Management

Project Focus

- **Easy way to acquire, collect, classify, store ,deliver large collections of digital media over IP networks.**
- **Proxy for any type of large data sets but initially focused on video and audio assets**
- **Includes broadcast/Internet Integration**
- **Exploits next generation networking to ensure high quality – Deliver Realism**
- **Easy-to-use Web services-based interface compatible with current Web browsers and computing platforms.**
- **Uses pluggable authentication to ensure security and control access to collections.**
- **Scalable architecture ensures that collections can be built, accessed, searched and shared between disparate networked communities.**
- **Middleware – integrates easily**

  Metadata, DRM/IP, AAI, API, Grid
- **Automation – End to End**

  Capture, Describe, Preserve, Deliver

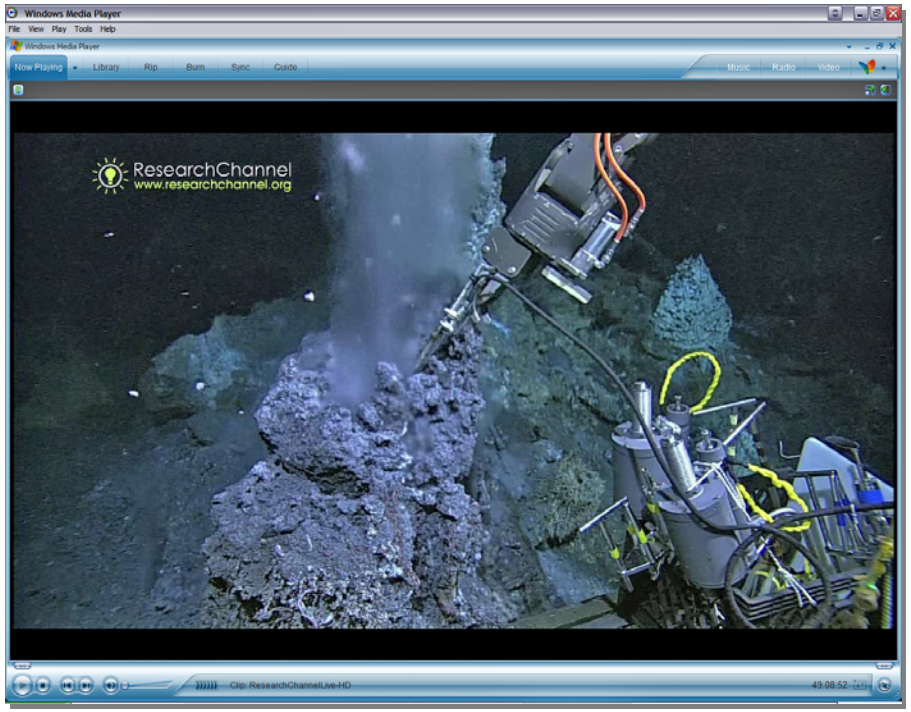


DigitalWell: Storage Resource Broker

- SRB being layered underneath DigitalWell to allow sharing of content
- Enables digital library systems to communicate using their metadata
- Examples of libraries that can communicate using SRB: MIT's DSpace, Cornell's Fedora
- Important step in being part of BIG science

Internet HDTV

20,000 terabits under the sea

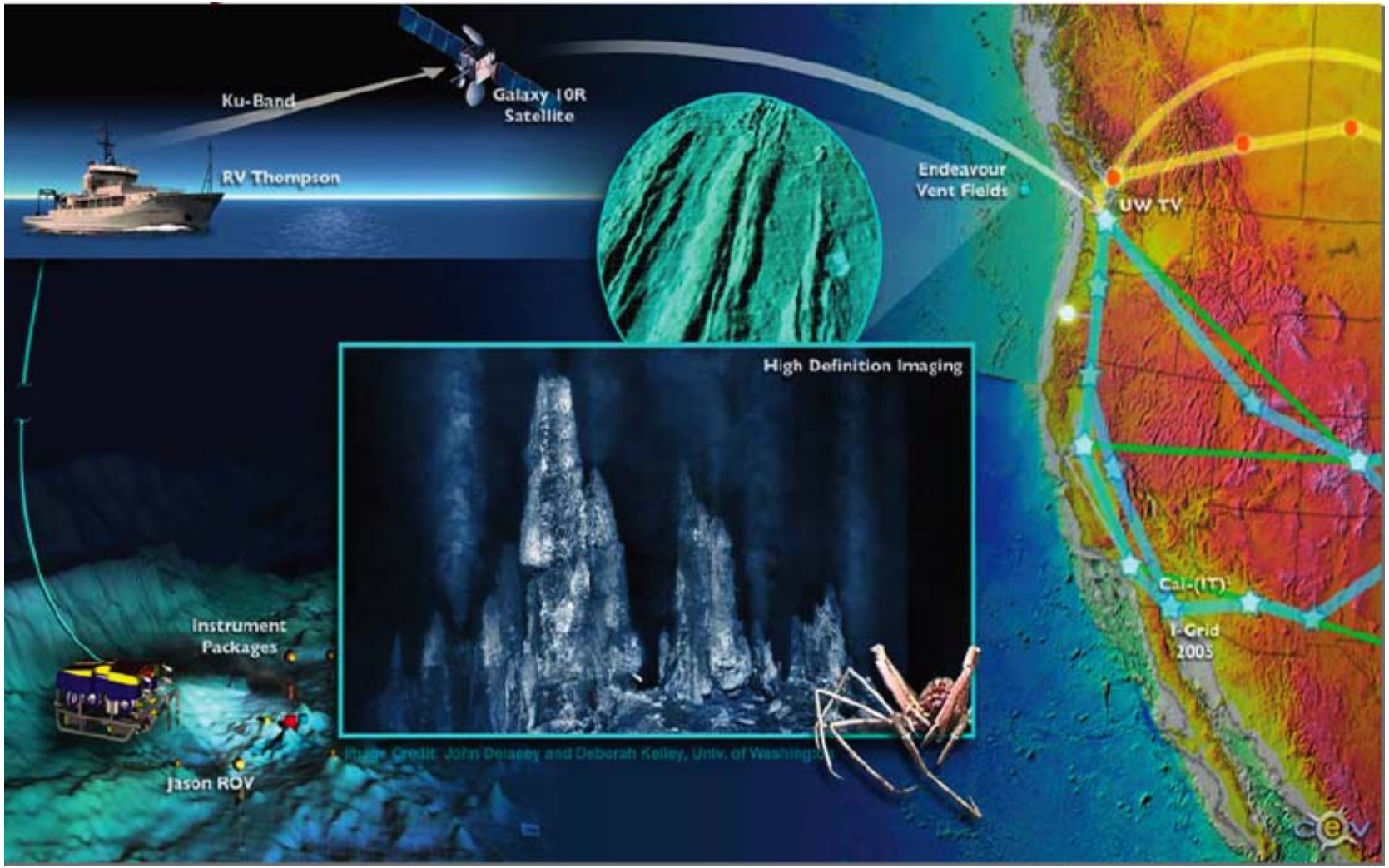


HD streaming to desktops

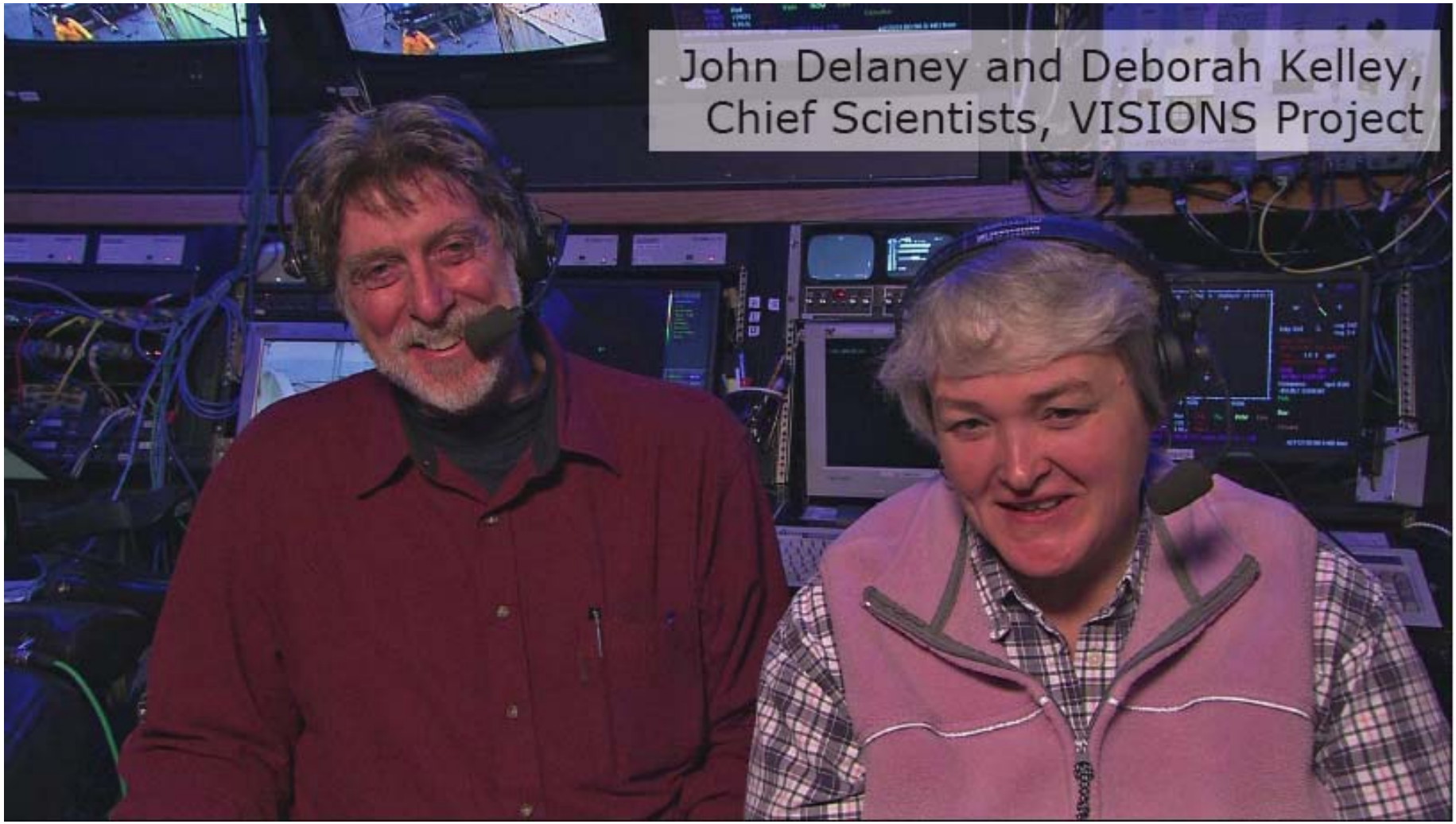
Multicast MPEG2 at 20Mb/s

Windows Media 9 at 6Mb/s

Internet HDTV: VISIONS'05



Internet HDTV: VISIONS'05



Internet HDTV: VISIONS'05

John Delaney,aboard Thompson vessel, insets from seafloor

Internet HDTV: VISIONS'05

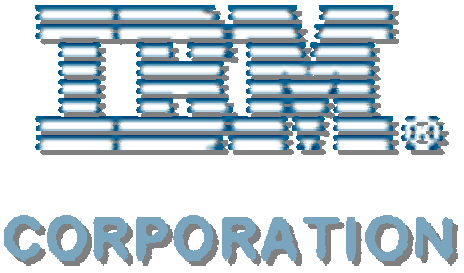
iGrid Demonstration: Global n-Way Video

DigitalWell and IHDTV

Open Source

- First quarter 2006
- Looking at various forms of open source
- Call for participants to work on this

Technology Support

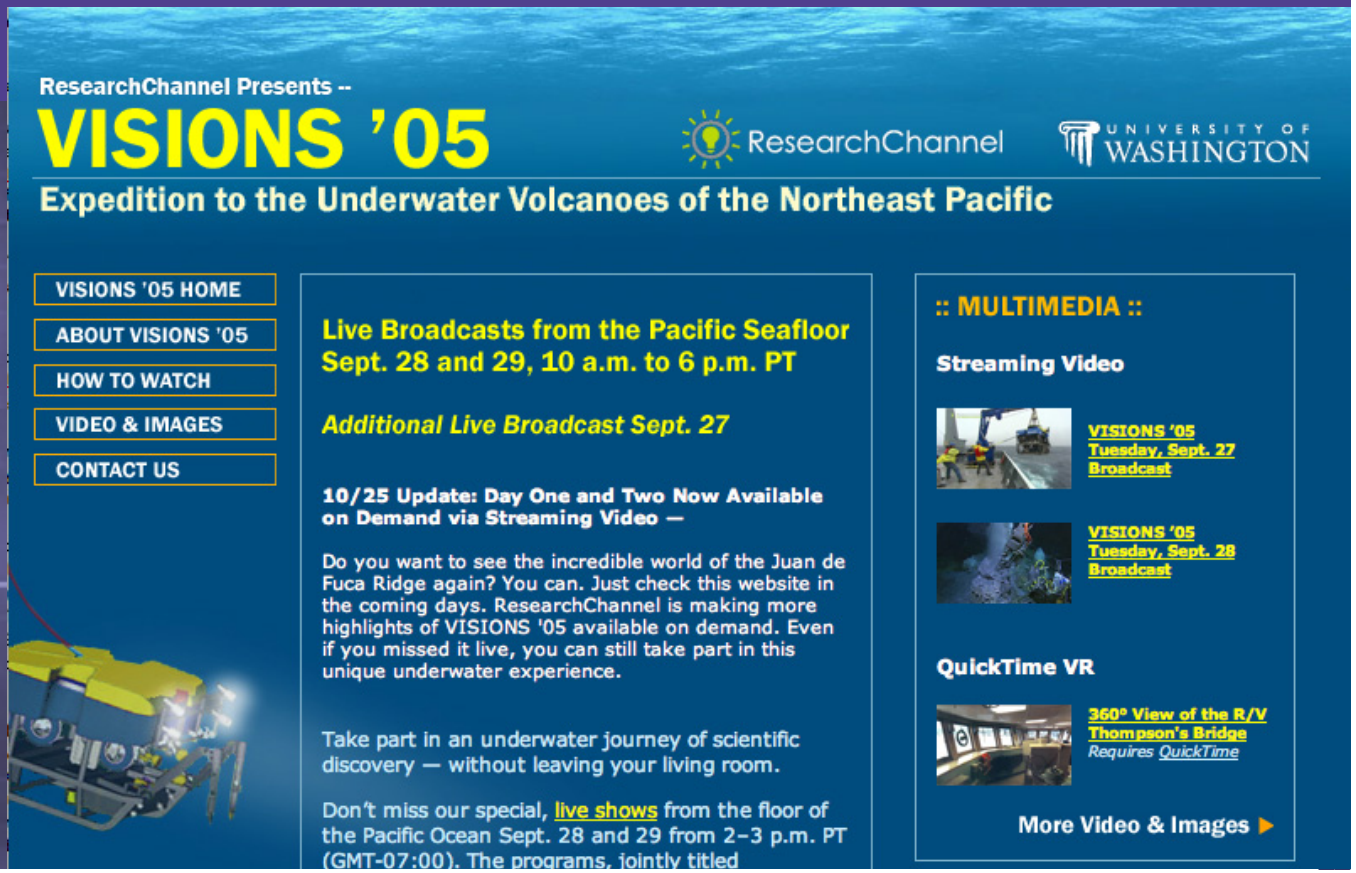


ResearchChannel

You are invited to

Think Forward

with **ResearchChannel.**

ResearchChannel

A culmination of these efforts -