



NAMES General Assembly
Children's Museum in Jordan
October 2016

Localizing Content for your Audience
27 October 2016

NAMES
REACH
NAMES 2016 Conference
5th General Assembly Meeting
Hosted by the Children's Museum Jordan
المؤتمر الخامس لرابطة المتاحف الوطنية
للمتاحف الطفولية والتسويق الموسمي
بإمارة دولة الامارات العربية المتحدة
Under the Patronage of Her Majesty
Queen Rania Al Abdullah of Jordan
26-28
OCTOBER
2016
Amman, Jordan



Hallá

Привет

Hola

مرحبا

こんにちは

Bonjour

Hallo

Hello

Localization of Content

- This session will cover different institution's experiences and approaches to localizing content for various contexts: science festivals, touring exhibitions and development of permanent exhibits.
- It will also cover the challenges but also opportunities of striking a balance between creation of universal content and the demand for very localized content. The speakers will share their experiences of strategies, approaches and outcomes in the process of consolidating existing content with local needs.

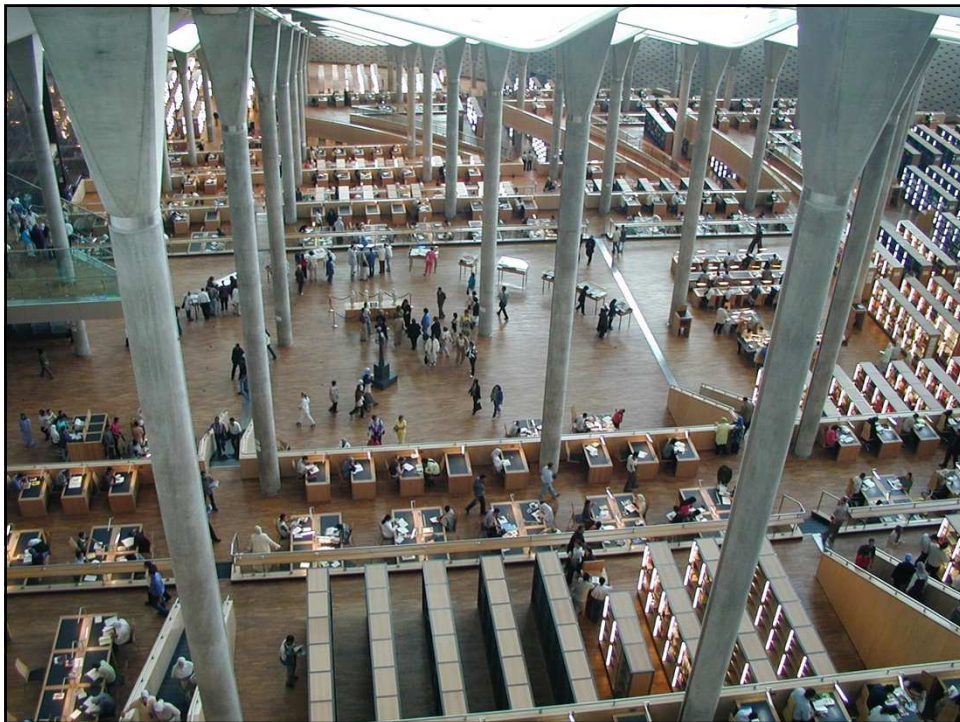


Speakers

- **Ayman El Sayed**
 - Bibliotheca Alexandrina, Egypt
- **Neama Al Marshoodi**
 - Abu Dhabi Technology Development Committee, UAE
- **Nawaf AL-Rudaini**
 - The Scientific Center, Kuwait
- **Brad Irwin**
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- **Tom Rockwell**
 - Exploratorium, CA, USA



Library of Alexandria







Over 1000 Events Per Year



Museums



Exhibition



Orchestra



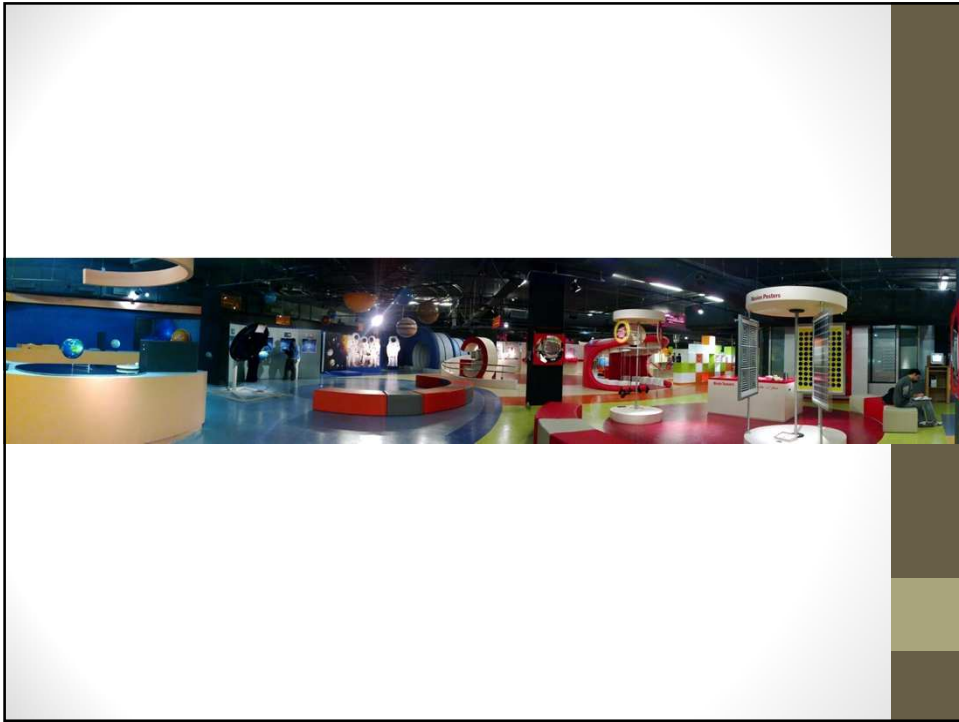
The New Library of Alexandria

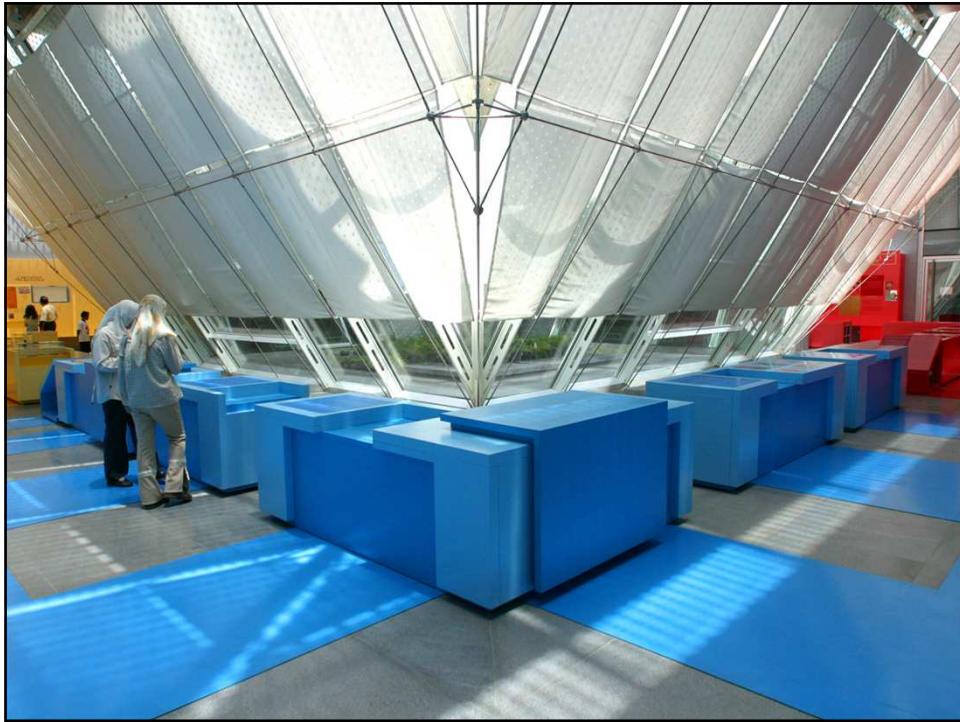
A complex of lively institutions!



Planetarium Science Center









Even for Parents

- Understanding middle childhood development
- Encouraging social-emotional competency
- Responding to school and family life challenges





1st Award, ISEF 2015



- Yasmine Yehia Abdou,
- Damietta
- 1st Award in the Environment Management for her project; "Rice straw power"
- INTEL ISEF, Pittsburg, 2015

ips
INTERNATIONAL PLANETARIUM SOCIETY INC.

ecsite
EUROPEAN NETWORK
SCIENCE CENTRES & MUSEUMS

NAMES
رابطه المراكز العلمية لتضامن افريقيا والشرق الأوسط
North Africa and Middle East Science centers network

Planetarium
Science Center
مركز الشبكة السماوية العلمي

ARA
الجمعية العربية للروبوت
Arab Robotics Association

Eusea
European
science
events
association

ASTC
ASSOCIATION OF
SCIENCE-TECHNOLOGY CENTERS

الشبكة العربية للهرأة فى العلوم و التكنولوجيا
Arab Network for Women in Science & Technology

Science Clubs Project



Science Clubs Project

- **Status Quo**
 - Established science clubs in 450 public schools in Alexandria;
 - Total number of trained teachers is about 1400;
 - 2 computers have been distributed to 300 SCI schools;
 - 2 environmental kits were distributed to 100 SCI schools;
 - Scientific kits (donated by the USA Embassy) were distributed to 300 SCI schools;

Teachers' Training Sessions



Layout at Schools







Localization example at the BA

The LAMAP website is one of the BA projects to introduce this exceptional and tested resources for the Egyptian educational

The BA managed to establish a mirror website in the national language, and providing scientific content that is in line with the Egyptian education curriculum, with a complete review according to the local community



Teachers Trainings

The SCI provides trainings to the teachers who were selected from the targeted schools in each phase. The goal is to provide them with the necessary teaching skills, as well as the tools that enable them to create a science club in their schools. Also, it aims to train them on new strategies to change the teaching methodologies and to transfer the scientific information and concepts in an interactive way instead of the indoctrination method. By the end of the first training sessions teachers will be familiar with a new concept of teaching entitled the **Animator**.



- Moreover, science centers offer teachers training to change outdated teaching methodology of science information transmission
- Training sessions introduce Enquiry Based Science Education (EBSE) methodologies to teachers, and help them to explore students' innovative ideas
- Teachers' training is always the core of work of any successful Science Hub, to level up the teachers' practical skills, and to improve their teaching skills outside curriculum barriers.



Teachers Training Methodology

Pedagogical Philosophy, based on breaking the barriers of classroom and curriculum to provide space for creativity and innovation, for both the teachers and the students, through the following focal trainings:

Thinking Skills, offered through a minimum of three sessions to change the teacher's concept of practical science lessons. Accordingly, by the end of the trainings, they will gain the capacity to transform theoretical scientific data to simple hands on activities that students can easily understand.

Six Teaching Methods: The training sessions will be conducted to inform teachers how to mix and match the various teaching techniques based on the students' capacities and scientific content. These methods are as follows:

- 1) Read
- 2) Listen
- 3) Look
- 4) Listen and Look
- 5) Experiment, Perform and Do
- 6) Teach Others.







Training of Trainers (ToT), this advanced level will be offered to teachers so as to develop their training skills and inform them of the most successful and cost-effective training techniques.

Over the past three years, 40 teachers training sessions were conducted, each session 30 hours over 5 days for an average 35 teachers, delivered by the Planetarium Science Center Coordinator and six teachers (core of ToT).

Total number of trained teachers is about 1400 teachers

Total number of training hours: 30 hrs/5 days



La Main à la Pâte

La Main à la Pâte (LAMAP) is a French educational website promoting scientific investigation within the framework of primary school education. The educational website helps renovate the teaching of science in primary schools by motivating teachers to place children in a position whereby they can experiment, observe, query and reason.

Bibliotheca Alexandrina (BA) signed an agreement with the French Academy of Sciences according to which ISIS created a mirror site for LAMAP in Arabic with the same structure as the original. The BA was also responsible for translating the site content into Arabic, adapting the curriculum, methodology and material to users of the Arab World, and promoting the methodology within the Egyptian science community.

The first major milestone accomplished in this project was publishing a prototype of the Arabic mirror website "Ektashef Benafsak" in April during 2006.

Website: <http://lamap.bibalex.org>



Promotion of LAMAP

Locally

- Working with CNRDP
- Organizing teachers workshops
- Implementing LAMAP activities in the ALEXploratorium

www.lamap.fr

Recherche recherche avancée

dans tout le site

TROUVER

La main à la pâte

Enseigner les sciences à l'école maternelle et élémentaire

Le site *La main à la pâte* est destiné à aider enseignants, formateurs, scientifiques et institutionnels à mettre en place un enseignement des sciences trouvant ses activités de classe, des documents scientifiques ou pédagogiques, des outils d'échange et de travail collaboratif, et bien d'autres choses.

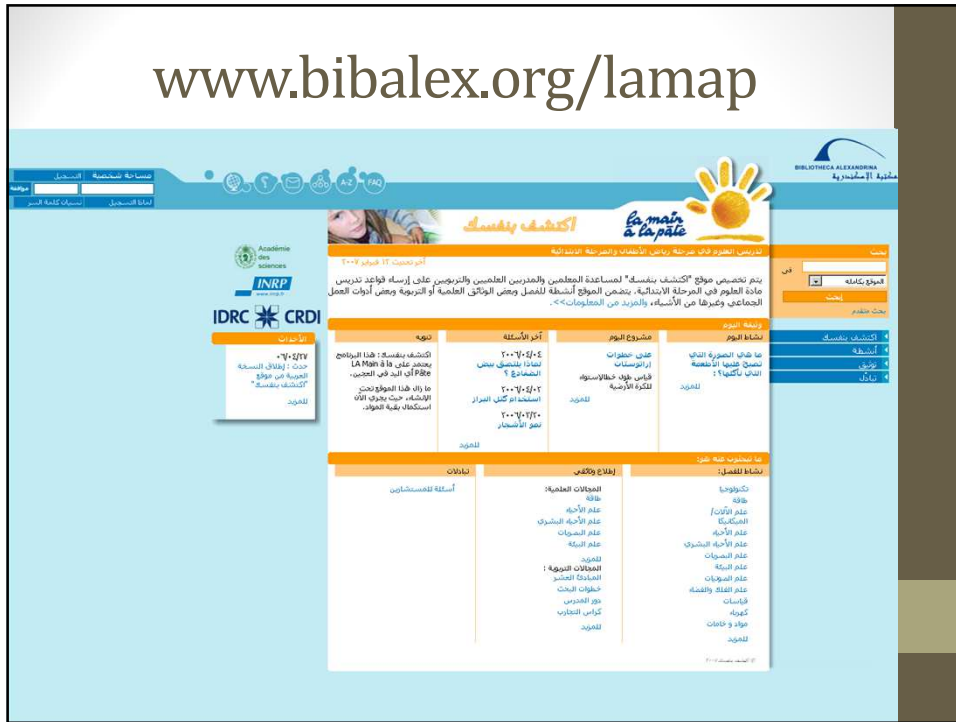
Documents du jour

L'activité du jour	Le projet du jour	Dernières questions
<p>Transmission et transformation de mouvements</p> <p>En observant et démontant divers objets (batteur, chignole...), les élèves étudient la transmission et la transformation de mouvements, tout particulièrement pour les mouvements de rotation. Ils sont alors capable de concevoir des mécanismes qui modifient vitesse et direction du mouvement entré et de prévoir le mouvement en sortie.</p> <p>Plus >></p>	<p>Vivre avec le Soleil</p> <p>Un projet "sciences, santé, et citoyenneté" pour sensibiliser enfants et parents aux risques liés aux surexpositions solaires.</p> <p> Plus >></p>	<p>dimanche 02 avril 2006 Utiliser des pelotes de réjection</p> <p>lundi 20 mars 2006 La croissance des arbres</p> <p>jeudi 16 mars 2006 Comment est produite l'urine ?</p> <p>Plus >></p>

Vous recherchez :






Une activité pour la classe	Une documentation	Des échanges
<p>Acoustique Géologie</p> <p>Astronomie et espace Matière et matériaux</p> <p>Biologie Mécanique</p> <p>Biologie humaine Mesures</p> <p>Ecologie Optique</p> <p>Electricité Technologie</p> <p>Energie Plus >></p> <p>Evolution</p>	<p>Scientifique :</p> <p>Astronomie et espace</p> <p>Biologie</p> <p>Biologie humaine</p> <p>Ecologie</p> <p>Electricité</p> <p>Plus >></p>	<p>Pédagogique :</p> <p>Cahier d'expériences</p> <p>Comment faire ?</p> <p>Les 10 principes</p> <p>Rôle du maître</p> <p>Plus >></p>

Des questions a
Des listes de ch



A brief history of *La main à la pâte* (2)

- ✿ **1995 – 1996**
 - **Georges Charpak** : **small scale experimentation** in 344 classes
- ✿ **1998**
 - Publication of the reference **10 principles** as a simple guide for teachers.
 - Launch of the *La main à la pâte* **Website**
- ✿ **2000**
 - The experimentation has expanded to over 5 000 classes
 - The Ministry launch an **official Plan** for quality science teaching
- ✿ **2002**
 - **New official Curriculum** inspired by *La main à la pâte*
- ✿ **2003**
 - **Book of 7 examples** for teachers
- ✿ **2004**
 - **Book of examples** for trainers
- ✿ **2005**
 - **~ 70 % teachers teach science**
 - (few with an active pedagogy)

50 David Wilgenbus, Bibliotheca Alexandrina, january 2006

la main à la pâte





Internet to accompany teachers

51 David Wilgenbus, Bibliotheca Alexandrina, january 2006

la main à la pâte

Key issues for innovating sciences


- ⚙️ **Internet Websites**
 - Resources for teachers & trainers
 - exchanges
- ⚙️ **Training**
 - teaching practice
 - scientific concepts
- ⚙️ **Local school partners**
 - students (high schools, universities)
 - to accompany the teacher (ideas, information, advises...)
 - without interfering with the responsibility of the teacher
- ⚙️ **Media**
 - publishers
 - radio, TV, press

52 David Wilgenbus, Bibliotheca Alexandrina, january 2006

General presentation of the *La main à la pâte* Website

- ⚙️ Creation date : 1998
 - Lack of cooperation in schools
- ⚙️ Responsibility of :
 - Académie des sciences
 - Institut National de Recherche Pédagogique
- ⚙️ 5 full-time people
- ⚙️ Rebuilt in 2005
- ⚙️ General information
- ⚙️ Locally produced resources to teachers
- ⚙️ Scientific and pedagogic hotline: consultants
- ⚙️ Linking teachers - trainers – scientists : exchanges / projects




<http://www.inrp.fr/lamap>
<http://www.lamap.fr>

53 David Wilgenbus, Bibliotheca Alexandrina, january 2006

Principles

- ⚙️ Open source content and free services
- ⚙️ High quality resources
- ⚙️ User friendly interface
- ⚙️ User oriented services
 - Registration
 - Personal space
 - Personal projects, discussion lists, questions...

54 David Wilgenbus, Bibliotheca Alexandrina, january 2006



Resources

- ⚙️ Hundreds of scientific and pedagogical documents
- ⚙️ > 300 class protocols (mainly produced by teachers)
- ⚙️ Progressive appropriation (Coquidé 2001, Wilgenbus 2003)
 1. Direct application, without adaptation
 2. General scheme, with adaptation to the context
 3. Didactic clues

autonomy ↓

⚙️ *"The two point of view about the teacher training are to train teacher to use resources, as an applicator or to train teachers to use resources as bases for teacher's creativity taking into account a more personal context."* (Larcher and Saltiel 2001)

cycle 3

Module : Les circuits électriques 1 2 3 4 5 6

Séquence : **Eclairer une maison de poupée**

Résumé : Eclairer deux pièces d'une maison de poupées. Allumer et éteindre à volonté dans chaque pièce

Mots clés : Electricité, montage, interrupteur

Objectif : Concevoir et réaliser un circuit électrique

Notions Vies : Réinvestissement du concept de circuit fermé et d'interrupteur

Durée : 4 séances de 1h00

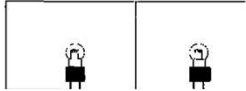
Matériel : Pour chaque groupe de 3/4 élèves:

- Une pile plate de 4,5 V
- Deux lampes de 2,5 V et leurs douilles
- Des fils électriques
- Petit matériel : scotch, trombones, ciseaux...
- Deux interrupteurs
- Boîte à chaussettes pour la maison de poupées.


Cette séquence se déroule sur le même principe que les précédentes.

Problème posé à toute la classe :
Eclairer deux pièces d'une maison de poupées : on doit pouvoir allumer et éteindre indépendamment les deux pièces. Elles doivent s'éclairer avec la même intensité.

Exemple de montage possible



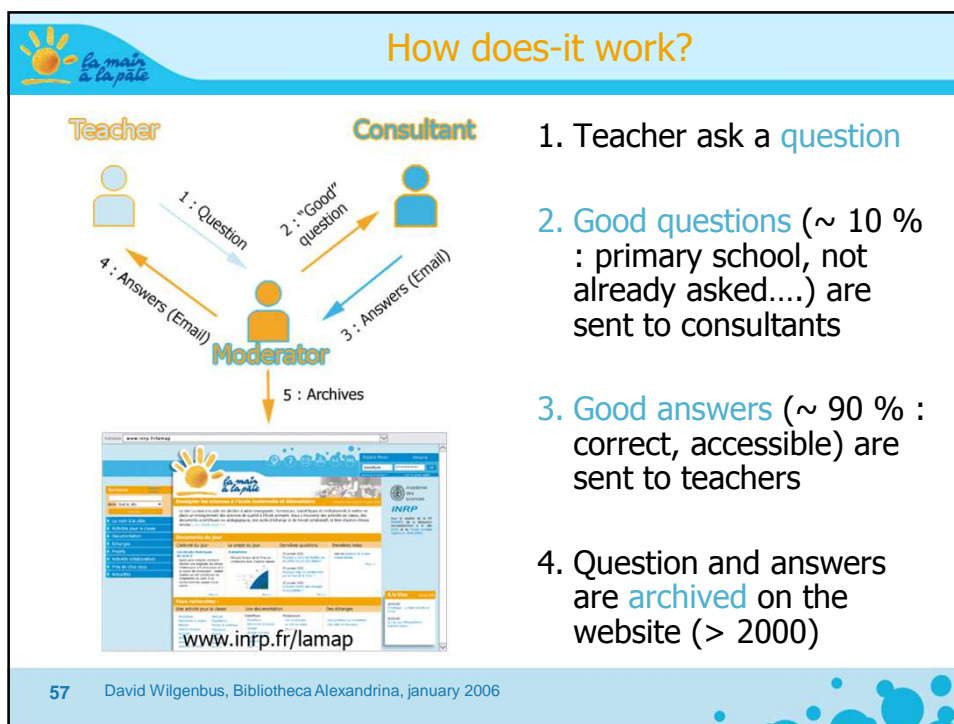
55
David Wilgenbus, Bibliotheca Alexandrina, january 2006




Internet consultation of scientists and trainers

- ⚙️ Not always possible to have a personal scientific partner
- ⚙️ ⇒ *On La main à la pâte Website*
 - 200 consultants
 - 100 scientists
 - 100 trainers
 - On a voluntary basis
 - Up to 200 questions / week
 - 2 moderators

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David Wilgenbus, Bibliotheca Alexandrina, january 2006



 **The 10 principles of *La main à la pâte***

- ✿ Children observe & experiment on real, close objects/phenomena.
- ✿ Children argue and reason, share ideas, build knowledge.
- ✿ Teacher proposes activities organized in sequences, leaving ample space for children autonomy.
- ✿ Spend a minimum of 2 hours/week on same theme, for several weeks. Ensure continuity over the 5-6 years of elementary school.
- ✿ Have children keep their Experiment Notebook with their own words.
- ✿ Aim to an appropriation of scientific concepts/procedures along with a language (oral & written) acquisition.
- ✿ Associate family & neighborhood.
- ✿ Scientific partners to accompany the action.
- ✿ Involve the trainers : learning by doing.
- ✿ Create Internet resources & exchanges : www.inrp.fr/lamap

59 David Wilgenbus, Bibliotheca Alexandrina, january 2006

 ***La main à la pâte* partners**











60 David Wilgenbus, Bibliotheca Alexandrina, january 2006

Thank You



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- **David Taylor**
 - Qatar Museums, Qatar
- **Tom Rockwell**
 - Exploratorium, CA, USA
 - Unfortunately didn't attend the conference



Thank You