



WATER EFFICIENCY RESEARCH:

Fostering International
Collaboration

**WORLD PLUMBING COUNCIL
GENERAL MEETING
Frankfurt, Germany, 13 March, 2017**

Peter DeMarco
The IAPMO Group

THE NEEDS

- ▶ Challenges facing the plumbing industry that require research are profound and numerous
 - ▶ Opportunistic pathogens in water distribution and premise plumbing - legionella
 - ▶ Dispersion of resistant pathogens from sanitary systems
 - ▶ New models for pipe sizing in domestic, commercial and institutional buildings
 - ▶ Increased use of non-potable water systems in buildings
 - ▶ Transport of solid wastes in building drains and sewers
 - ▶ Best practices for improved water and sanitation in developing nations

THE PLUMBING EFFICIENCY RESEARCH COALITION (PERC) EXPERIENCE

- ▶ A US Based Association Coalition
 - ▶ MOU Development – 1+ Years
 - ▶ Work Plan / Budget Development – 1+ Years
 - ▶ Nice ceremony at EPA, but no funding
 - ▶ Seeking Funding – 1+ years



Formal MOU Signing at
EPA Headquarters 2009

PERC'S INTERNATIONAL OUTREACH

- ▶ 2009 CIB W026 – Dusseldorf
 - ▶ Discussions, notably with Professor John Swaffield
 - ▶ Debate of need for research on DLT
 - ▶ Ongoing discussions - Agreement that the PERC Work Plan was unique
 - ▶ Prof. Swaffield's participation at the 2010 IETS (now EWTS)
 - ▶ Ranking of variables, toilet paper focus
- ▶ 2010 CIB W062 – Sydney
 - ▶ Discussions, notably withy Steve Cummings and Jeffrey Clark
 - ▶ Toilet paper testing discussed

PERC'S INTERNATIONAL OUTREACH

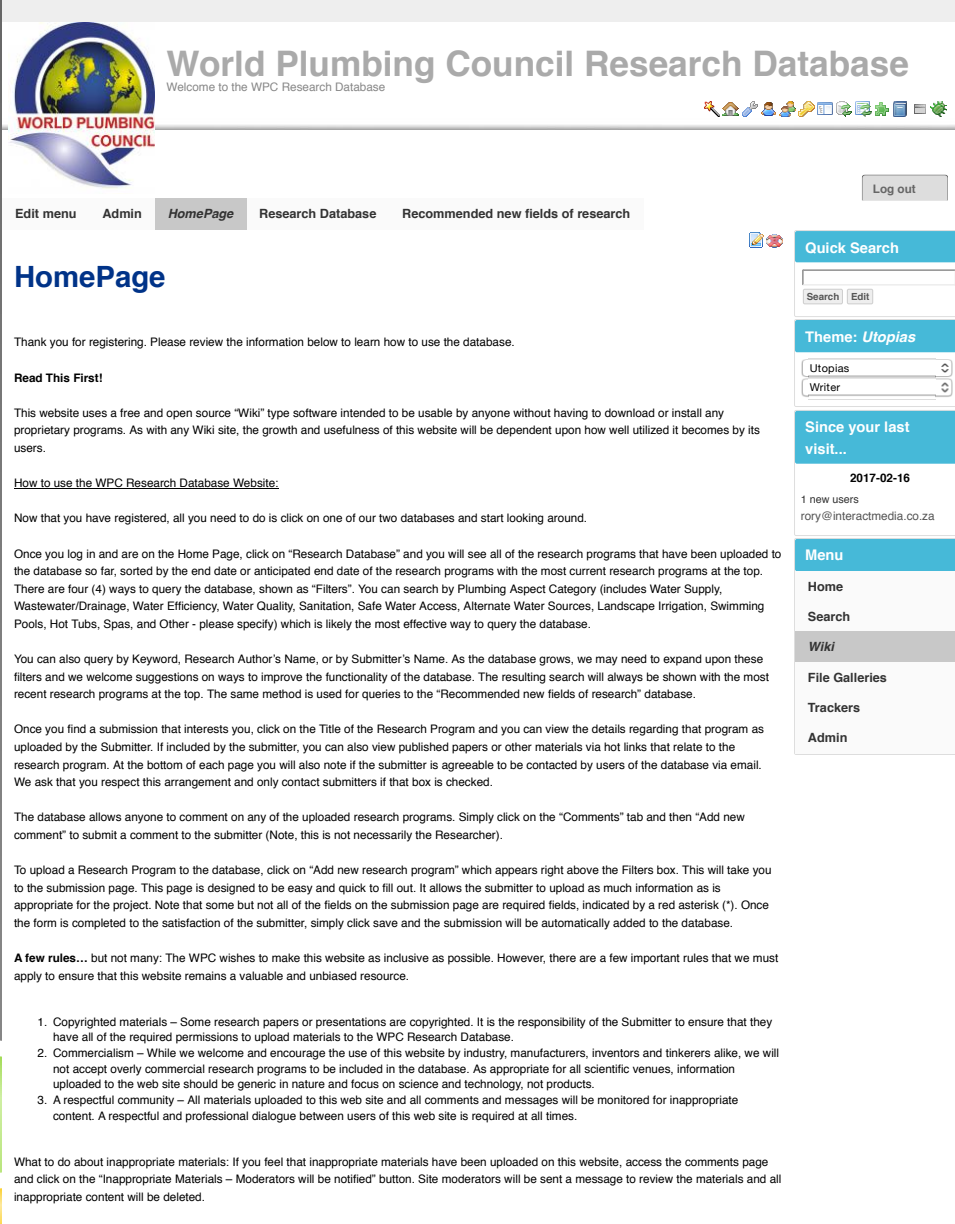
- ▶ MOU Signed between PERC and AS Flow at EPA HQ
 - ▶ Agreed to share data, results and consult on next steps
 - ▶ Discussions on toilet paper led to one of the most important findings from the PERC studies



PERC – AS FLOW MOU
Signing at EPA Headquarters
2010 w/ Jeffrey Clark

THE WPC RESEARCH DATABASE EXPERIENCE

- ▶ Resulted from an update provided on PERC at the 2013 WPC General Meeting during the ISH Fair
- ▶ Discussed at the 2013 CIB W062 in Nagano, Japan and at the 2014 CIB W062 in San Paulo, Brazil



The screenshot shows the homepage of the World Plumbing Council Research Database. At the top left is the WPC logo, a globe with 'WORLD PLUMBING COUNCIL' text. To its right is the site title 'World Plumbing Council Research Database' and a welcome message. A navigation menu includes 'Edit menu', 'Admin', 'HomePage' (selected), 'Research Database', and 'Recommended new fields of research'. A 'Log out' button is in the top right. Below the menu is a 'Quick Search' box with a search input and 'Search'/'Edit' buttons. A 'Theme: Utopias' dropdown is set to 'Utopias' and 'Writer'. A 'Since your last visit...' section shows '2017-02-16' and '1 new users' with the email 'rory@interactmedia.co.za'. A sidebar menu on the right lists 'Menu', 'Home', 'Search', 'Wiki', 'File Galleries', 'Trackers', and 'Admin'. The main content area has a 'Read This First!' section with instructions on using the database, including a link to 'How to use the WPC Research Database Website'. It explains that the site uses Wiki-type software and provides details on how to search by filters, keywords, or submitter names. It also covers how to find submissions, add comments, and upload new research programs. A 'A few rules...' section lists guidelines on copyright, commercialism, and respectful community behavior.

World Plumbing Council Research Database
Welcome to the WPC Research Database

Log out

Edit menu Admin **HomePage** Research Database Recommended new fields of research

HomePage

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You can also query by Keyword, Research Author's Name, or by Submitter's Name. As the database grows, we may need to expand upon these filters and we welcome suggestions on ways to improve the functionality of the database. The resulting search will always be shown with the most recent research programs at the top. The same method is used for queries to the "Recommended new fields of research" database.

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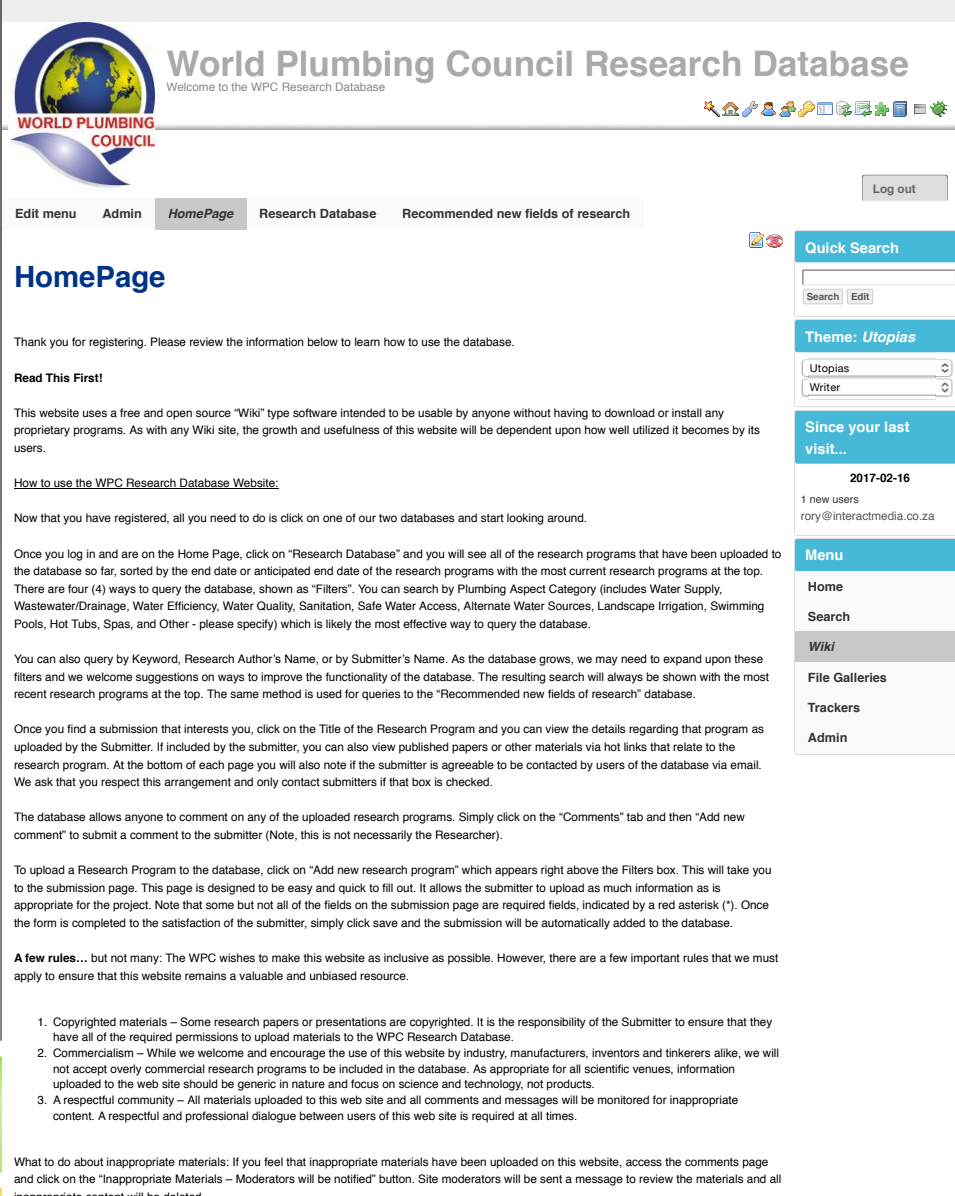
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THE WPC RESEARCH DATABASE EXPERIENCE

- ▶ Database launched in December of 2015
- ▶ Currently ~120 registered users
- ▶ Impact to date =



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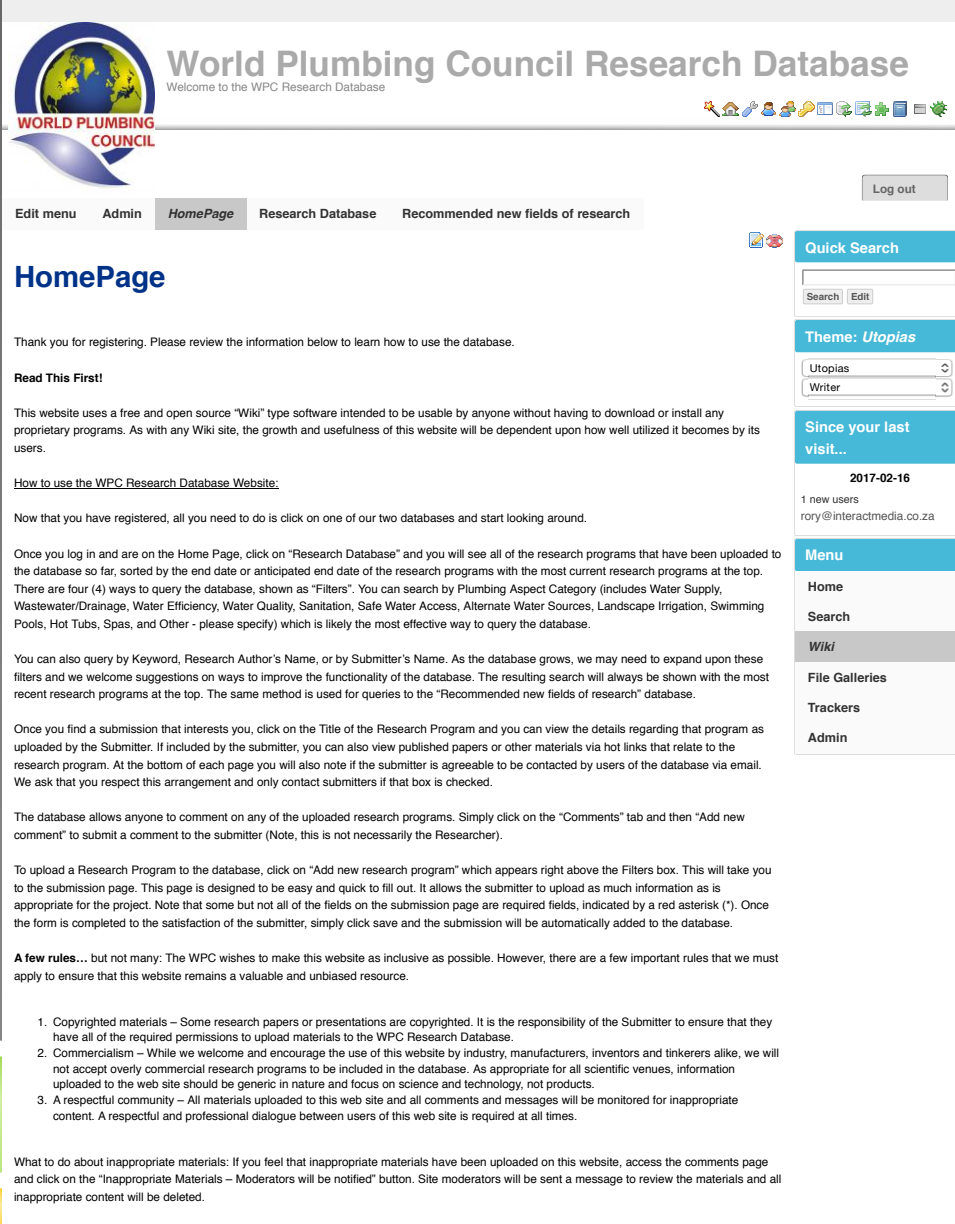
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DISCUSSION: OBSTACLES TO INTERNATIONAL COLLABORATION ON PLUMBING ISSUES

- ▶ General Obstacles:
 - ▶ Time - Collaboration is time consuming, More entities equates to more difficulties
 - ▶ Plumbing isn't sexy – Viewed as low-tech, “dirty job”, does not attract young minds
 - ▶ Plumbing research is expensive, often long-duration work plans, often monotonous
- ▶ Private Sector:
 - ▶ Competitive issues, Losing “control” of data, Results may trigger regulatory action, Staffing constraints
- ▶ Academia:
 - ▶ Competition for grant \$, Need to publish, Copyright issues, IP
- ▶ Government:
 - ▶ Competition for funding, Special interest opposition; Grants often require \$ spent in country

DISCUSSION: OBSTACLES TO INTERNATIONAL COLLABORATION ON PLUMBING ISSUES

So, what can WPC and its members do to foster better levels of international collaboration on plumbing research?

THANK YOU!

Peter DeMarco

The IAPMO Group

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