

# Antony Williams, the ChemConnector: A career path through a diverse series of roles and responsibilities

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*The views expressed in this presentation are those of the author and do not necessarily reflect the views or policies of the U.S. EPA*

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ACS Spring Meeting, Orlando*

- Work History to date
  - Government lab as postdoc (NRC-Canada)
  - Academia as NMR Facility Manager (Ottawa University)
  - Fortune 500 Company as NMR Tech Leader (Kodak)
  - Small start-up company as product manager, marketing manager, Chief Science Officer (ACD/Labs)
  - Consultant – chemistry informatics industry
  - Company owner – created ChemSpider (ChemZoo Inc)
  - Royal Society of Chemistry (bought ChemSpider)
  - US-EPA – cheminformatician and “connector”

# Who am I today?

- Product lead for “CompTox Chemicals Dashboard”  
@ US-EPA – **scientist, “evangelist”, connector**
- Responsibility for cheminformatics projects, internal  
& external collaborations, “product marketing” –  
**cheminformatician**
- Work with a team of people developing software  
solutions – “**product & project manager**”
- Scientific publications, books, blogger – **author**
- I am @ChemConnector – **social networker**

If I were to philosophize about it..



# What have I learned in my career?

- So much time is spent working - not enjoying it is not an option for me
- **BUT** it is called “work” for a reason – if you enjoyed every moment it would be a hobby
- Continue to sharpen your toolset as time and projects allow. Collaborate, network and communicate. Do not go it alone...

# What have I learned in my career?

- “Playing it safe” is a perfectly valid option – but rarely effects change and innovation
- Use your head & heart to make career choices
- Say what you are going to do and do what you say – it defines your reputation as an employee
- Careers are **made** – they don’t just happen. Making your work visible is very important...

# “Work” versus “Passion”

- We all need to work but choose to work on things that give you a **good** emotional response... stimulate interest, lack of sleep, joy, obsession...
- Develop new skills, step out of the box and extend yourself. What you know now is never enough...
- Balance logical decisions with gut-level responses
- Work somewhere that supports your passion(s)

- I always found Chemistry interesting....but never found it easy!
- Almost **bottom** of my class for Physical Chemistry. Spectroscopy specifically made no sense but was **fascinating**! Tough struggles...
- Self-realization – “Beat the Challenge” – had to study it until I got it.



# What brings you joy?

- **Figure out early** what brings you joy if you can (**not so easy!**)
- Some self-analysis and I know what drives me
  - Creating solutions to difficult problems
  - Building and playing with functional teams
  - Working with people more skilled than me
  - Communicating complexities
  - Acts of service for my community
- What drives you and brings you joy?

- Multiple offers for NMR Postdocs in USA (PhD studies)
- One offer for ESR/EPR Postdoc in Canada
- Why Canada?
- Emotional decision...
  - Exploration is fun
  - Out of the box motivates

- **Business Driver:** Do more analyses faster and with higher quality. Walk-up automation for analytical support, Get data to chemists
- **Business Driver:** Improve NMR Data analysis- **can software outperform people for analysis?**
- **Business Driver:** Sample tracking – LIMS as the internet was born
- I entered cheminformatics for **BUSINESS REASONS**

# ACD/Labs Start-up 1997-2007

## Commercial Cheminformatics

- Creativity at its best – new products, new markets, design work, marketing, good science
- From NMR spectroscopist to deeply understanding chemical **nomenclature**, **structure** representation and **databaseing**, data integration, and the **web**
- My greatest **joys** – solving problems for people and innovating scientific solutions with computers
- My driver – “**Help OTHER people** be more successful”

# A HOBBY PROJECT just because

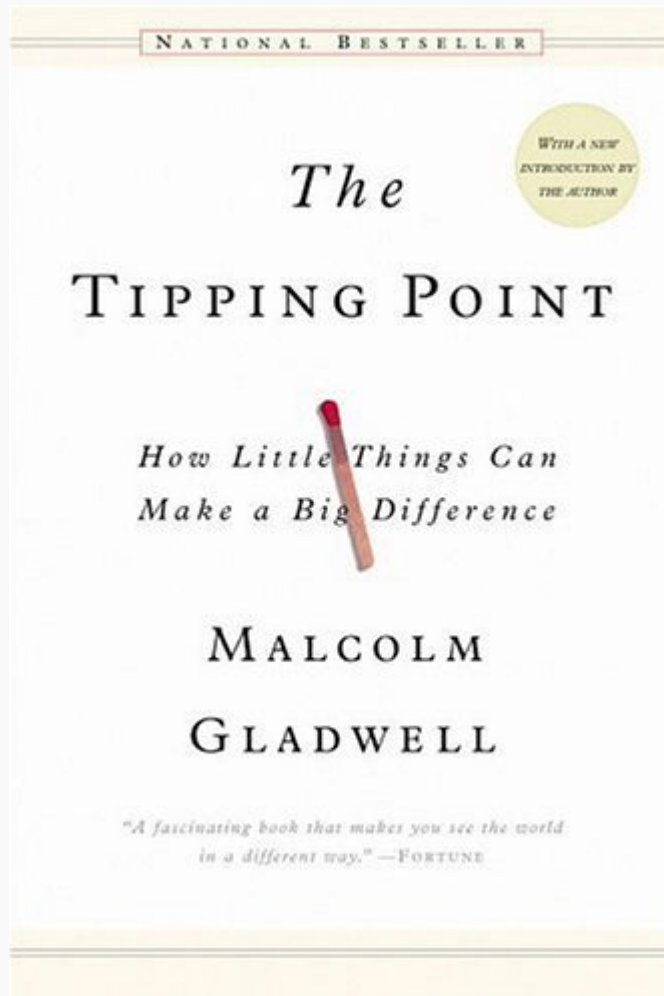
## – Skills and Passion

- Use technology to spider the internet for chemicals
- Hobby project built in a basement – thousands of visitors a day.
- Judged harshly in the blogosphere but “beat the challenge” by engaging in it...
- Acquired by RSC – chose them as the best partner over a number of other discussions



- Bringing my cheminformatics skills to bear
  - Publishing (how to enrich publications with data)
  - Large multi million dollar European projects
  - Building a user community for ChemSpider – to over 80,000 users a day by education, sharing and engagement (i.e. connecting)
  - Delivering tools to support the community

# It finally made sense...



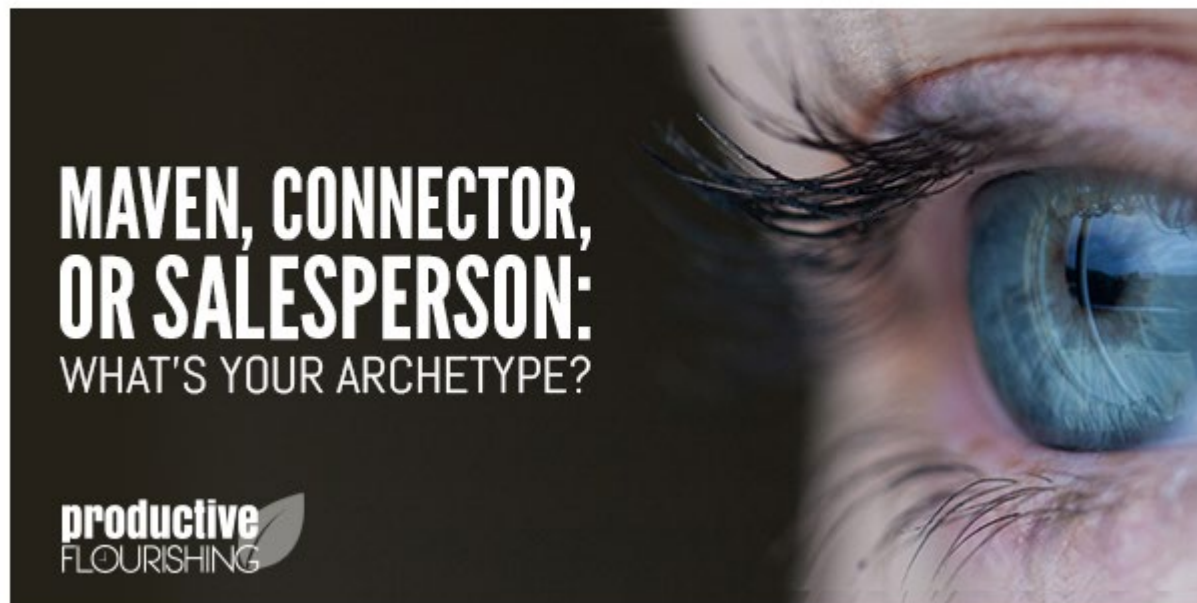
- This book brought it into perspective for me...

# It might be useful...

- <http://www.productiveflourishing.com/maven-connector-or-salesperson-whats-your-archetype>

## Maven, Connector, or Salesperson: What's Your Archetype?

BY **CHARLIE GILKEY** ON APRIL 4, 2012 — **46 COMMENTS**





# I might be a connector..

<http://www.productiveflourishing.com/maven-connector-or-salesperson-whats-your-archetype>

- *You might be a connector if:*
- You are constantly referring people to the right expert or service to solve their problem.
- You love networking and talking with people, just for the sake of doing it.
- When you're talking to people, they say, "Wow – you know everyone!"
- The stories you tell always focus on the *people*, not the ideas or the sizzle.


# A Personal Interest





## Social Networking in Science




- I think you should ALL take part in “connecting” yourselves to the growing network
- Career-wise, **NOT** having a personal presence online is likely already a detriment
  - Establishing a public profile
  - Getting on the record
  - Collaborative Science
  - Demonstrating a skill set
  - Measured using alternative metrics
  - Contributing to the public peer review process

- <https://www.slideshare.net/AntonyWilliams/building-an-online-profile-social-networking-and-amplification-tools-for-scientists>

ORCID ID:0000-0002-2668-4821



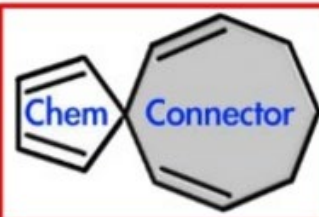




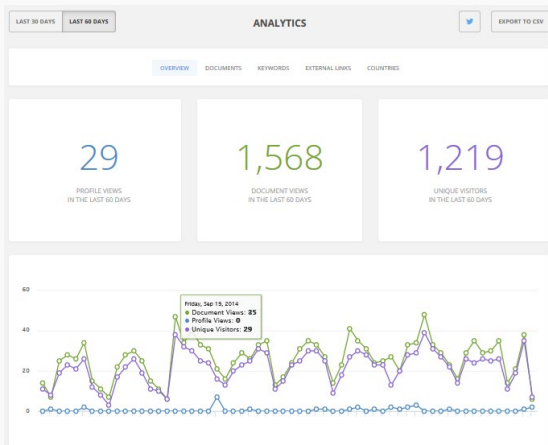
## Building an Online Profile: Social Networking and Amplification Tools for Scientists

**Antony Williams,**  
February 22<sup>nd</sup> 2017, NC State University

Presentation: 1:00-3:00pm



# Get into the networks SOON



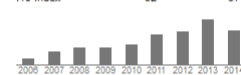
**Antony John Williams**  
 Vice President of Strategic Development, Royal Society of Chemistry  
 Chemistry, Cheminformatics, Nuclear Magnetic Resonance, Drug Discovery  
 Verified email at rsc.org - Homepage  
 My profile is public

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<input type="checkbox"/> Title	<input type="checkbox"/> Add	<input type="checkbox"/> More	1-20	Cited by	Year
<input type="checkbox"/> ChemSpider: an online chemical information resource				104	2010
<input type="checkbox"/> HE Penoe, A Williams Journal of Chemical Education 87 (11), 1123-1124					
<input type="checkbox"/> In silico repositioning of approved drugs for rare and neglected diseases				75	2011
<input type="checkbox"/> S Ekins, AJ Williams, MD Krasovski, JS Freundlich Drug discovery today 16 (7), 298-310					
<input type="checkbox"/> Open PHACTS: semantic interoperability for drug discovery				72	2012
<input type="checkbox"/> AJ Williams, L Harland, P Groth, S Pettifer, C Chichester, EL Willighagen, ... Drug discovery today 17 (21), 1188-1198					
<input type="checkbox"/> Internet-based tools for communication and collaboration in chemistry				66	2008
<input type="checkbox"/> AJ Williams Drug discovery today 13 (11), 502-506					

Google Scholar

Citation indices	All	Since 2009
Citations	2939	2010
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PLUMX

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Connections in Chemistry



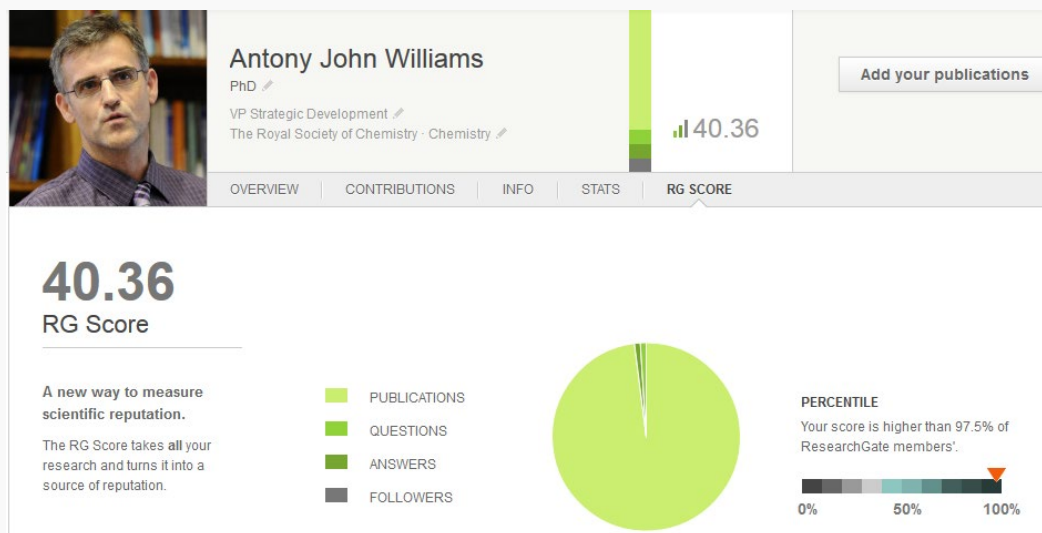
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Recent Artifacts

- ✳ Bigger data, collaborative tools and the future of predictive drug discovery.
- ✳ The Royal Society of Chemistry and the delivery of chemistry data repositories for the community.
- ✳ Accessing 3D Printable Structures Online
- ✳ Open innovation contributions from RSC resulting from the Open Phacts project
- ✳ Who knew I would get here from there and how I became the ChemConnector final

see details



Key profile metrics

1.7M impressions on 192 articles

16.9k views on 192 articles

248.8k impressions on 58 slide decks

54.8k impressions on 7 datasets

# Conclusions...what worked for me..

- I LOVE Chemistry – never want to synthesize again!
- Career choices should be head & heart decisions
- Decide what motivates, excites and stimulates you over what puts food on the table. (Clearly driven by the need to eat also!!!)

# Conclusions...what worked for me..

- You are responsible for your reputation – build it and maintain it - and with online tools take charge of it!
- Not every decision is a good one – but not making decisions is crippling in terms of your career
- In cheminformatics there are very few limits to participation
  - Always something to learn
  - Contribute and share data, code and skills openly
  - Get into the network – Wikipedia, StackOverflow, many networks
  - Join the ACS Division of Chemical Information and participate