

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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My background...

- PhD London – High Pressure NMR
- 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

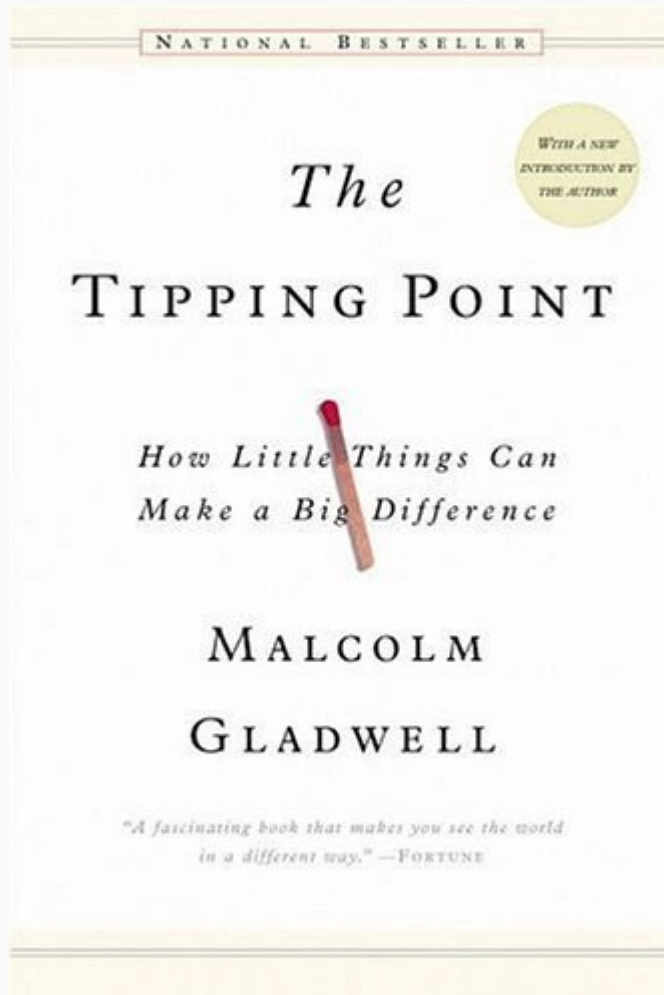
– Skills and Passion

- 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...



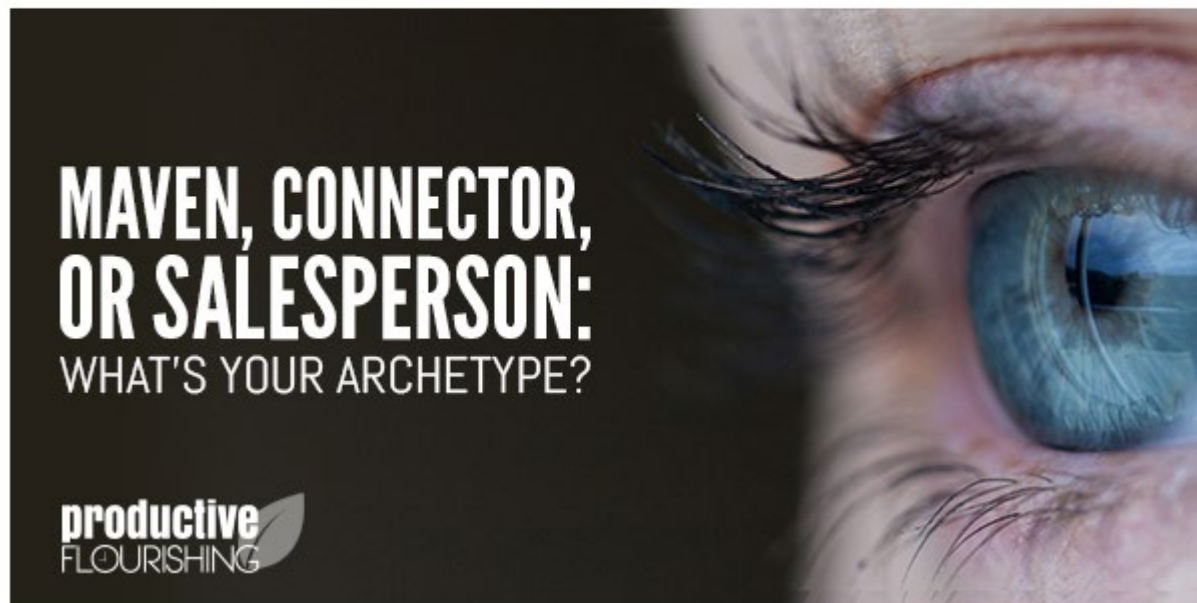
- This book brought it into perspective for me...

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>

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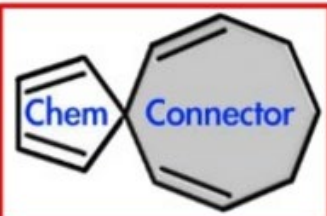




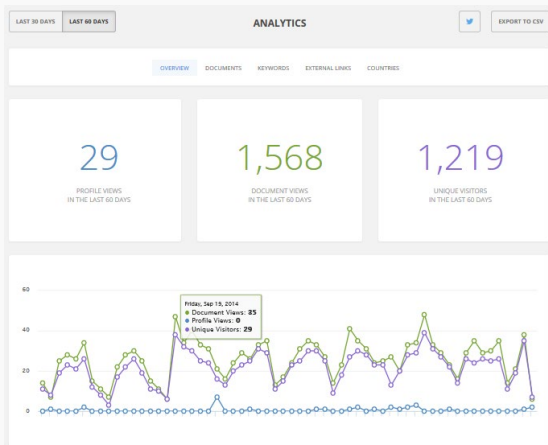
Building an Online Profile: Social Networking and Amplification Tools for Scientists

Antony Williams,
February 22nd 2017, NC State University

Presentation: 1:00-3:00pm



Get into the networks SOON



Antony John Williams

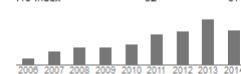
Vice President of Strategic Development, Royal Society of Chemistry
 Chemistry, Cheminformatics, Nuclear Magnetic Resonance, Drug Discovery
 Verified email at rsc.org - Homepage
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☐ Title	☐ Add	☐ More	1-20	Cited by	Year
☐ ChemSpider: an online chemical information resource				104	2010
☐ HE Penoe, A Williams Journal of Chemical Education 87 (11), 1123-1124					
☐ In silico repositioning of approved drugs for rare and neglected diseases				75	2011
☐ S Ekins, AJ Williams, MD Krasovski, JS Freundlich Drug discovery today 16 (7), 298-310					
☐ Open PHACTS: semantic interoperability for drug discovery				72	2012
☐ AJ Williams, L Harland, P Groth, S Pettifer, C Chichester, EL Willighagen, ... Drug discovery today 17 (21), 1188-1198					
☐ Internet-based tools for communication and collaboration in chemistry				66	2008
☐ AJ Williams Drug discovery today 13 (11), 502-506					

Google Scholar

Citation indices	All	Since 2009
Citations	2939	2010
h-index	32	24
i10-index	92	67



Co-authors Edit...

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PLUMX

Antony Williams

Connections in Chemistry



Artifact Summary

☐ Presentation: 266	☐ Data Set: 4
☐ Article: 127	☐ Unknown: 3
☐ Paper: 38	☐ Poster: 3
☐ Video: 28	☐ Patent: 2
☐ Figure: 11	☐ Media: 2
☐ Book: 9	☐ Web Page: 1
☐ Chapter: 7	☐ Conference Paper: 1

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](#)



Antony John Williams

PhD

VP Strategic Development
 The Royal Society of Chemistry · Chemistry

Add your publications

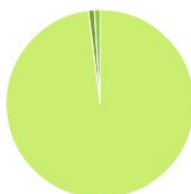
40.36

OVERVIEW CONTRIBUTIONS INFO STATS RG SCORE

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RG Score

A new way to measure scientific reputation.
 The RG Score takes all your research and turns it into a source of reputation.

- PUBLICATIONS
- QUESTIONS
- ANSWERS
- FOLLOWERS



PERCENTILE
 Your score is higher than 97.5% of ResearchGate members'.

0% 50% 100%

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