

## Q&A – Dr Paul Colbon with Dr Chris Swain

LCC (Liverpool ChiroChem Ltd) is a chemical technology innovator on a mission to accelerate the discovery and development of high-quality drugs through improved access to 3D chemical space.

Dr Chris Swain has been a member of LCC's Scientific Advisory Board for several years, helping to expertly guide LCC to produce the 3D-fragments that will be most beneficial to the medicinal chemistry community for improved hit-identification and hit-to-lead optimisation.

Chris has now decided to work even more closely with LCC and on 1<sup>st</sup> April becomes LCC's Chief Scientific Officer (CSO).

LCC's CEO and Cofounder, Dr Paul Colbon, sat down with Chris to summarise his thoughts on why he decided to support LCC and pick his brain on the future of NCE discovery:

**Question 1 (Paul):** Please introduce yourself with a quick summary of your career to date and what you enjoy the most about your work/role within the drug discovery community.

**Answer (Chris):** I worked at Merck for 20 years and now 15 years at Cambridge MedChem Consulting so I guess I'm regarded as a Pharma veteran. I've been fortunate to have been involved in projects from the early basic science right through development to marketed drug. All aspects of the process are interesting, but my passion is in the science. Consulting has given me the opportunity to interact with lots of really smart scientists, from academic labs and small start-ups/biotechs to large pharma companies. I'm also a supporter of Open-source science, both with the RSC and Open-Source Drug Discovery.

**Question 2 (Paul):** What are the key aspects of LCC that initially caught your attention?

**Answer (Chris):** I've always loved the 3-dimensional structure of molecules; my post-doc work was the stereo-controlled synthesis of spiroacetal natural products. Moving into drug discovery simply extended that interest into the 3-dimensional interaction with binding sites. My first interaction with Paul was a discussion on how to efficiently explore the 3-D vectors available from a hit molecule. Many folks think about hit elaboration based on available synthetic chemistry rather than how a molecule might interact with a 3-dimensional active site.

**Question 3 (Paul):** How will you use your great experience and expertise to support LCC on its mission? And how does LCC's chemical space best serve the drug discovery community?

**Answer (Chris):** Chemical space is vast, we can't hope to explore it all, however having both enantiomers of chiral building blocks allow efficient exploration around a starting point. There are now many ways to identify starting points for a drug discovery programme including, Fragments, High-throughput screening and DNA encoded libraries. LCC is in a position to contribute to all these technologies.

**Question 4 (Paul):** In your opinion, what are the key challenges facing modern-day NCE discovery and development?

**Answer (Chris):** The greatest challenge facing drug discovery is target validation, and whilst many think of this as a biological problem chemists can contribute by designing and making available selective tool compounds. "Selective" is the key word, exploring complex biochemical pathways often requires highly selective in vitro tools. Exploring 3-dimensional space is a critical tool in the design of these selective molecules.