



Kevin Burgess, Rachal Professor of Chemistry at Texas A & M University, obtained his MSc with Professor Alan Katritzky, a PhD at Cambridge University, England, with Lord Lewis, and was a postdoctoral associate with Professor Barry M. Trost. He has taught organic chemistry for more than thirty years.

Dr Burgess has built a research program around a diversity of interests including organometallic catalysis, fluorescent dyes, peptidomimetics and medicinal chemistry. He has published over 300 research papers and several patents.

Currently, Dr Burgess' research focuses on small molecules interacting with protein surfaces. He introduced the concept of *universal peptidomimetics*, and developed from that a suite of

techniques based on *Exploring Key Orientations*, a new approach for design of small molecules to perturb protein-protein interactions that involves mining the protein databank. Discoveries emerging from this led him to establish the company *Small Molecule PPI Mimics LLC* based on this technology. Dr Burgess has designed small molecules for active targeting of cancer cells particularly via the TrkC receptor; and potential applications of this work are in diagnostics, imaging, and therapeutics. The molecule *D3* he designed to bind the TrkA receptor is now in phase III clinical trials for treatment of dry-eye disease.

Professor Burgess has edited a book entitled, *Solid Phase Syntheses*, and authored a graduate problem text on organic reactions called *Organic Chemistry By Inquisition*, and has co-authored *Highlights in Chemistry and Industry* since 1985, and for which he now writes monthly on literature developments in Biomedical Chemistry.

Based on this teaching and research experience, Dr Burgess believes the future of teaching sophomore organic chemistry involves an emphasis on biomedical applications delivered in interactive “flipped” classroom settings.

official web site at Texas A & M: www.chem.tamu.edu/faculty/kevin-burgess/

research group web site: www.chem.tamu.edu/rgroup/burgess/

By Inquisition Press: www.byinquisition.org/