

From Primary Research to a Clinical Development Company

MediWales Members' Showcase

3rd October 2017

Michael Graz



A ZALUVIDA COMPANY.

Introducing Neem Biotech




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Started as a developer of extraction processes

Now pioneering a new way to combat antimicrobial resistance



ZALUVIDA



Areas of research interest

Combatting antimicrobial resistance

Liver health, weight management

Healthy and sustainable livestock industry


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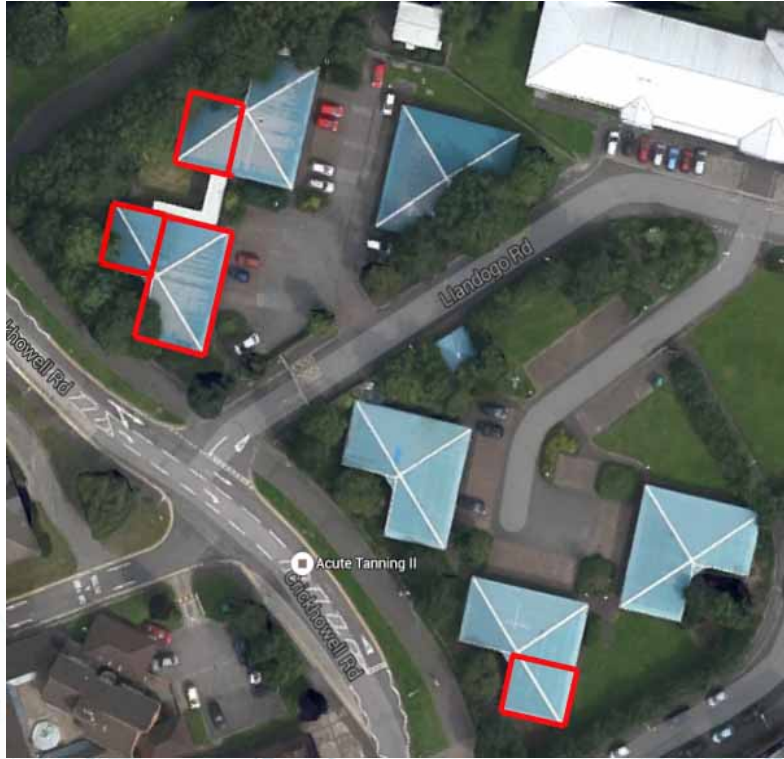
The Expansion of Neem



- St Mellons Cardiff Site
- 1996
- Neem is a spinout of Cardiff Chemicals



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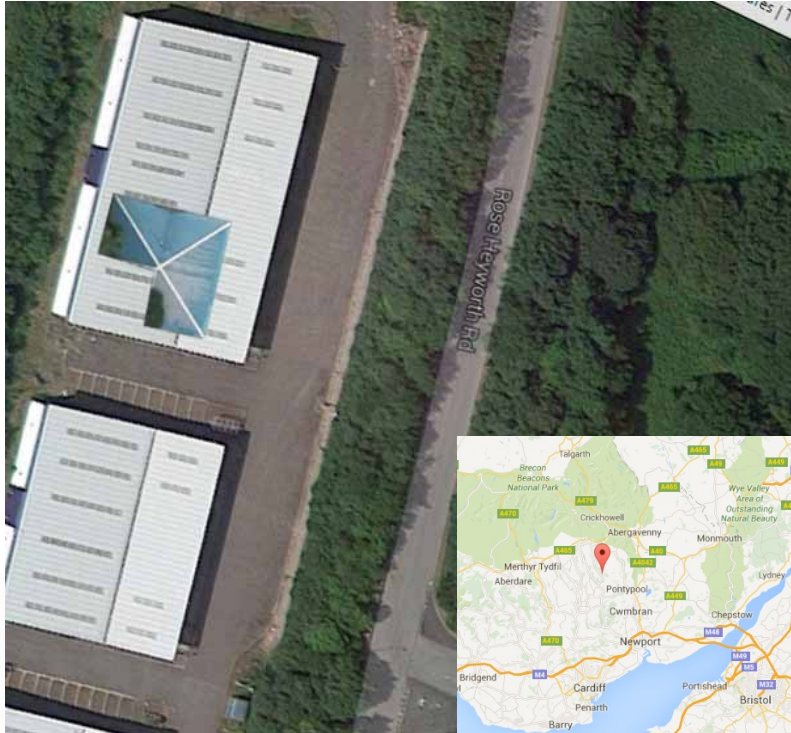


From 3 men in a shed 21 years ago...



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Selection of a New Facility



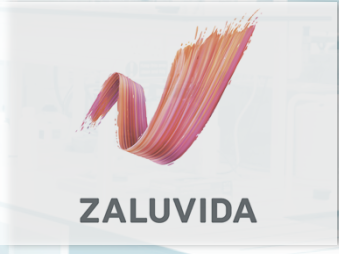
Abertillery

- A desire to remain in south Wales as Neem has established a strong local network.
- Good Location for existing staff.
- Great building.
- Funding opportunities.



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...To our own place in Abertillery



Custom built facilities



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R&D at Neem



Analytical Lab 800 sqft



Chemistry and Biochemistry lab 1200 sqft



Class 2 Microbiology lab 800 sqft



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Neem and Plants as Medicine



Of the 12 most important plant-derived medicines brought to the market in the last 30 years, Neem has worked on:

Artemesinin (*Artemesia annua*) against Malaria. Led to the Nobel prize in Medicine in 2015

Processed raw extracts for a global pharmaceutical firm

Galanthamine (*Galanthus caucasius*) against Alzheimers. With a strong Welsh connection

Developed an extraction method

Paclitaxel (*Taxus brevifolia*) for cancer chemotherapy

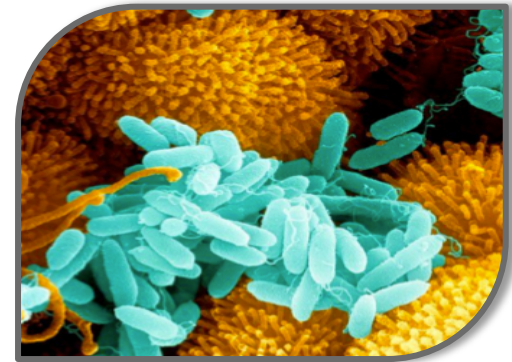
Developed an analysis method



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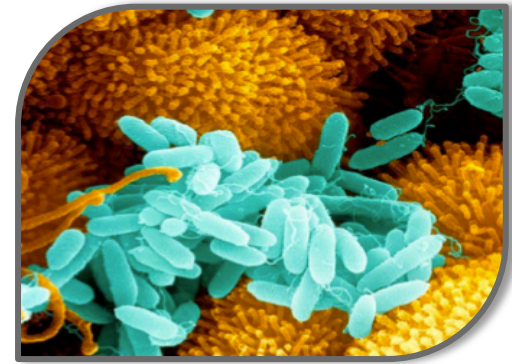
Case Study – Cystic Fibrosis

- A chronic and progressive life-threatening autosomal recessive disorder.
- Caused by mutations in the cystic fibrosis transmembrane conductance regulator (CFTR) gene.
- Abnormal chloride transportation across cell membranes, leading to mucosal build up in the respiratory, pancreatic, and intestinal epithelia.
- Mucus build up in the lungs is the primary cause of morbidity and mortality in patients with *Pseudomonas aeruginosa* infection.
- An average life expectancy of <40 years in Europe.



Case Study – Cystic Fibrosis

- Organosulphur-based treatment for CF patients suffering with chronic *P. aeruginosa* infections.
- A focus on Quorum Sensing Inhibition.
- Development of resistance in patients after prolonged and frequent courses of antibiotics.
- Targeting the QS system and the biofilm formation presents a novel mechanism of action for treating *P. aeruginosa* infection in CF patients.



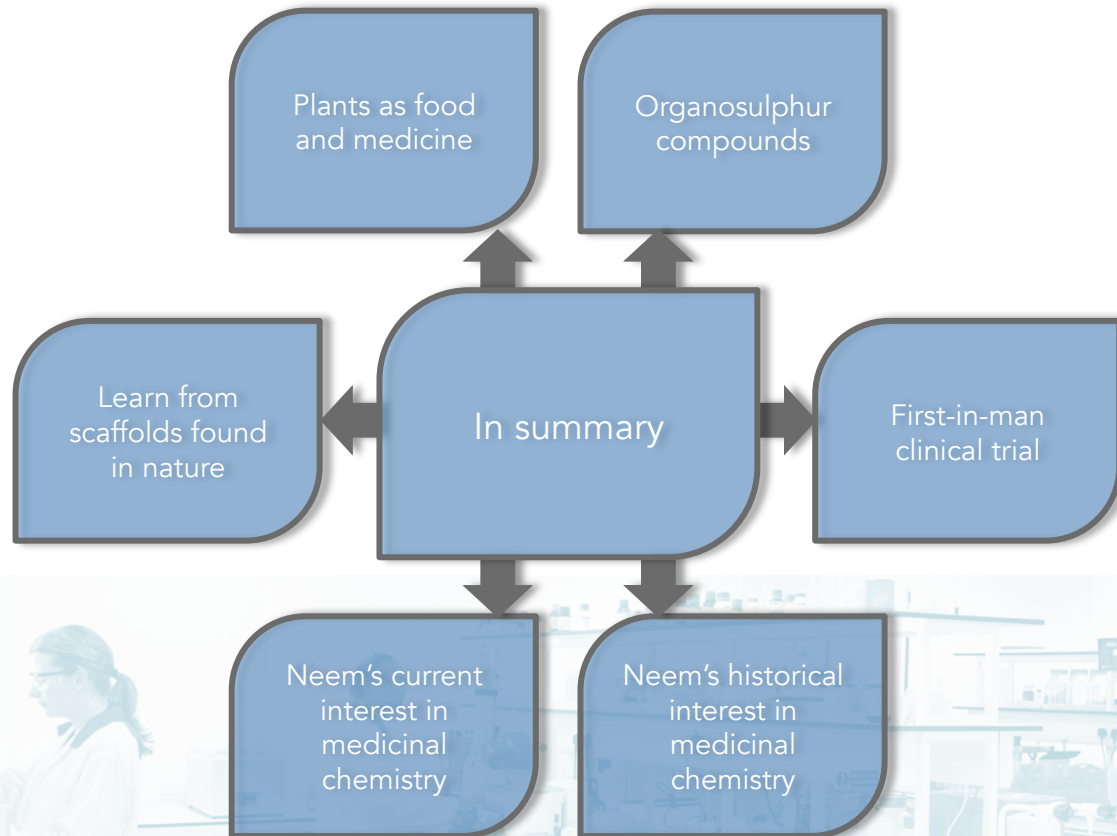
Case Study – Cystic Fibrosis



- NX-AS-401 as a solution
- Preclinical effectiveness to:
 - improve mucoid *P. aeruginosa* lung clearance,
 - Enhanced killing of *P. aeruginosa* biofilms when combined with existing antibiotics
 - Possibility for long term use without drug resistance
- First in human clinical trial scheduled for 2018



Wrapping up



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