

Carole Proctor

Teitl Swydd: Cydymaith Ymchwil, Canolfan Bioleg Systemau Integredig ar Gyfer Heneiddio a Maeth, Prifysgol Newcastle
Cymwysterau: BEd, BSc (Prifysgol Agored), MSc, DPhil (Prifysgol Sussex)



“Amcan ein prosiect yw ceisio deall mecanwaith cellol heneiddio a sut mae'r prosesau hyn yn cael eu heffeithio gan faeth”

Rwyf bob amser wedi mwynhau mathemateg ond yn ôl yn 1972 pan adewais i'r ysgol, ni allwn ddod o hyd i yrfa mewn mathemateg a oedd yn apelio ataf felly penderfynais

hyfforddi fel athrawes ysgol gynradd. Ar ôl toriad gyrfa, astudiais fathemateg a gwyddoniaeth gyda'r Brifysgol Agored a chefais BSc.

Yna euthum ymlaen i gymhwyso fy ngwybodaeth fathemategol i broblemau biolegol pan astudiais ar gyfer DPhil ym Mhrifysgol Sussex. Roedd fy mhrosiect yn cynnwys adeiladu modelau gofodol o ymddygiad gwyliadwriaeth gwrth-ysglyfaethwr ymhlith heidiau o adar. Ar ôl gorffen fy DPhil, cefais swydd fel Cydymaith Ymchwil ym Mhrifysgol Newcastle, ble rwyf wedi bod ers pum mlynedd bellach.

Ar hyn o bryd rwyf wedi fy lleoli yn y Ganolfan Bioleg Systemau Integredig ar Gyfer Heneiddio a Maeth ac rwyf yn gweithio mewn grŵp o fodelwyr

mathemategol, biolegwyr arbrofol a gwyddonwyr cyfrifiadurol. Amcan ein prosiect yw ceisio deall mecanwaith cellol heneiddio a sut mae'r prosesau hyn yn cael eu heffeithio gan faeth. Mae fy ngwaith yn ymwneud ag adeiladu modelau mathemategol wedi'u seilio ar ddamcaniaethau arbrofol.

Mae bioleg systemau yn faes sy'n tyfu'n gyflym ac ar hyn o bryd mae galw am fathemategwyr hyfforddedig. Os oes gennych ddiddordeb yn y maes gwaith hwn, buaswn yn eich cyngori i wneud gradd mewn mathemateg ac os yn bosib cynnwys cwrs ar fioleg a rhaglennu cyfrifiadurol. Dewiswch astudio'r meysydd hynny o fathemateg sy'n eich diddori fwyaf, ond gwnewch yn siŵr eich bod yn cynnwys o leiaf un cwrs ar debygolrwydd ac ystadegau.

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Job Title: Research Associate, Newcastle University
Qualifications: BEd, BSc, MSc, DPhil



“The aim of our project is to try to understand the cellular mechanisms of ageing and how these processes are affected by nutrition.”

I have always enjoyed maths but, back in 1972 when I left school, I could not find a career in maths which

appealed to me and decided to train as a primary school teacher. After a career break, I studied maths and science with the Open University and obtained a BSc.

I then went on to apply my mathematical knowledge to biological problems when I studied for a DPhil at Sussex University. My project involved building spatial models of anti-predator vigilance behaviour in flocks of birds. After completing my DPhil, I got a job as a research associate at Newcastle University, where I have been working for the past five years.

I am currently based at the Centre for Integrated Systems Biology for Ageing and Nutrition and work within a group of mathematical modellers,

experimental biologists and computer scientists. The aim of our project is to try to understand the cellular mechanisms of ageing and how these processes are affected by nutrition. My work involves building mathematical models based on experimental hypotheses.

Systems biology is a rapidly growing field and there is currently a demand for trained mathematicians. If you are interested in this field of work, I would advise you to do a degree in maths and, if possible, to include a course on biology and computer programming. Choose to study the areas of maths which interest you most, but make sure you do at least one course on probability and statistics.