EDWARD SAUNDERS

CONTACT ME

edwardsaunders@mail.com

www.edwardsaunderscv.com

@edwardsaunders

+44 7956 302 963

SKILLS SUMMARY

- Safe Laboratory Practice
- Aseptic Technique
- Project Design
- Animal Tissue Dissection
- Data collection and analysis
- Handling of Class II substances
- Biomedical Modelling
- Machine Learning in Science
- MATLAB and Python

AWARDS RECEIVED

- Platinum Award as Course Representative (2018/19 & 2019/20)
- Award of outstanding achievement in Human Biology
- Oracle iLearning Java Foundations certificate
- National Citizens Service (NCS)

UG REFERENCES

Tracie McKinney, BA, MA, PhD, SFHEA
- tracie.mckinney@southwales.ac.uk
- (01443) 4 82933

Darren Johnson, BSc (Hons), MRes, PhD, MRSB
- darrenjohnson1@southwales.ac.uk
- (01443) 4 82819

Lewis Fall, BSc (Hons), PhD
- lewis.fall@southwales.ac.uk
- (01443) 4 82106

Jeroen Nieuwland, MSc, PhD
- jeroen.nieuwland@southwales.ac.uk
- (01443) 4 82468

PG REFERENCES

Prof Mark van Rossum - Course Covenor
- **Chair and Director/Neural computation Research Group**
- Contact details available on request

Prof Markus Owen - PBM Module
- **Professor of Mathematical Biology**
- Contact details available on request

Prof Juan Garrahan - MLiS Module
- **Professor of Physics**
- Contact details available on request

Dr Peter Chapman - CCP Module
- **Associate Professor - Psychology**
- Contact details available on request

EDUCATIONAL HISTORY

University of Nottingham 2020-2021

MSc Computational Neuroscience, Cognition, and AI

- Practical Biomedical Modelling (PBM)
- Computational Cognitive Psychology (CCP)
- Machine Learning in Science Pt I and II(MLiS)
- Neural Computation (NC)
- Research Project

University of South Wales 2017-2020

1st Class Honours - BSc Human Biology (Hons)

3rd Year
- Research Project
- Human Variation and Forensic Anthropology
- Global Challenges in Infectious Disease
- Clinical Biochemistry and Pharamacology
- Clinical and Molecular Immunology

2nd Year
- Applied Physiology
- Cellular Pathology and Disease Processes
- Human Form and Function
- Human Molecular Genetics
- Medical Microbiology
- Metabolism and Biochemistry

1st Year
- Biological Chemistry
- Biomedical Research Skills
- Genetics and Evolution
- Human Anatomy and Physiology
- Human Growth and Development
- Microorganisms and the Dynamic Cell

WORK EXPERIENCE

Undergraduate Student Researcher

University of South Wales | June 2018 & 2019

2019 | Microbiology Department
- Strain typing and disk diffusion testing for antibiotic resistance in water samples from across Wales

2018 | Genetics Department
- Investigating antibiotic resistance in E.coli samples, and subsequent effect of gene cassettes on antibiotic resistance
- Detection of MotA using qPCR

Student Mentor

University of South Wales | 2018 - 2020

Acted as student mentor for new students at USW, helping relay information from student to faculty and address raised issues

BIOGRAPHY

I am a 21 year old MSc Computational Neuroscience, Cognition, and AI student at the University of Nottingham (UoN), and a first class graduate of BSc Human Biology (Hons) at the University of South Wales (USW). I have now joined UoN, having previously studied the effects of cannabinoids on dopamine-associated cytotoxicity in Parkinson's Disease and opioid use with the aim of exploring neurology from an alternate approach. My new venture at UoN provides a framework of mathematical, computational, and psychological modelling of neural mechanisms and phenomenon, offering a unique perspective on human cognition. Combining this approach with Machine Learning aspects additionally offer insights into how these models can be applied to human development and behaviour through supervised, unsupervised, and reinforcement learning.

My research at USW provided an insight into the neuroprotective effects of cannabinoids, such as anadamide (AEA). This researched quantified the neuroprotection via comparison of Tyrosine Hydroxylase (TyH) gene expression in Planarian flatworms under three drug conditions; Methamphetamine (0.03uM and 0.06uM), AEA (2.5uM and 5uM), and combination (0.03um MA + 5uM AEA and 0.06uM MA + 5uM AEA).

My extracurricular activities at USW included Climbing and Bouldering, Gym bootcamp, metafit, and spin classes, as well as a brief venture into Brazillian Jiu Jitsu prior to the COVID-19 pandemic. I also regularly participate in DnD campaigns with friends across the country. At USW, I was a part of a local clean-up initiative focused on litter picking in the community, and a dedication to reducing environmental impact.

TESTIMONIALS

“Edward demonstrates all of the qualities I hope for in a course rep. He considers all of his classmates' positions equally and diligently reports them to the course team or SSCLG meetings. He responds to queries quickly and honestly, and is a fantastic liaison between the staff and students. Edward remains dedicated to his course even when he is going through difficult stages of his own studies, and for this he deserves recognition. His commitment to improving mental health in the university; alongside spearheading the campaign to improve budgets for student services. He has continued to work extremely hard to improve the students experience. Edward, I take my hat off to you sir.” - Course Rep of the Year Nomination

"Edward remains to be a dedicated and knowledgeable student. He maintains a state of curiosity and ensures to ask questions as to explore a unique and broad range of topics surrounding the current material. His natural dedication and intrigue serve him well in achieving suitable marks, as well as offering the opportunity to be a well-consulted individual to his peers. Edward's determination and professionalism in supporting his peers and addressing problems has served him well, and enabled changes to be made to benefit future students at USW. Edward has remained vigilant when faced with adversity, succeeding in providing justice and fairness in multiple circumstances across his 3 years at USW. Regardless of his own mental health or physical limitations, he remains to provide selfless dedication to his student cohort and the greater community. - Course Rep of the Year Nomination

AREAS OF INTEREST

Cannabinoids

- Obesity and Weight Management via CB1 antagonism and CB2 agonism, AMPK and Ghrelin
- Therapeutic potential for Parkinson's Disease via dopamine-associated cytotoxicity
- Analgesia and non-opioid pain management via retrograde signalling and nociceptor suppression
- Management of Anxiety, Depression, and PTSD
- Management of Nicotine and Alcohol addictions
- The effects of cannabis on circadian rhythm and sleep
- The mechanism of action in cannabis-associated schizophrenia

Psychedelics

- LSD, MDMA, and Psilocybin assisted psychotherapy for Anxiety, Depression, and PTSD
- DMT and its effects on Psychological well-being, selflessness, and positive mindsets
- DMT, LSD, and Psilocybin on Neurogenesis and Neuroplasticity

PLATINUM
CERTIFICATE

Edward Saunders

is hereby recognised for their contribution in representing their peers during the academic year 2019/20 through their role as

Course Representative

Thanks to their involvement with the role, this individual has gained the following skills:

Effective Representation

Communication

Time Management

Meeting Skills

Ben Calvert,
Pro Vice-Chancellor

Mishan Wickremasinghe
Students' Union President

University of South Wales
Prifysgol De Cymru

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NATIONAL CITIZEN SERVICE

PRESENTED TO

Edward Saunders

IN RECOGNITION OF THE CONTRIBUTION
THAT YOU HAVE MADE TO YOUR COMMUNITY
AND TO YOUR COUNTRY BY COMPLETING
NATIONAL CITIZEN SERVICE 2016

Signed

Rt Hon Theresa May MP Prime Minister

Reigate & Banstead B Su 7 Jackman

University of South Wales
Prifysgol De Cymru

School of Applied Sciences

Certificate of
Outstanding Achievement

This is to certify that

Edward Saunders

has been awarded the Prize for

Top Marks in Year One Human Biology

Signed: Tracie McKinney

Date: 20/09/2018

ORACLE ACADEMY

AWARD of ACHIEVEMENT

PRESENTED TO

Edward Saunders

FOR SUCCESSFULLY COMPLETING THE ORACLE ACADEMY

Java Fundamentals

FINAL EXAM

January 2017

JHodgson

Oracle Academy Instructor