CURRICULUM VITAE

PROFESSOR JOHN MACINTYRE

PERSONAL DETAILS

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SELECTED LEADERSHIP ACHIEVEMENTS

- Since 2010, as **Pro-Vice Chancellor** – Leadership of the University's **International Office**, with a global operation **recruiting international students from over 100 countries** to come to the UK **(increasing students numbers 500% in five years)**, as well as **one of the UK's largest transnational education (TNE) partnership portfolios** with over 6,000 students studying in over 40 locations worldwide **(doubling net income in five years)**, and **responsibility for the University's Campus in Hong Kong** (taking this from acquisition through the COVID and political crises in Hong Kong to **over 1,000 students genearing annual profit of around £3 million**). Leading the development and implementation of the **University Research Plan** covering the period 2012 to 2020, and leading on the University's submission to the **Research Excellence Framework in 2014**. Restructuring the University's research, innovation and employer engagement support services. Establishing the University's leading position in the economic development of the city and region, and leading on several major initiatives including the initial vision for the University's new **Centre for Enterprise and Innovation**, the development of the cross-University programme to enhance student employability (**Sunderland Futures**), and development of the initial idea for, and subsequent development and leadership of, the city-wide partnership to develop the city's software industry - **Sunderland Software City**. I am also currently leading a cross-University group developing our vision and business plan for **Advanced Manufacturing**. I also initiated the development of the **Sunderland FabLab** as a key element of creating a differentiator for the University in creativity, design, manufacturing and innovation.

- Since 2008, as Dean of the Faculty of Applied Sciences - **leading the development and implementation of the academic strategy for the Faculty, including creating completely new structures in the academic body, administrative and technical support**. Establishing and agreeing clear objectives and targets for **student recruitment**, academic development, the student experience, research, external engagement, and financials. Developing our international footprint in terms of **international student recruitment, TNE partnerships, and other international relationships**. Implementing the Policy Deployment technique to achieve the dissemination of these objectives and targets throughout the Faculty. Recent notable achievements include providing the academic vision and business case for two phases of major investment in the **Sciences Complex**, totally circa £15 of capital investment, which have transformed the quality and standing of our science base; providing the academic vision and leadership to strategically re-position the University's offering and external relationships in the health and healthcare sectors, including our recent success in accreditation of the University's first ever pre-registration Nursing programme, and the potential to create the **Sunderland Nursing School**, alongside leadership and development the long-established **Sunderland Pharmacy School** (including leading our drive to modernise the MPharm programme and become the **first Pharmacy School in the UK to be accredited under the newly-created General Pharmaceutical Council**).
- As Dean of the School of Computing and Technology (prior to the reorganisation into Faculties) - leading the School through a **major programme of change and reorganisation**, including:
    - Staffing reduction of 36 FTE – achieved in full consultation and without any compulsory redundancies, over a period of eight months
    - Taking the School from a projected £1.44m deficit to a £690k surplus in 18 months
- As Associate Dean of the School of Computing and Technology, developing and implementing the strategy for external engagement which established the School and University as the leading institution in the region for technology and knowledge transfer in the manufacturing, engineering, and computing fields; playing a leading role in the establishment of the North East Productivity Alliance (NEPA) and ensuring the University's leading role in it
- From first concept developing the major initiative now known as Sunderland Software City (see above), with Paul Callaghan of the Leighton Group, and key individuals in the City Council and ONE North East – which became a major regional project with £2.8m funding to the University from ONE North East, and additional income leveraged from other sources
- Development of my own research to establishment of a research centre recognised internationally and by UK government as a leader in the UK in

applied research in the field of artificial intelligence (the Centre for Adaptive Systems)

- Personal leadership in generating over £18 million in funding

February 2017–present University of Sunderland

Pro-Vice Chancellor (International)

In February 2017 I was asked by the Vice Chancellor to take over leadership of the University's entire international operations. This included all international student recruitment to the two campuses in the UK (Sunderland and London) from over 100 countries worldwide, growing the total number of students by 500% in five year. Also responsible for one of the UK's largest transational education (TNE) portfolios with over 6,000 students studying with over 20 partners in 18 countries at more than 40 individual locations – doubling the net income from this activity in five years. Also responsibility for the University's Campus in Hong Kong, growing this from acquisition to over 1,000 students and a net annual profit of £3 million.

April 2010–February 2017 University of Sunderland

Pro-Vice Chancellor (Research, Innovation, Regional Economy, Science & Technology)

In addition to my role as Dean of the Faculty of Applied Sciences, in April 2010 I was appointed as Pro-Vice Chancellor with a portfolio which included Research, Innovation, and Regional Economy. I joined the University Executive Team, which includes the Vice Chancellor, two Deputy Vice Chancellors (Academic and Resources), and the other Pro-Vice Chancellor (for Teaching and Learning).

Key aspects of this role, and achievements to date, are:

- ***Research***
  I led the development of the University's Research Plan, which covers the period 2012 to 2020; I also led the University's preparation for the REF submission in 2014; I chaired the University's Research and Innovation Committee from 2011 to 2014 (and I am temporarily chairing it again during the Executive restructure); I led a restructure of the central support services for research, innovation and employer engagement into a single integrated service which reported to me (through two Assistant Directors of Service) for two years; and I instigated and managed a fundamental review of the research structures and support services for research across the University. I established a small central team for the support of funding development and research bidding, with the explicit objective of improving the University's position in terms of securing external research funding.

- ***Innovation and Knowledge Transfer***

  During the period when the central support service reported directly to me, I led the re-definition of our activity in Innovation and Knowledge Transfer with a major focus on Employer Engagement; we implemented a new model for Graduate Internships – "The Intern Factory" – through a new subsidiary company of the University; and I led the team developing a bid to the North East Local Enterprise Partnership for what is now the new Centre for Enterprise and Innovation. I also contributed to the University's strategy and policies for Intellectual Property and Enterprise.

- ***Regional Economy***

  I have been deeply engaged in developments around economic development in the city and region for many years, liaising closely with ONE North East and subsequently the North East Local Enterprise Partnership, and the Local Authority. The University has a fundamental role in the Economic Masterplan for the City of Sunderland, and I have worked closely with the leadership team of the Local Authority, as well as many private sector organisations and the North East LEP. I am actively involved in major initiatives on economic development, including the my initial role in the development of the Centre for Enterprise and Innovation, our strategy and plans for Advanced Manufacturing, and the further development of Sunderland Software City. I am also working with key stakeholders in the city and region on developments in health and healthcare, including the Sunderland CARE Academy.

- ***Science and Technology***

  I led developments of a new approach to the STEM activity of the University, and particularly our role in actively promoting STEM subjects and the science of the University to schools and to the public. I have significantly increased the number of registered STEM Ambassadors at the University, and ensured that the University is much more engaged with key initiatives such as STEMNET and the HE STEM Network, as well as regional bodies such as Science City and the Centre of Excellence in Life Sciences. I have also led our strategy on modernising and diversifying our STEM portfolio, particularly in the life and health sciences.

July 2008–present University of Sunderland

Dean, Faculty of Applied Sciences

As part of an overall restructure, which moved the University from five academic Schools to four new academic Faculties, I was appointed as the Dean of the largest of the new Faculties, Applied Sciences. This Faculty has four

academic Departments:

- ***Computing, Engineering and Technology***
- ***Pharmacy, Health and Well-being***
- ***Psychology***
- ***Sport and Exercise Sciences***

I have overall responsibility for the Faculty in all of its aspects, with a diverse income profile totalling over £34 million, and over 350 staff across the academic, administration, technical, and research/reach out project categories. Since taking over this role I have led the restructuring of the four Departments, as well as the administrative support and technical support staff structures; along with my Faculty senior team of Associate Deans and Heads of Departments, developed a new vision and mission for the Faculty; with a clear set of objectives and targets, cascaded throughout the Faculty and managed through the Faculty Management Team, and the four individual Departmental Management Teams, as well as the Administrative Support and Technical Support Teams. In the first year of operation the Faculty made major advances in a number of key areas (retention, NSS scores, and student recruitment) whilst also keeping to budget (actually delivering a surplus on target budget of approximately £250,000). The Faculty has delivered academic excellence in a number of areas and has also been within budget in every year of operation to date.

I am also a member of the University's Academic Board and the Executive Board. I have Chaired a both Academic Experience Committee (for approximately two years) and the Research and Innovation Committee (which I currently chair, and previoiusly chaired for two years), as well as the University's Student Tracking and Retention (STAR) Group, which dealt with key issues around student retention and progression, and risk management (including early discussions on student attendance monitoring).

March 2007–July 2008 University of Sunderland

Dean, School of Computing and Technology

I took over as Dean of the School in February 2007. I had overall responsibility for the School in all of its aspects, with a diverse income profile totalling over £13 million, and some 170 staff across the academic, administration, technical, and research/reach out project categories. I developed a new strategy for the School, and implemented a significant change management programme, including major cost reductions, staffing changes, and structural changes to every aspect of the School's operations.

1999–2007 University of Sunderland

Associate Dean, School of Computing and Technology

As part of the School Executive, and reporting to the Dean, I had responsibility for the School's activities in three areas: Intelligent Systems, Interactive Digital Media, and Automotive Technology. In each of these areas I led a team of

senior staff, developing and implementing strategies for teaching, research and reach out, and particularly how these three strands of activity were integrated. I also had overall responsibility for reach out (the third leg of academic activity) for the School. The School had more than 2,000 students, over 100 academic staff, and around the same number of administrative and technical support staff. In addition, the School had a community of around 60 post-graduate researchers engaged on higher degrees by research in various disciplines. I also retained the role of Director of the Centre for Adaptive Systems.

In addition to the above School roles, I was also heavily involved in cross-University activities, particularly in the development of the New Ventures project for exploitation of University activity (for example, through IPR commercialisation, or consultancy development). This project, which was funded through by the Regional Development Agency in the sum of around £2.5m, was developed from my own ideas and involved the University of Sunderland as project managers, with collaborations from University of Newcastle and the University of Northumbria at Newcastle. I led on developing this project into a University-wide Framework for Enterprise, with a cross-University management group which I chaired for two years.

From 2000 to 2005 I worked closely with ONE North East on the development of their Regional Economic Strategy, and particularly the Strategy for Success, which involved industrial cluster mapping and Centres of Excellence planning. I was part of the Bioscience Task Force established to review this area and was involved in the planning process for the Centre of Excellence in Life Sciences, and the Digital Centre of Excellence (Codeworks). I was involved in discussions around potential models for enterprise and innovation support, which eventually led to the establishment of NStar.

I also worked very closely with the RDA on the development of plans to support the automotive cluster, again leading to major funding developments, and was a founding member of the Strategy Group of NEPA (the North East Productivity Alliance). This major programme included a number of large projects led by the University, which have had a very significant impact on student recruitment and our business engagement in the automotive and manufacturing industries. I am now a member of the Regional Advisory Group for the Manufacturing Advisory Service (MAS), and the regional spoke of the National Skills Academy for Manufacturing (NSAM).

1996–1999 University of Sunderland

Reader/Professor of Adaptive Computing and Director of Centre for Adaptive Systems

In 1996 I established the Centre for Adaptive Systems as a research group doing applied work in adaptive computing and artificial intelligence. The Centre generated major research funding from a variety of sources, including research councils, European Union framework projects, DTI, industry, and others. The Centre was recognised by the DTI as a Centre of Excellence in applied research

in artificial intelligence. The Centre also generated more than 70 publications, including some in the world's top artificial intelligence conferences and journals. The Centre was internally rated at a 4 (internationally recognised) in preparation for the 2001 Research Assessment Exercise. In 1996 I was appointed as a Reader in Adaptive Systems, and in 1998 was appointed as Professor of Adaptive Computing. During this period I developed an implemented a strategy for research development, including various initiatives such as mentoring for new research staff, and publication plans for all Centre staff.

1992–1996 University of Sunderland/National Power

CASE PhD Student/Senior Lecturer/Consultant

From 1992 I was engaged on a PhD with National Power under the CASE scheme. Within six months of my appointment at Blyth Power Station, I was in charge of a team of National Power engineers with a revenue budget of £150,000 pa and a capital budget of £50,000 pa. My PhD involved the establishment of a programme of condition monitoring of auxiliary plant, augmented by analysis done using a variety of artificial intelligence techniques. In four years the programme was shown to have saved the power station in excess of £4 million, and I was engaged by National Power to act as a consultant to other power stations to help them instigate similar programmes. Towards the end of my PhD I was also appointed as a Senior Lecturer at the School of Computing and Information Systems at the University of Sunderland.

1987–1992 Keyline, Newcastle-upon-Tyne

Typesetter

After returning from the Middle East, I specifically took this night shift post to allow me to study for my degree during the day. I took a position with a typesetting and graphic design studio in Newcastle. The post involved liaison with clients and work prioritisation.

1985–1986 Al Gosaibi Bison, Dammam, Saudi Arabia

Assistant Factory Manager

This position involved direct daily responsibility for all factory operations, including the multi-national workforce of some 465 staff, in what was at the time the world's second-largest pre-cast concrete factory. The post, reporting to the Factory Manager and/or Managing Director, involved daily management of all aspects of the factory, including 24-hour production lines, delivery of product to client sites, and handling of raw material receipts. The factory produced mainly pre-cast panels and extruded hollow core slabs for low-cost housing as part of Saudi Arabia's rolling five-year programmes of infrastructure development.

1984–1985 Al Gosaibi Bison, Dammam, Saudi Arabia

Senior Planning Engineer

Reporting to the Factory Manager, I was responsible for all planning functions for the factory, including production scheduling, raw materials receipts and product delivery. I developed the first computerised programs for production scheduling to be used by the company. I also supervised a small team of planning engineers.

1982–1984 MABCO, Riyadh, Saudi Arabia

Computing Operations/Office Manager

Initially appointed to manage a site office and supervise a small office team, but eventually promoted to run the computing operations in the company's Head Office in Riyadh, and supervise a team of computer programmers and office staff, developing new computerised systems for purchase order tracking and financial reporting. Reported in my last position to the Deputy General Manager for Operations.

1976–1982 The Northern Press Ltd, South Shields

Compositor/Compositor Supervisor

Served apprenticeship as a compositor in a busy newspaper production environment, and was promoted into a supervisory position upon achieving high honours in my City & Guilds qualification.

EDUCATION, QUALIFICATIONS AND PROFESSIONAL BODIES

Professional Qualifications
Fellow of the Royal Society of Arts, Manufacture and Commerce (FRSA)
Member of the British Computer Society (MBCS)
Chartered Engineer (CEng)

University of Sunderland
1996: PhD - "Condition Monitoring and Neural Networks"
1992: BSc in Combined Science (First Class Honours)

South Tyneside College
1989: City & Guilds in Applications Programming

Newcastle College of Arts and Technology
1980: City & Guilds in Print Production Techniques, plus the City & Guilds Bronze Medal (Highest National Craft Award)

Publications

Over 150 publications, including papers in top-rated international conferences and journals (separate lists of publications and most significant publications can be supplied) and numerous invited keynote presentations and papers at leading conferences worldwide.

PhD and MPhil Supervision

I have successfully supervised 12 PhDs and two MPhils, as follows:

As Director of Studies

- Dr. Maurice Duffy (2018)
- Dr. Ken Robson – PhD (2009)
- Dr. Keith Copeland – PhD (2009)
- Dr. Aitor Arnaiz – PhD (2009_
- Dr. Dale Addison – PhD (2005)
- Dr. David Baglee – PhD (2005)
- Dr. Peter Phillips – PhD (2004)
- Dr. Christos Emmanouilidis – PhD (2002)
- Dr. Ken McGarry – PhD (2002)
- Dr. Giles Oatley – PhD (2000)
- Dr. Odin Taylor – PhD (1999)
- Mrs. Caron Green – MPhil (2003)

As Co-Supervisor

- Mrs. Lisa Mithcell – Mphil (2010)
- Dr. Adam Adgar – PhD (1998)
- Dr. Steve Goodman – PhD (1999)

In addition, I am currently Director of Studies for one doctoral student (Ian Green) and I have acted as External Examiner for PhD or MPhil/MRes viva voce examinations at Southampton, Brunel, and Lincoln.

Research and Reach Out Funding

I have been successful in ***personally*** securing the following funding for the University since 1993:

(please note these figures represent the income from these projects to the University –

some projects included significant funding for project partners and collaborators)

European Union Framework Projects

- DYNAMITE (£280,000); VISION (£300,000); NEURAL-MAINE (£50,000); PIMMS (£60,000); MONCCADS (£80,000); MINICON (£80,000); SENSOIL (£70,000); JOULE (£40,000); MATE (£70,000)
- **TOTAL: £1,030,000**

Note: I am currently leading a consortium bid for a Framework 7 project which will be led by the University of Sunderland if successful

DTI-Funded Business Engagement Projects

- SMART Software for Decision Makers (£250,000); Steam Leak Detection (£40,000); OPTFTEST (£35,000)
- **TOTAL: £325,000**

Industrially-Funded Projects

- Vibration Case Library (£90,000); Intelligent Oil Analysis (£30,000); various other consultancy and private sector projects (£120,000)
- **TOTAL: £240,000**

Research Council Funded Projects

- Intelligent Asset Management – EPSRC (£42,000); Multi-Objective Optimisation – EPSRC (£30,000); Masters Module in Neural Networks – EPSRC (£15,000)
- TOTAL: **£87,000**

Other Projects (with funding source shown)

- Digital Factory – ONE North East (over three phases, circa £7 million)
- Engineering Fellows – ONE North East (£2.7 million)
- Sunderland Software City – ONE North East (£2.8m excluding additional leverage from other sources which currently amounts to approximately £5m)
- ISEBERG/Intelligent Systems Solutions – Government Office North East - ERDF (£3m)
- New Ventures (Enterprise Development) – Tyne & Wear Sub Regional Partnership (£1.1 million)
- DTI/HEFCE Business Fellowship (£100,000)
- Risk Based Indices for Blood Cancer Treatment Planning (£40,000)
- British Council Chinese Liaison (£3,000)
- TOTAL: £16,743,000

TOTAL FUNDING: £18,425,000

Other Achievements

Other achievements of note, including regional and national representation on behalf of the University, are:

- I joined the Board of Trustees of of the **National Association of College and University Entrepreneurs (NACUE)** in 2013, and became **Chair of the Board in 2014, serving until 2019**.
- **Editor-in-Chief** of the international scientific journal ***Neural Computing & Applications***, published by Springer Nature (I have held this position from 1996 to date, and am one of the longest-serving scientific journal editors in the UK – this is now one of the most successful journals in the Springer Nature Computer Science portfolio.
- **Co Editor-in-Chief** of a new journal ***AI and Ethics***, also published by Springer Nature – founded by myself and my colleague Professor Larry Medsker of George Washington University in the United States in 2020.
- Founding Board Member of **Sunderland Software City**.
- I was appointed one of only 11 **National DTI/HEFCE "Business Fellows",** recognition of achievement and leadership in linking academia with industry (I was the only Business Fellow appointed from the North East).
- Member of the **Strategy Group of the North East Productivity Alliance (NEPA)** representing the automotive and manufacturing sector in the North East.
- Member of the **Regional Advisory Group for the Manufacturing Advisory Service**.
- Member of the **Regional Advisory Group for the National Skills Academy for Manufacturing,** advising regional developments on skills and knowledge transfer to the automotive and manufacturing sectors.
- Board Member of the **Biosystems Informatics Institute (BII)**, a body established in the North East to develop bioinformatics applications for commercial exploitation.
- Member of the **Advisory Board for NETPARK**, Sedgefield.
- Appointment to the **Peer Review Colleges for EPSRC and BBSRC**.
- Member of the **National Committee of the Natural Computing Applications Forum**.
- **Visiting Professorships** in Australia, China, Italy and South Africa.
- **External Examiner to the University of the West of Scotland** on Engineering and Design programmes (2006 to 2012).
- **Chairmanship of the International Congress on Condition Monitoring and Diagnostic Management**, an international conference which was held in Sunderland in 1999.
- **Leadership of one of the Horizontal Themes in the Plant Life Assessment Network (PLAN)** – a Type II Thematic Network funded under

EU Framework 5.

- Representation on various national and international conference technical committees and journal editorial panels.

PERSONAL INTERESTS

I am a keen sportsman, and captained Clara Vale Cricket Club who play in the Three Counties Northumberland League for seven seasons. I also ski and snowboard, scuba dive, and keep fit at my gym. In addition I enjoy reading, music, playing guitar, and the theatre.

PERSONAL QUALITIES AND STRENGTHS

I have the ability to develop my vision for both myself and my organisation, and am at my best when dealing with complex organisations in changing environments. I am an excellent communicator and have the ability to convey my vision with conviction and enthusiasm, inspiring others and motivating them towards a common goal. I am a firm but inclusive leader, with a strong belief in team work and leading by example. I have an excellent track record in setting and achieving goals, and helping others to achieve theirs.

On a personal basis, I have high standards of integrity, loyalty and dedication; I also value humour and the ability to enjoy life.