

# PhD Opportunity

A Longitudinal Investigation of Symptom Burden  
in Patients with Chronic Kidney Disease (CKD)  
[The CKD-INSIGHT study]

## Supervisory team

**Director of Studies:** [Dr Kostas Papadopoulos](#) Head of Department-Allied Health, Principal Lecturer in Physiotherapy, Deputy lead LWLTC research group, School of Health and Wellbeing.

**Supervisors:** [Prof. Derek Kyte](#)

**Research Group:** [Living Well with Long-Term Conditions Research Group](#)

## The PhD Opportunity

Patellofemoral pain (PFP) is a common musculoskeletal condition characterised by pain around or behind the patella, often exacerbated by activities such as running, squatting, and climbing stairs. Despite its high prevalence, the underlying mechanisms of PFP remain poorly understood, and effective long-term treatment strategies are still elusive. This condition significantly impacts the quality of life, limiting physical activity and leading to chronic pain in many individuals. Current research suggests that a multifactorial approach, considering biomechanical, genetic, and psychosocial factors, is essential for accurate diagnosis and personalised treatment (Neal et al., 2024; Blazey et al., 2023; Xu et al., 2024).

In the NHS, the management of PFP typically involves physiotherapy, patient education, and self-management strategies (Papadopoulos et al., 2013). Physiotherapy focuses on strengthening exercises, particularly for the hip and core muscles, to improve knee function and reduce pain (Neal et al., 2024). Patient education aims to empower individuals with knowledge about their condition and how to manage it effectively (Blazey et al., 2023). Despite these efforts, there is a need for more targeted and long-term effective interventions to improve patient outcomes (Xu et al., 2024).

## PhD Aims

The proposed research aims to address critical gaps in the understanding and management of PFP in NHS patients by focusing on the following key areas:

### Patient Education, Self-management, and Perceptions of Management

**Objectives:** To enhance patient education and self-management strategies, supported by an exploration of the perceptions of NHS clinical physiotherapists and

patients regarding the current management of PFP. This approach aims to empower individuals, improve adherence to treatment plans, and gather insights into their experiences, perceived challenges, and suggestions for improving PFP management.

### **Mechanisms of Pain and Role of Muscle Strength**

**Objectives:** A deeper understanding of the pain mechanisms involved in PFP and the impact of hip and core muscle strength on knee function and pain. This includes exploring neuromuscular control to assess the effectiveness of targeted exercise programs.

### **Risk Factors and Long-term Efficacy**

**Objectives:** Identifying and understanding the various risk factors associated with PFP, including biomechanical, and psychosocial aspects. Assessing the long-term efficacy of current and novel interventions.

### **Proposed Methodology**

- **Study Design:** Qualitative and quantitative study designs
- **Participants:** Patients with PFP recruited from collaborating NHS sites.
- **Data Collection:** Questionnaire survey, Individual interviews/focus groups, Maximum Voluntary Isometric Contractions/EMG, function and pain scales
- **Analysis:** Data triangulation, biomechanical and longitudinal data analysis techniques will be used.
- **Ethical Considerations:** Ethical approval will be sought from relevant ethics committees, and informed consent will be obtained from all participants.

### **References**

1. Neal, B. S., Lack, S. D., Bartholomew, C., Morrissey, D., & others. (2024). Best practice guide for patellofemoral pain based on synthesis of a systematic review, the patient voice and expert clinical reasoning. *British Journal of Sports Medicine*, 58(24), 1486. <https://doi.org/10.1136/bjsports-2023-105230>
2. Blazey, P., Scott, A., Ardern, C. L., Davis, J. C., Whittaker, J. L., Losciale, J. M., & Khan, K. M. (2023). Consensus methods in patellofemoral pain: how rigorous are they? A scoping review. *British Journal of Sports Medicine*, 58(13), 733. <https://doi.org/10.1136/bjsports-2023-105231>
3. Xu, J., Cai, Z., Chen, M., Wang, X., Luo, X., & Wang, Y. (2024). Global research trends and hotspots in patellofemoral pain syndrome from 2000 to 2023: a bibliometric and visualization study. *Frontiers in Medicine*, 11, 1370258. <https://doi.org/10.3389/fmed.2024.1370258>
4. K.D. Papadopoulos, J. Noyes, M. Barnes, J.G. Jones, J.M. Thom. 'How do physiotherapists assess and treat Patellofemoral Pain Syndrome in North Wales? A mixed method study'. (2013) *International Journal of Therapy and Rehabilitation*, Vol 19 pp261-272.

## Application Process

To begin the application process please go to:

<https://www.worc.ac.uk/research/research-degrees/applying-for-a-phd/>.

## The Interview

All successful applicants will be offered an interview with the proposed Supervisory Team. You will be contacted by a member of the Doctoral School Team to find a suitable date. Interviews can be conducted in person or over Microsoft Teams.

## Funding your PhD

For information about Doctoral Loans please visit: <https://www.worc.ac.uk/study/fees-and-finance/doctoral-loans.aspx>

During your PhD you can access the Research Conference Support Scheme to support the costs of presenting your research at an external conference.

## Research at the University of Worcester

Research is central to the University's mission to make a difference in everything that we do. We are committed to delivering excellent research which extends the boundaries of human knowledge, but which also improves people's lives by enabling better health outcomes, improving food security, developing environmentally sustainable solutions for crop production and socially sustainable solutions to our ageing population, enhancing public knowledge and understanding of the past and present.

The University hence focuses its research around five high-level challenges facing society, locally, nationally and globally:

- [Human Health and Wellbeing](#)
- [Sustainable Futures](#)
- [Digital Innovation](#)
- [Culture, Identity and Social Exclusion](#)
- [Professional Education](#)

The success of our research is reflected in our continuous improvement in external research assessment processes. In the most recent Research Excellence Framework, REF 2021, the University saw a near 50% increase in the scale of its research and 12% increase in quality, building on its performance in REF 2014 when it was the UK's most improved university in terms of Research Power, a combination of scale and quality.

## Research Degrees at Worcester

Our research students are central to our overall mission for research. They are working at the cutting edge of their disciplines and driving forward the quality of our research whilst enriching our research culture. We are looking to increase our research student numbers as a strategic imperative.

Our commitment to our students is reflected in the results of the Postgraduate Research Experience Survey 2023 in which we ranked 3<sup>rd</sup> for overall research student satisfaction nationally. Key to our success in this area is the Doctoral School, a focal point for all our research students.

It provides:

- day-to-day support for our students, both administrative and practical, through our dedicated team
- a Research Student Study Space with both PCs and laptop docking stations
- a comprehensive Researcher Development Programme for students and their supervisors
- a programme of student-led conferences and seminars

### **Widening Participation**

As part of its mission statement the University is committed to widening participation for its higher degrees. Although most candidates will have an undergraduate and/or a Masters degree, the University is happy to accept applications from candidates with relevant professional qualifications and work related experience.

**For further information or an informal discussion on this project, please contact Dr Kostas Papadopoulos [k.papadopoulos@worc.ac.uk](mailto:k.papadopoulos@worc.ac.uk)**

