# Dr. Vincent A. Knight

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## APPOINTMENTS

| | |
|---|---|
| *Senior Lecturer* | *2016 - present* |
| *Cardiff University* | |
| *Lecturer* | *2011 - 2016* |
| *Cardiff University* | |
| *Post Doctoral Researcher* | *2009 - 2011* |
| *Cardiff University* | |

## ACADEMIC QUALIFICATIONS

*Postgraduate Certificate in University Teaching and Learning,*
**Obtained with distinction**
*Cardiff University*                                                    *2013*

*Ph.D. in Enumerative Combinatorics,*
**Alternating Sign Matrix Polytopes**
*Cardiff University*                                                    *2009*

*B.Sc. (Hons) Mathematics,*
**Graduated top of my class**
*Cardiff University*                                                    *2005*

*Baccalaureat Scientifique,*
**Fluent in French**
*Lycee du Pre Saint Sauver, St Claude, Jura, France*                    *2002*

## PUBLICATIONS

26. *2016:* **Measuring the Price of Anarchy in Critical Care Unit Interactions.**
    *Knight VA., Komenda I, Griffiths J.*
    **Accepted in the journal of the operational research society.**

25. *2016:* **An Open Framework for the Reproducible Study of the Iterated Prisoners Dilemma.**
    *Vincent Knight, Owen Campbell, Marc Harper, Karol Langner, James Campbell, Thomas Campbell, Alex Carney, Martin Chorley, Cameron Davidson-Pilon, Kristian Glass, Nikoleta Glynatsi, Tom Ehrlich, Martin Jones, Georgios Koutsovoulos, Holly Tibble, Jochen Mller, Geraint Palmer, Piotr Petunov, Paul Slavin, Timothy Standen, Luis Visintini, Karl Molden.*
    **Journal of open research software.**
    `http://openresearchsoftware.metajnl.com/article/10.5334/jors.125/`

24. *2016:* **Time-dependent stochastic methods for managing and scheduling Emergency Medical Services**
    *J.L. Vile, J.W. Gillard, P.R. Harper, V.A. Knight.*
    **Operations Research for Health Care.**

`http://www.sciencedirect.com/science/article/pii/S2211692314200518`

23. *2015:* **Containment of socially optimal policies in multiple-facility Markovian queueing systems.**
    *Rob Shone, Vincent Knight, Paul Harper, Janet Williams, John Minty*
    **Journal of the Operational Research Society.**
    `http://link.springer.com/article/10.1057/jors.2015.98`

22. *2015:* **Playing games: a case study in active learning applied to Game Theory.**
    *Vince Knight*
    **Connections**
    `https://journals.gre.ac.uk/index.php/msor/article/view/254`

21. *2015:* **Compliance with National Guidelines for Stroke in Radiology.**
    *Izabella Komenda, Hannah Williams, Vincent Knight*
    **Operations Research for Health Care.**
    `http://www.sciencedirect.com/science/article/pii/S2211692314200191`

20. *2015:* **Modelling of psoriasis patient flows for the reconfiguration of secondary care services and treatments**
    *Kayne Putman, Alex Anstey, Paul R Harper, Vince A Knight*
    **Health Systems.**

19. *2015:* **Rostering staff at a mathematics support service using a finite-source queueing model**
    *Gillard J., Knight V., Vile J., Wilson R.*
    **IMA Journal of Management Mathematics. 27 (2)**

18. *2014:* **Mathematical modelling of patient flows to predict critical care capacity required following the merger of two district general hospitals into one**
    *J. Williams, S. Dumont, J. Parry-Jones, I. Komenda, J. Griffiths, V. Knight*
    **Anaesthesia. 70 (1)**

17. *2014:* **Operational research ambassadors in schools**
    *Bradshaw N.A., Harper P, Knight V., Orpin L.*
    **Proceedings of the HEA STEM, Edinburgh 2014**

16. *2014:* **Tweeting the Terror: Modelling the Social Media Reaction to the Woolwich Terrorist Attack**
    *Burnap P, Williams ML, Sloan L, Rana O, Housley W, Edwards A, Knight V, Procter R., Voss A. (*
    **Social Network Analysis and Mining**

15. *2014:* **Mathematical modelling of patient flows to predict critical care capacity required following the merger of two district general hospitals into one.**
    *J. Williams, S. Dumont, J. Parry-Jones, I. Komenda, J. Griffiths, V. Knight.*
    **Anaesthesia. 70 (1)**

14. *2013:* **Selfish routing in public services.**
    *Knight VA, Harper PR.*
    **European Journal of Operational Research. 230 (1) 122-132**

13. *2013:* **Using Singular Spectrum Analysis to Obtain Staffing Level Requirements in Healthcare.**
    *Knight VA, Gillard J*
    **Journal of the Operational Research Society**

12. *2013:* **Comparisons between observable and unobservable M/M/1 queues with respect to optimal customer behavior**
    *Shone R, Knight VA, Williams JE*
    **European Journal of Operational Research**

11. *2012:* **Ambulance Allocation for Maximal Survival with Heterogeneous Outcome Measures.**
    *Knight VA, Harper PR, Smith L*
    **OMEGA - The International Journal of Management Science. 40 (6) 918–926**

10. *2012:* **How Efficient can an Emergency Unit be? A Perfect World Model.**
    *Baboolal K, Griffiths J, Knight VA, Nelson AV, Voake C, Williams JE.*
    **Emergency Medicine Journal.**

9. *2012:* **Discrete Conditional Phase-Type Models Utilising Classification Trees: Application to Modelling Health Service Capacities.**
   *Harper PR, Knight VA, Marshall A.*
   **European Journal of Operational Research. 219 (3) 522–530**

8. *2012:* **Modelling Emergency Medical Services with Phase Type Distributions.**
   *Knight VA, Harper PR.*
   **Health Systems. 1 53-68**

7. *2011:* **On the Peter Principle: An Agent Based Investigation into the Consequential Effects of Social Networks and Behavioural Factors.**
   *Fetta A, Harper PR, Knight VA, Williams JW, Vieira I*
   **Physica A: Statistical Mechanics and its Applications.**

6. *2011:* **Forecasting Welsh Ambulance Demand using Singular Spectrum Analysis.**
   *Williams J, Gillard J, Harper PR, Knight VA*
   **Journal of the Operational Research Society.**

5. *2011:* **Bed Management in a Critical Care Unit.**
   *Griffiths J, Knight VA, Komenda I.*
   **IMA Journal of Management Mathematics.**

4. *2011:* **Modelling Patient Choice in Healthcare Systems: Development and Application of a Discrete Event Simulation with Agent-Based Functionality.**
   *Knight VA, Williams JE, Reynolds I.*
   **Journal of Simulation.**

3. *2011:* **Cost-Effective Workforce Planning: Optimising the Dental Team Skill-Mix for England.**
   *Harper PR, Kleinman ER, Gallagher JE, Knight VA*
   **Journal of Enterprise Information Management**

2. *2010:* **Forecasting Welsh Ambulance Demand using Singular Spectrum Analysis.**
   *Williams J, Gillard J, Harper PR, Knight VA*
   **In Proceedings of the XXXVI International ORAHS Conference**

1. *2008:* **Higher Spin Alternating Sign Matrices**
   *Behrend RE, Knight VA*
   **Electronic Journal of Combinatorics. 14(1): R83, 38pp.**