

Tom Kelsey

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Education & Qualifications

- 2000 – PhD in Computer Science, University of St Andrews
- 1995 – MSc in Numerical Analysis & Programming, University of Dundee
- 1994 – BSc in Mathematics, Heriot Watt University

Appointments

- **School of Computer Science, University of St Andrews**
 - August 2019 – Present Professor of Health Data Science
 - August 2017 – July 2019 Reader in Health Data Science
 - August 2013 – July 2017 Senior Lecturer
 - September 2010 – July 2013 Lecturer
 - September 2003 – August 2010 Senior Research Fellow
 - November 1999 – August 2003 Research Fellow

Scholarly Activities

REF 2027

Currently proposed as research outputs:

1. A predictive model of the effect of therapeutic radiation on the human ovary; Nov 2022 **PLoS ONE** ; DOI:0.1371/journal.pone.0277052
2. Survival after breast cancer in women with a subsequent live birth: influence of age at diagnosis and interval to subsequent pregnancy; June 2022; **European Journal of Cancer**; DOI:10.1016/j.ejca.2022.06.048
3. Diagnostic and predictive accuracy of anti-mullerian hormone for ovarian function after chemotherapy in premenopausal women with early breast cancer; Jan 2022; **Breast Cancer Research and Treatment**; DOI:10.1007/s10549-021-06508-w
4. Performance of plasma kisspeptin as a biomarker for miscarriage improves with gestational age during the first trimester; May 2021; **Fertility and Sterility**; DOI:10.1016/j.fertnstert.2021.04.031
5. Changes in circulating kisspeptin levels during each trimester in women with antenatal complications; August 2021; **Journal of Clinical Endocrinology and Metabolism**; DOI:10.1210/clinem/dgab617
6. Family size and fertile lifespan in female cancer survivors: a population based analysis; Dec 2021; **Fertility and Sterility**; DOI:10.1016/j.fertnstert.2021.11.011

REF 2021

Research outputs, together with number of citations (Google Scholar – accessed 4th May 2022) or views since publication:

1. The impact of cancer on subsequent chance of pregnancy: a population-based analysis; Jul 2018; **Human Reproduction** 33(7); **157 citations**
2. Fertility preservation for girls and young women with cancer: Population-based validation of criteria for ovarian tissue cryopreservation; Sep 2014; **The Lancet Oncology** 15(10); **236 citations**
3. Follicle Size on Day of Trigger Most Likely to Yield a Mature Oocyte; **Frontiers in Endocrinology**

9(193). With over **825,000 views**, this article is the most viewed of 5,971 Frontiers in Endocrinology articles

4. A validated age-related normative model for male total testosterone shows increasing variance but no decline after age 40 years; Oct 2014; **PLoS One** 9 e109346; **156 citations**
5. Cancer treatment and gonadal function: experimental and established strategies for fertility preservation in children and young adults; Jul 2015; **The Lancet Diabetes & Endocrinology** 3(7); **282 citations**

REF 2014 & RAE 2007

Research outputs, together with number of citations (Google Scholar – accessed 4th May 2022) since publication:

1. Human ovarian reserve from conception to the menopause; 2010; **PLoS One**. 5, e8772; **792 citations**
2. A validated model of serum anti-Müllerian hormone from conception to menopause; 2011; **PLoS One**. 6, e22024; **520 citations**
3. Which follicles make the most anti-Müllerian hormone in humans?: Evidence for an abrupt decline in AMH production at the time of follicle selection; 2013; **Molecular Human Rep.** 19(8); **355 citations**
4. Can Anti-Müllerian hormone predict the diagnosis of polycystic ovary syndrome?: A systematic review and meta-analysis of extracted data; 2013; **J Clinical Endocrinology & Metabolism** 98(8); **383 citations**
5. Tractable symmetry breaking using restricted search trees; 2004; **Proceedings of the 16th European Conference on Artificial Intelligence**; **91 citations**
6. The radiosensitivity of the human oocyte; 2003; **Human Reproduction** 18(1); **714 citations**
7. Predicting age of ovarian failure after radiation to a field that includes the ovaries; 2005; **International Journal of Radiation Oncology Biology Physics**. 62(3); **682 citations**
8. Ovarian reserve and reproductive age may be determined from measurement of ovarian volume by transvaginal sonography; 2004; **Human Reproduction** 19(7); **192 citations**

Awards

1. Reproductive function in teenage and young adult cancer patients in the UK. MRC MR/W019140/1 PI: R Anderson – **£3,880,000** 1/12/2021
2. Detecting high-risk smokers in Primary Care Electronic Health Records: An automatic classification, data extraction and predictive modelling approach, The Melville Trust, **£120,000** 1/08/2019 – 31/07/2021
3. Reproductive function in young adult cancer patients in the UK, TYA CSG of the National Cancer Research Institute, **£150,000** 1/08/2019 – 28/02/23
4. SERUMS Project. EU Horizon2020 project 826278 (St Andrews Component of €4.5m award). PI: K Hammond – **£800,000** 1/011/18 – 30/10/23
5. UK Institute for Health & Bioinformatics Research (St Andrews component of £37m award). PI: F Sullivan – MRC: **£450,000** 1/04/18 – 30/06/23
6. Development and feasibility of a communication training package for therapeutic radiographers to manage emotional talk with breast cancer patients in treatment. PI: G Humphris – Breast Cancer Now: **£88,168** 1/02/18 – 31/01/20
7. A Constraint Modelling Pipeline: A Constraint Modelling Pipeline. PI: I Miguel – EPSRC: **£886,923** 1/04/17 – 30/09/20
8. Pilot of the Mini-AFTERc intervention to manage fear of cancer recurrence. PI: G Humphris – CSO: **£249,495** 1/01/18 – 31/08/21
9. A Constraint Solver Synthesiser: A Constraint Solver Synthesiser. PI: I Miguel – EPSRC: **£929,076** 1/10/09 – 30/09/14
10. Fife Health and Social Care Partnership; MapMySmoke development; **£1,500**
11. NHS Fife R & D; Smart device applications for smoking cessation; **£20,000**
12. EPSRC Impact Acceleration Award; Medical and Healthcare mobile apps; **£16,808**

Collaborations & Contributions

- Edinburgh Fertility – I work closely with Professors Anderson, Telfer and Wallace (resp. Reproductive

Endocrinology, Reproductive Physiology and Paediatric Oncology) at the University of Edinburgh. We have a long established track record of publication in high-impact journals such as The Lancet Oncology, The Lancet Diabetes & Endocrinology, the European Journal of Cancer and Human Reproduction. My contribution is

- the careful identification, aggregation, imputation and linkage of data suitable for studies into the late effects of cancer treatments on survivors of cancer
 - the use of modern AI machine learning techniques to derive and validate predictive models related to fertility in the healthy and treated populations
 - collaboration with colleagues at ISD and NSS to perform population-based analyses that compare fertility outcomes for cancer survivors with other members of the same community
 - critical evaluation of how our models and results relate to oncofertility research disseminated by groups in other countries
- Copenhagen University Hospital – I provide non-clinical expertise to the group headed by Professor Anderson investigating cryopreservation of ovarian tissue as a fertility preservation technique for a range of conditions. We have an established track record of publication in high-impact journals such as Fertility & Sterility, Science of the Total Environment and Molecular Human Reproduction. My contribution is
 - the accurate prediction of attributes (that are unmeasurable *in vivo*) needed to quantify differences in the populations under investigation
 - the application of AI and statistical learning methods to quantify the certainty of results based on small samples
 - Reproductive & Maternal Medicine, Glasgow – I work with Professor Nelson and Dr Iliodromiti at the University of Glasgow, investigating endocrine markers as diagnostic tools. We have an established track record of publication in high-impact journals such as the Journal of Clinical Endocrinology & Metabolism, Diabetologia and Molecular Human Reproduction Update. My contribution is
 - the use of hierarchical summary ROC analysis to accurately combine published diagnostic results into a single estimate
 - the careful combination of local data with summaries of published data to increase the power of investigations and provide enhanced clinical utility
 - The Wolfson Fertility Centre – I am a regular visitor to the group headed by Professor Dhillo of Imperial College, London, working on individualised approaches to assisted conception, with recent publications in journals such as Clinical Endocrinology and Frontiers in Endocrinology. My contribution is
 - the adaptation of the tools and techniques I have developed for fertility after cancer to the wider problem of helping subfertile couples to have children
 - the careful combination of baseline, longitudinal and outcome IVF data from centres in London, Copenhagen and Vietnam
 - the use of modern AI knowledge discovery techniques to identify multivariate combinations of features that maximise chances of a live birth
 - advanced dose-response modelling using combinations of nonlinear regression, generalized (non)linear regression, and parametric survival analysis
 - The University of St Andrews – I am an active researcher within
 - the Artificial Intelligence Research Group
 - the Population and Behavioural Science Division of the School of Medicine
 - the Digital Health Science Initiative
 - the St Andrews Institute for Data-Intensive Research
 - the Health Informatics Group within the School of Computer Science

Academic Organisation

- 2010 – 2017 Programme Committee Member, AAAI Conference on Artificial Intelligence, International Joint Conference on Artificial Intelligence; Workshop on Knowledge Engineering, Discovery and Dissemination (IEEE International Conference on Bioinformatics & Biomedicine); International Conference

on Artificial Intelligence and Symbolic Computation; Workshop on Combining Constraint solving with Mining and Learning.

- 2010 – 2015 St Andrews Representative, Scottish Informatics and Computer Science Alliance (SICSA), Modelling and Abstraction theme.

Peer Review Activities

- 2019 – 2022 **Associate Editor** for Human Reproduction Update (Impact Factor 15.610).
- 2018 – 2023 **Associate Editor** for Frontiers in Physiology (Impact Factor 4.556).
- 2018 – 2023 **Associate Editor** for Frontiers in Endocrinology (Impact Factor 5.555).
- 2018 – 2020 **Research Topic Editor**; Ovarian Ageing: Pathophysiology and Recent Development of Maintaining Ovarian Reserve; Frontiers in Endocrinology
- 2009 **Editor**: Symmetry and Search, Annals of Mathematics and Artificial Intelligence, 57(1).
- 2008 – 2022 **Research Council Reviewer**: EPSRC; BBSRC; Science Foundation Ireland; Singapore A-star Joint Council Office; NIHR AI and Racial and Ethnic Inequalities in Health and Care
- 2004 – 2022 **Reviewer**: International Journal of Radiation Oncology Biology Physics, Nature Scientific Reports, British Medical Journal, AAAI Conference on Artificial Intelligence, BMJ Open, Human Reproduction Update, Optimization Letters, Systems Biology in Reproductive Medicine; International Conference on Principles and Practice of Constraint Programming; Human Reproduction; International Conference on Artificial Intelligence and Symbolic Computation; Conference of the Association for the Advancement of Artificial Intelligence; Mathematical Medicine & Biology; International Joint Conference on Artificial Intelligence; Journal of Pediatric Endocrinology and Metabolism; The Computer Journal; European Journal of Obstetrics & Gynecology and Reproductive Biology; Conference on Automated Deduction; International Conference on Logic for Programming, Artificial Intelligence, and Reasoning; Molecular Human Reproduction; Psychoneuroendocrinology; Health Education Journal; Current Opinion in Endocrine and Metabolic Research

Engagement

Professional Bodies

- 2011 – 2023 Fellow, The Royal Society of Medicine
- 2011 – 2023 Member, The International Society for Fertility Preservation
- 2008 – 2011 Member, The Royal Society of Medicine

Steering Committees & Advisory Bodies

- 2011 – 2019 Board Member, Managed Services Network for Children and Young People with Cancer, NHS Scotland, also specialist advisor on Working Groups:
 - Operational Delivery – detailed oversight of neuro-oncology, palliative care, psychosocial care, pharmacy and Multidisciplinary Team organisation
 - MyStoryNow e-Passport App – pan-Scotland linkage of EHR, TRAK & scan data
 - Safety checklists – pan-Scotland linkage of TRAK data to improve patient safety and resource utilisation
 - Clinical Governance
- 2011 – 2014 External Assessor, eHealth Clinical Portal Benefits Realisation, NHS Scotland
- 2006 – 2011 Board Member, The Children and Teenagers Scottish Cancer Network, NHS Scotland Managed Clinical Network, also specialist advisor on Working Groups:
 - Multidisciplinary Team Communications
 - eHealth Strategy for Chemotherapy

Adjunct & Visiting Positions

- 2010 – 2023 Scientific Director, The Wallace-Kelsey Research Foundation
- 2017 – 2023 Visiting Professor, The Wolfson Fertility Centre at Hammersmith Hospital
- 2016 & 2020 Visiting Professor, Laboratory of Reproductive Biology, Copenhagen University Hospital

- 2015 – 2016 Visiting Professor, Faculty of Medicine, Imperial College, London
- 2012 Visiting Professor, Universidade de Lisboa, Portugal
- 2008 – 2010 Visiting Professor, La Universidad de la República, Montevideo, Uruguay

Smart Device Applications

In order to promote knowledge transfer of AI research results in health data science, I design, implement, validate and release apps for Apple iOS and Google Android devices.

- MyStoryNow – ePassport for survivors of childhood cancer, containing scans & treatment history. NHS Public Benefit and Privacy Panel for Health approval in March 2019; Community Health Index Advisory Group approval in Feb 2019; Android app to be released later in 2019
- ivfPredict – calculation of individualised chances of a live birth after an IVF cycle. iOS and Android app released in 2012
- MyGraine – recording and visualisation of migraine-related symptoms & events. Android release 2015
- MapMySmoke – recording and logging craving and smoking events during quit attempts. iOS and Android versions currently being validated in conjunction with NHS Fife.
- Forecast2 & Mini-AFTERc – recording and logging fears of recurrence of breast cancer. iOS and Android versions being developed for validation in conjunction with NHS Lothian & NHS Tayside.

Career Development

Specialist methodology support for fellowships

- MRC Experimental Challenges Fellowship – Ali Abbara of Imperial College London, project title “Individual Luteal-phase Support”, funded Jan 2019
- Senior Clinical Fellowship from the Chief Scientist Office – Rod Mitchell of the University of Edinburgh, project title “Protect, Preserve, Restore – Fertility Preservation in Prepubertal Boys with Cancer”, funded Nov 2018
- I have funded and supervised 18 paid summer internship projects, giving students experience of collective working to satisfy managers and clients, in addition to their work towards a good degree. The primary aim is providing education and training in mobile app design, development and deployment.

Invited Talks

- KEYNOTE VII: Machine learning and artificial intelligence and future perspectives for health care, International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer - ISLCCC 22, Utrecht July 2022
- 12th Advanced Paediatric Oncology Course: Integrating precision medicine into the advanced clinical care of children with cancer, APOC 12, May 2022
- A tool for comparing radiotherapy treatment plans in terms of later fertility for survivors, EUOS Conference 2021, April 2021
- Paediatric Visiting Club, North Berwick, September 2019
- 11th Advanced Paediatric Oncology Course, Edinburgh, May 2019
- Fear of reoccurrence of breast cancer smartphone apps demonstration, EPSRC Impact Festival, Glasgow, March 2019
- Computing AI and Machine Learning Live expert panel member for the launch event on the future of artificial intelligence and machine learning, London, November 2018
- EPSRC Impact Festival, Edinburgh, March 2018
- NHS Scotland MSN CYPC Mortality & Morbidity Event, November 2017
- 10th Advanced Paediatric Oncology Course, Edinburgh, May 2017
- Scottish Smoking Cessation Conference, November 2016
- Edinburgh Fertility Preservation, Edinburgh, June 2016
- Keynote invited speaker at the 4th Biennial World Congress of the International Society for Fertility Preservation held in Shanghai, PRC in November 2015
- 61st Annual Meeting of the Canadian Fertility and Andrology Society, Halifax, Nova Scotia, Canada in

October 2015

- 9th Advanced Paediatric Oncology Course, Edinburgh, May 2015
- ADUP (App Data as a Utility for Public Health) Workshop, Glasgow, April 2015
- ISFP meeting on "Freezing of oocytes, embryos and ovarian tissue: focus on fertility management and fertility preservation", held in Bruxelles, Belgium in January 2015
- European Symposium On Late Complications After Childhood Cancer, September 2014
- 8th Advanced Paediatric Oncology Course, Edinburgh, May 2013
- International Symposium on Fertility preservation: from endometriosis to ovarian tissue cryopreservation, Bruxelles, September 2012
- International Conference on Mathematical Modeling in Physical Sciences, Budapest, September 2012
- Workshop on Constraint Based Methods for Bioinformatics, Budapest, September 2012
- SICSA workshop on Biology and Computation, May 2012
- 15th International Conference on the Development and Function of Reproductive Organs, Edinburgh, September 2011
- Workshop on Eulerian and Lagrangian approaches towards quantitative prediction of premature labour, normal and dysfunctional full term labour, Edinburgh, August 2011
- International Conference on Computational Science, Singapore, June 2011
- 7th Advanced Paediatric Oncology Course, Edinburgh, May 2011
- SICSA workshop on Systems Medicine, Dundee, May 2011
- Workshop on Knowledge Engineering, Discovery and Dissemination, Hong Kong, September 2011
- University of Aberystwyth, April 2010
- University of Birmingham, December 2010
- Institut Pasteur - Montevideo, February 2010
- International Society for Computational Biology, Latin America meeting- Montevideo March 2010
- SBF/SBMN meeting on biological research image processing and visualisation in the context of modeling, Edinburgh, March 2009
- 36th Jornadas Argentinas de Informatica, Mar del Plata, Argentina, February 2008
- 11th International Conference on Principles and Practice of Constraint Programming, Sitges, Oct 2005
- 7th International Conference on Artificial Intelligence and Symbolic Computation, Linz, Sept 2004

Teaching

I support and practise the self-blended model of learning. In addition to traditional face-to-face lectures and tutorials, I provide online implementations of worked examples of the concepts, techniques and technologies being taught. This enables students to develop understanding and practical skills at their own pace, and in the setting of their choice. My aim is to augment traditional planned learning requiring physical collocation of students/tutees and lecturer/tutor, with less-structured learning that utilises internet and digital media technologies.

Upskill

- The University of St Andrews offers courses to upskill both individuals and businesses. I have designed and delivered the Knowledge Discovery and Datamining module in 2021 and 2022.
- The University of St Andrews designs tailor-made courses to meet the specific requirements of other educational institutions and organisations. I have designed and delivered modules in Machine Learning for Financial Prediction and Natural Language Processing for Credit Risk Analysis in June 2021

Undergraduate & PGT

- 2022-2023 Programme Director, Online postgraduate courses in Data Science
- 2019 – 2020 Programme Co-director, MSc in Digital Health
- 2017 – 2018 Honours and MSci Coordinator, School of Computer Science
- 2015 – 2018 Programme Director, MSc in Data Intensive Analysis

- 2012 – 2017 Projects Coordinator, School of Computer Science
- 2012 – 2022 Module Developer, ID5059 Datamining & Knowledge Discovery
- 2018 Module Developer, CS5002 Programming Principles and Practice
- 2010 – 2022 design and delivery of modules
 - Pre-honours: CS1005, CS1006, CS2001, CS2002, CS2003, CS2101
 - Honours: CS3302, CS3052, CS3302, CS4303, CS4052
 - MSc: CS5010, IS5101, CS5002, IS5102, ID5059, CS5040
- 2010 – 2022 supervision of 128 single-student projects at CS4000, CS5000, IS5000 and GD5000 levels

Postgraduate Research Supervision

- 5 current PhD students under supervision at St Andrews
- 8 PhD students previously supervised at St Andrews
- Co-supervision of a PhD with the Universitat Politècnica de València, Spain

Postgraduate Examination

- 2012 External Examiner, University of Dundee, Computer Science, PhD
- 2011 – 2022 Internal Examiner, University of St Andrews, Computer Science, PhD
- 2011 – 2022 Exam convener, University of St Andrews, Computer Science, PhD
- 2008 External Examiner, Queen Mary University of London, Computer Science, MPhil

Publications

Two manuscripts currently in press:

- Models and biomarkers for ovarian ageing; T W Kelsey; *Biochemistry and Cell Biology of Ageing: Part IV, Clinical Science*; Springer
- Long-term follow up to assess criteria for ovarian tissue cryopreservation for young women and girls with cancer; R Howie, K Duffin, T W Kelsey, W H B Wallace, R A Anderson; *Human Reproduction*

118 peer-reviewed publications – 19 as first author; 38 as second author; 19 as last author.

h-index: 38 • i10-index: 88 • Citations in 2023 to date: 132 • Total citations: 8,932

Published peer-reviewed research outputs:

- J. Grosbois, E. C. Bailie, T. W. Kelsey, R. A. Anderson, and E. E. Telfer. Spatio-temporal remodelling of the composition and architecture of the human ovarian cortical extracellular matrix during in vitro culture. *Hum Reprod*, Jan 2023.
- T Alhamwi, A Abbara, S Hanassab, A Comninos, T W Kelsey, R Salim, T Heinis, and W Dhilllo. Follicle Sizes That are Most Likely to Yield Oocytes During In Vitro Fertilisation (IVF) Treatment. *Endocrine Abstracts*, 86(P275), 2022. doi: 0.1530/endoabs.86.P275. URL <https://www.endocrine-abstracts.org/ea/0086/ea0086p275>.
- R Anderson, M Lambertini, P Hall, H Wallace, D Morrison, and T Kelsey. Age at diagnosis, previous pregnancy and interval to pregnancy influence survival after breast cancer in women with a subsequent live birth. *Human Reproduction*, 37(Supplement1), 06 2022a. ISSN 0268-1161. doi: 10.1093/humrep/deac105.110. URL <https://doi.org/10.1093/humrep/deac105.110>.
- R. A. Anderson, M. Lambertini, P. S. Hall, W. H. Wallace, D. S. Morrison, and T. W. Kelsey. Survival after breast cancer in women with a subsequent live birth: Influence of age at diagnosis and interval to subsequent pregnancy. *Eur J Cancer*, 173:113–122, Sep 2022b.
- T. W. Kelsey, C. H. Hua, A. Wyatt, D. Indelicato, and W. H. Wallace. A predictive model of the effect of therapeutic radiation on the human ovary. *PLoS One*, 17(11):e0277052, 2022.

- R. A. Anderson, T. W. Kelsey, A. Perdrix, N. Olympios, O. Duhamel, M. Lambertini, and F. Clatot. Diagnostic and predictive accuracy of anti-mullerian hormone for ovarian function after chemotherapy in premenopausal women with early breast cancer. *Breast Cancer Res Treat*, 192(2):273–282, Apr 2022c.
- Richard A Anderson, Tom W Kelsey, David S Morrison, and W Hamish B Wallace. Family size and duration of fertility in female cancer survivors: a population-based analysis. *Fertility and sterility*, 117(2):387–395, 2022d.
- S Caprioli, TW Kelsey, and WHB Wallace. Ovarian function and fertility preservation for young people treated for cancer. In *Female and Male Fertility Preservation*, pages 35–45. Springer, Cham, 2022.
- Lamorna Brown, Frank Sullivan, Tom Kelsey, and Utkarsh Agrawal. Data contained in electronic health records associated with risk of lung cancer: A protocol for a systematic review. 2021.
- J Geel, T Kelsey, A Hramyka, M Hendricks, K Myezo, T Ngcana, A VanZyl, B Neethling, E Madzhia, R Mathews, et al. Repurposing "old" blood tests to replace costly interim analysis imaging of hodgkin lymphoma in low and middle-income settings. In *PEDIATRIC BLOOD & CANCER*, volume 68, pages S374–S375. WILEY 111 RIVER ST, HOBOKEN 07030-5774, NJ USA, 2021.
- Ali Abbara, Maya Al-Memar, Maria Phylactou, Christopher Kyriacou, Pei Chia Eng, Rans Nadir, Chioma Izzi-Engbeaya, Sophie A Clarke, Edouard G Mills, Elisabeth Daniels, et al. Changes in circulating kisspeptin levels during each trimester in women with antenatal complications. *Journal of Clinical Endocrinology and Metabolism*, 2021a.
- R Howie, K Duffin, T Kelsey, WHB Wallace, and RA Anderson. Long-term follow up to assess criteria for ovarian tissue cryopreservation for fertility preservation in young women and girls with cancer. *Human Reproduction*, 36(Supplement_1):deab127–078, 2021.
- Tom Kelsey, Chia-Ho Hua, and Hamish Wallace. The effect of radiotherapy on the human reproductive system. In *Fertility Preservation: Principles and Practice*, pages 18–24. Cambridge University Press, 2021.
- Maria Phylactou, Ali Abbara, Maya Al-Memar, Christopher Kyriacou, Pei Chia Eng, Rans Nadir, Chioma Izzi-Engbeaya, Sophie A Clarke, Edouard G Mills, Elisabeth Daniels, et al. Performance of plasma kisspeptin as a biomarker for miscarriage improves with gestation during the first trimester. 2021.
- Ali Abbara, Maya Al-Memar, Maria Phylactou, Christopher Kyriacou, Pei Chia Eng, Rans Nadir, Chioma Izzi-Engbeaya, Sophie A Clarke, Edouard G Mills, Elisabeth Daniels, et al. Performance of plasma kisspeptin as a biomarker for miscarriage improves with gestational age during the first trimester. *Fertility and Sterility*, 2021b.
- Florian Clatot, Thomas Kelsey, Matteo Lambertini, Nathalie Olympios, Oriane Duhamel, Anne Perdrix, and Richard Anderson. Use of a high-sensitivity anti-mullerian hormone (AMH) assay to determine ovarian function after chemotherapy for early breast cancer. *Journal of Clinical Oncology*, 39(15_suppl): 552–552, 2021.
- Maria Phylactou, Sophie A. Clarke, Bijal Patel, Caitlin Baggaley, Channa N. Jayasena, Tom W. Kelsey, Alexander N. Comninou, Waljit S. Dhillon, and Ali Abbara. Clinical and biochemical discriminants between functional hypothalamic amenorrhoea (FHA) and polycystic ovary syndrome (PCOS). *Clinical Endocrinology*, 2020a.
- Maria Phylactou, Ali Abbara, Eng Pei Chia, Maya Al-Memar, Alexander Comninou, Rans Nadir, Chioma Izzi-Engbeaya, Sophie Clarke, Edouard Mills, Mark Sykes, et al. Kisspeptin as a biomarker for pregnancy complications. In *22nd European Congress of Endocrinology*, volume 70. BioScientifica, 2020b.

- Kazuhiro Kawamara, Tom Kelsey, and Osamu Hiraike. Ovarian ageing: Pathophysiology and recent development of maintaining ovarian reserve. *Frontiers in Endocrinology*, 11, 2020.
- Ali Abbara, Tia Hunjan, Vu NA Ho, Sophie A Clarke, Alexander N Comninou, Chioma Izzi-Engbeaya, Tuong M Ho, Geoffrey H Trew, Artsiom Hramyka, Tom Kelsey, et al. Endocrine requirements for oocyte maturation following hCG, GnRH agonist, and kisspeptin during IVF treatment. *Frontiers in endocrinology*, 11:764, 2020a.
- Michael John Pitcher, Simon Andrew Dobson, TW Kelsey, J Chaplain, Derek James Sloan, Stephen Henry Gillespie, and Ruth Bowness. How mechanistic in silico modelling can improve our understanding of TB disease and treatment. *The International Journal of Tuberculosis and Lung Disease*, 24(11):1145–1150, 2020.
- C. Y. Andersen, T. Kelsey, L. S. Mamsen, and L. N. Vuong. Shortcomings of an unphysiological triggering of oocyte maturation using human chorionic gonadotropin. *Fertil. Steril.*, 114(2):200–208, Aug 2020.
- Maria Phylactou, Ali Abbara, Maya Al-Memar, Pei Chia Eng, Alexander N Comninou, Chioma Izzi-Engbeaya, Sophie A Clarke, Edouard Mills, Rans Nadir, Mark Sykes, T Kelsey, and W Dhillon. Kisspeptin as a biomarker for pregnancy complications. *Journal of the Endocrine Society*, 4(Supplement_1):OR20–06, 2020c.
- A Abbara, S Clarke, R Brewster, A A Simonnard, P Eng, M Phylactou, D Papadopoulou, C Izzi-Engbeaya, A Sam, F Wernig, E Jonauskyste, A Comninou, K Meeran, T Kelsey, and W Dhillon. Pharmacodynamic response to anti-thyroid drugs in Graves' hyperthyroidism. *Frontiers in Endocrinology*, 11:286, 2020b.
- W. Shi, T. Kelsey, and F. Sullivan. Efficient identification of patients eligible for clinical studies using case-based reasoning on Scottish Health Research register (SHARE). *BMC Med Inform Decis Mak*, 20(1):70, 04 2020.
- C. T. McHale, S. Cruickshank, C. Torrens, J. Armes, D. Fenlon, E. Banks, T. Kelsey, and G. M. Humphris. A controlled pilot trial of a nurse-led intervention (Mini-AFTERc) to manage fear of cancer recurrence in patients affected by breast cancer. *Pilot Feasibility Stud*, 6:60, 2020.
- Andrea Rosales Sanabria, Thomas W. Kelsey, Simon Dobson, and Juan Ye. Representation learning for minority and subtle activities in a smart home environment. *J. Ambient Intell. Smart Environ.*, 11(6): 495–513, 2019a. doi: 10.3233/AIS-190541. URL <https://doi.org/10.3233/AIS-190541>.
- Ali Abbara, Aaran Hitesh Patel, Tia Hunjan, Sophie Clarke, Germaine Chia, Pei Chia Eng, Maria Phylactou, Alexander Comninou, Stuart Lavery, Geoffrey Trew, Tom Kelsey, and Waljit Dhillon. FSH requirements for follicle growth during controlled ovarian stimulation. *Frontiers in Endocrinology*, 10:579, 2019a.
- Ali Abbara, Pei Chia Eng, Maria Phylactou, Sophie A Clarke, Hunjan Tia, Rachel Roberts, Sunitha Vimalasvaran, George Christopoulos, Rumana Islam, Kate Purugganan, Tom Kelsey, and Waljit Dhillon. Anti-müllerian hormone (AMH) in the diagnosis of menstrual disturbance due to polycystic ovarian syndrome. *Frontiers in Endocrinology*, 10:656, 2019b.
- Maria Phylactou, Ali Abbara, Maya Al-Memar, Pei Chia Eng, Alexander N Comninou, Chioma Izzi-Engbeaya, Sophie A Clarke, Edouard Mills, Rans Nadir, Mark Sykes, Tom Kelsey, and Waljit Dhillon. Kisspeptin as a novel biomarker for pregnancy complications. In *Society for Endocrinology BES 2019*, volume 65. BioScientifica, 2019.
- Mara van Beusekom, Josie Cameron, Carolyn Bedi, Elspeth Banks, Tom Kelsey, and Gerry Humphris. Development, acceptability and feasibility of a communication skills training package for therapeutic

- radiographers to reduce fear of recurrence development in breast cancer patients (FORECAST2). *Pilot and feasibility studies*, 4(1):148, 2018a.
- Tom Kelsey, Chia-Ho Hua, and W. Hamish B. Wallace. The effect of radiotherapy on the human reproductive system. In Samuel Kim and Jacques Donnez, editors, *Fertility Preservation: Principles & Practice (in press)*, chapter 2. Cambridge University Press, 2nd edition, 2019.
- Andrea Rosales Sanabria, Thomas W. Kelsey, and Juan Ye. Representation learning for minority and subtle activities in a smart home environment. In *2019 IEEE International Conference on Pervasive Computing and Communications, PerCom, Kyoto, Japan, March 11-15, 2019*, pages 1–7. IEEE, 2019b. doi: 10.1109/PERCOM.2019.8767417. URL <https://doi.org/10.1109/PERCOM.2019.8767417>.
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