

# Breast Health News

## Meet the team

As we continue to expand our research group, within the last 12 months we have welcomed five new team members to the Research Group in Breast Health.

We would also like to congratulate Professor Joanna Wakefield-Scurr on getting married over the summer.

## New members:

**Dr Tim Blackmore** has recently joined the group as a Senior Research Associate. Tim previously completed a PhD at Southampton Solent and Nottingham Trent universities under the supervision of Professor Joanna Wakefield-Scurr, and for the last three years has been developing his biomechanical skills while contributing to age-related gait and balance research projects.



Dr Tim Blackmore

**Jacqui Henderson** previously worked with the group as a research assistant in product testing, and is now completing a Master's by Research. She is investigating the use of underwires in sports bras by optimising their fit, comfort and support.



Jacqui Henderson

**Melissa Jones** has recently joined the group as a Research Assistant, having previously completed an MSc in Sports Biomechanics at Loughborough University, and working as a gym instructor and biomechanist.



Melissa Jones

**Michelle Norris** has recently joined the group as a Senior Research Associate. Michelle's research is in the area of breast support and strain, and the development of appropriate breast support garments. Michelle has previously worked at Institutions in Ireland and the USA, conducting research examining runners' lower limb mechanics and movement variability.



Michelle Norris

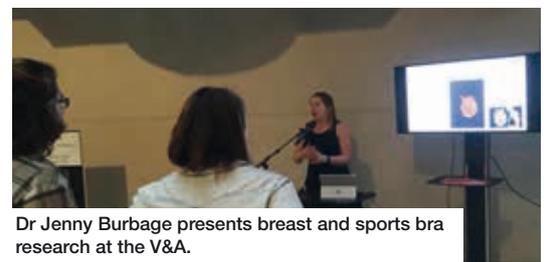
**Atefeh Omrani** has recently joined the group as a PhD researcher at St Mary's University, Twickenham. Atefeh's research interests are in the area of breast health and breast education, particularly for adolescents girls. Atefeh is keen to investigate the impact of breast health education on adolescent girls' knowledge of breast health, sport and exercise participation, enjoyment and body image satisfaction.



Atefeh Omrani

Welcome to the fifth edition of the Research Group in Breast Health newsletter from the University of Portsmouth. The group, led by Professor Joanna Wakefield-Scurr, is internationally renowned for conducting pioneering fundamental and applied research into this important aspect of women's health.

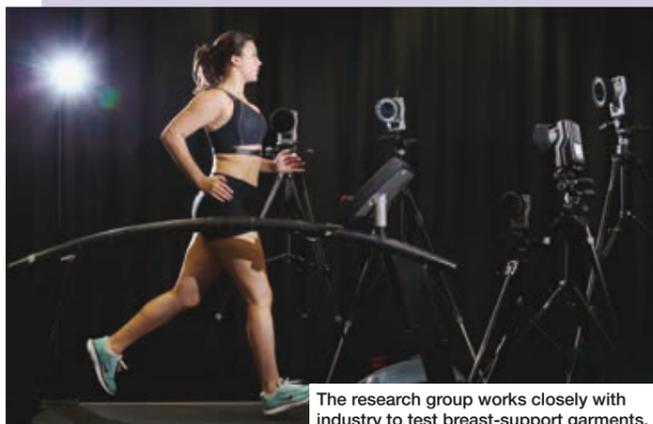
## Showcasing bra research at the Victoria and Albert Museum



Dr Jenny Burbage presents breast and sports bra research at the V&A.

The Research Group has been busy disseminating breast health research this year. In June, Dr Jenny Burbage and PhD student Emma Sharland gave presentations about the sports bra to the public as part of the Victoria and Albert Museum's Friday Late series. The V&A's Undressed: A Brief History of Underwear exhibition provided a unique platform to highlight the Research Group's work. In September, Jenny chaired a panel discussion at the British Science Association Festival in Swansea, which focused on women in sport and the barriers they face for taking part. The panel comprised a female Welsh international rugby player and a representative from the Women's Sports Trust, and together they were able to present a message to the public about how to reduce barriers for women in sport. In November, Jenny and Professor Joanna Wakefield-Scurr debated whether women should wear bras at all at a local public Café Scientifique event, chaired by the British Science Association, which stimulated interesting discussions throughout the evening.

## Bra-testing service helps develop best products



The research group works closely with industry to test breast-support garments.

The Research Group in Breast Health (RGBH) offers scientific bra-testing services to help develop the best possible products.

Since the creation of the Bronze, Silver and Gold bra -testing packages in 2014, the group has worked closely with 11 of the top breast support/lingerie brands and manufacturers in the world to test breast-support garments in the University's specialist breast biomechanics laboratory.

This level of testing has brought multiple benefits to those the group have provided packages for, including marketing campaigns, data on the performance of competitor products, consumer preferences and, of course, the garment's ability to reduce the movement of the breast. The products can be tested over a variety of standardised activities, such as everyday activities, jumping and treadmill-running.

Over the last two years, a large database of the performance the sports bra's tested has been compiled. Although the identity of these bras cannot be made public, it allows the customer to see where their own products rank against others tested, in terms of breast movement reduction. This has been extremely beneficial to the companies we have worked with and adds to the extensive knowledge base of the RGBH, built on years of previous experience investigating the performance of bras and support.

## Our achievements since 2006

- Published 39 scientific peer-reviewed papers
- Delivered over 200 presentations to national and international audiences
- Tested over 900 women in our laboratory
- Tested the performance of over 600 bras
- Completed over 20 commercial projects

## Effect of breast support on willingness to run

Research indicates that, while willingness to exercise and breast velocity are significantly affected by breast support levels during running, muscle activity, heart rate and breathing frequency are not.

In a group of ten women with a breast size of 34D or larger, 62 variables were investigated to determine the effect of running in different breast support conditions. Participants ran in an everyday bra and a sports bra, and it was identified that willingness to exercise was most affected by breast support level. In general, subjective variables such as breast comfort, bra support and embarrassment were significantly affected by breast support levels, while physiological variables were less affected. The findings of this research indicate that appropriate breast support levels play a particularly important role in how women subjectively feel during running.

**Reference:** Risius, D., Milligan, A., Berns, J., Brown, N. and Scurr, J. (2016). Understanding key performance indicators: An analysis of breast support effects on biomechanical, physiological and subjective measures during running. *Journal of Sports Sciences*.

## Department to host Biomechanics Interest Group meeting

The Department of Sport and Exercise Science is delighted to be hosting the BASES Biomechanics Interest Group (BIG) meeting on 19 April, 2017. The meeting acts as a forum for staff and students to share scientific knowledge, provides a supportive and constructive environment in which to discuss issues around teaching and research, serves as an opportunity for professional development, and facilitates communication and networking between individuals, research groups and institutions/organisations. Many of the Research Group in Breast Health will be presenting their research with the aim of engaging the wider scientific community with the work which we are currently undertaking.



[@BIG2017UoP](https://twitter.com/BIG2017UoP)

## New resource for female horse riders



The Research Group in Breast Health has collaborated with the British Equestrian Trade Association and the British Equestrian Federation to develop an educational resource for horse riders on breast health issues, as recommended by research published this year in the *Journal of Sports Sciences* by Dr Jenny Burbage and Lorna Cameron (Sparsholt College). This resource helps horse riders achieve a good bra fit and an understanding of appropriate breast support for this activity. The resource is freely available to download from the British Equestrian Trade Association's website. Find it at <http://www.beta-uk.org/media/Bra%20Guide.pdf>

## The science of breasts and bras



The September 2016 workshop cohort.

This year Dr Jenny Burbage hosted two more one-day Breast Science Workshops in our state-of-the-art breast research laboratory. Individuals and companies from all over the world came to find out about the science behind breasts and bras, for which the Research Group in Breast Health is internationally renowned. This is the third year running that these biannual

workshops have been held at the University. Thanks to their continued popularity, more workshops have been planned for 2017. Watch this space!

If you are interested in taking part in a Breast Science Workshop or would like further information please email Dr Jenny Burbage at [jenny.burbage@port.ac.uk](mailto:jenny.burbage@port.ac.uk).

## Empowering schoolgirls with breast health knowledge



University of Portsmouth research has identified a need for breast health education among schoolgirls.

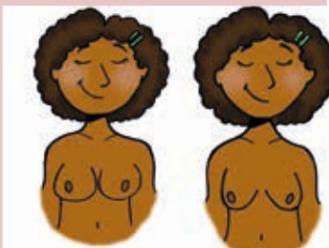
Adolescence is a tricky time for girls. The physical changes that occur during puberty can have a negative effect on body image and self-esteem. Breast development is the first visible sign of puberty, yet breast knowledge among females is poor. Our research has shown a clear need for breast health education for UK schoolgirls, with 87% of girls reporting wanting to learn more about breasts.

## Our Aims

Our aims are to improve the lives of thousands of schoolgirls by:

- Teaching good bra fit and bra habits for life.
- Keeping more girls in sport by eliminating the breast as a barrier to sports participation.
- Reducing or eliminating embarrassment associated with breast development.
- Reducing or eliminating breast pain and worries about breast sag.
- Raising awareness of the signs of breast cancer.

To do this we are about to launch interactive breast education resources for teachers, which will be freely available to download. These resources will help to deliver custom-made workshops in a school environment. Please visit [www.port.ac.uk/breastresearch](http://www.port.ac.uk/breastresearch) to keep an eye out for the launch.



Images from the breast education resources, illustrating different bra types and breast shapes.

# Making an impact

To contribute to our objectives of broadening understanding and raising awareness in this important aspect of women's health, the team from the Research Group in Breast Health regularly attend events and publish research findings.

## Recent events

**June 2016:** Dr Jenny Burbage and Emma Sharland presented on the sports bra at the Victoria and Albert Museum's Friday Night Late exhibition in London.

**September 2016:** Dr Jenny Burbage chaired a panel discussion on women in sport and the barriers they face at the British Science Association's festival in Swansea.

**November 2016:** Dr Nicola Brown and Atefeh Omrani presented 'The female athlete: health and well-being' at St Mary's University, Twickenham as part of the School of Sport, Health and Applied Science Research Seminar Series.

**November 2016:** Professor Joanna Wakefield-Scurr presented a Parallel Invited Symposia, 'Why breast biomechanics is important for all exercising females' at the BASES Conference 2016, Nottingham.

**November 2016:** Professor Joanna Wakefield-Scurr and Dr Jenny Burbage led a discussion, 'Should women be wearing bras at all?', at Café Scientifique, Portsmouth.

## Selected publications since June 2016

Brown, N., & Scurr, J. (2016). Do women with smaller breasts perform better in long-distance running?. *European Journal of Sport Science*, 16(8), 965-971.

Burbage, J., & Cameron, L. (2016). An investigation into the prevalence and impact of breast pain, bra issues and breast size on female horse riders. *Journal of Sports Sciences*, 1-7.

Mills, C., Sanchez, A., & Scurr, J. (2016). Estimating the gravity induced three dimensional deformation of the breast. *Journal of Biomechanics*, 12-15.

Risius, D., Milligan, A., Berns, J., Brown, N., & Scurr, J. (2016). Understanding key performance indicators for breast support: An analysis of breast support effects on biomechanical, physiological and subjective measures during running. *Journal of Sports Sciences*, 1-10.

Scurr, J., Brown, N., Smith, J., Brasher, A., Risius, D., & Marczyk, A. (2016). The influence of the breast on sport and exercise participation in school girls in the United Kingdom. *Journal of Adolescent Health*, 58(2), 167-173.

For a full list of publications please email [breastresearch@port.ac.uk](mailto:breastresearch@port.ac.uk).

# How we can help you

## Workshops

We offer one-day breast science workshops that can be tailored to meet your objectives, covering topics such as breast biomechanics, bra support requirements, bra fit, breast movement, and the importance of breast support. For more information, please email Dr Jenny Burbage at [jenny.burbage@port.ac.uk](mailto:jenny.burbage@port.ac.uk).

## Product testing

Due to the huge demand for our product testing, we offer off-the-shelf bra testing packages at highly competitive rates, offering clients very quick results. For more information, please email Professor Joanna Wakefield-Scurr at [joanna.wakefield-scurr@port.ac.uk](mailto:joanna.wakefield-scurr@port.ac.uk).

## Research projects

Are you involved in the design, manufacture, retail or marketing of bras or sports bras, or breast healthcare? Would you like to improve your service or products? If so, please contact us using the details below to discuss how we could help.

# How you can help us

## Recruitment

We are always looking for women to take part in our research. If you would like to be involved, please contact us using the details below.

## Find out more

For more information including videos and news, visit our website.

T: 023 9284 5161

E: [breastresearch@port.ac.uk](mailto:breastresearch@port.ac.uk)

W: [www.port.ac.uk/breastresearch](http://www.port.ac.uk/breastresearch)

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