



**Recombination Mechanisms Conference**

Chaired by

Steve West (Francis Crick Institute)

10 - 13, July, 2023

Dolce CampoReal Lisboa, Lisbon, Portugal

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## About Fusion

Fusion Conferences was founded in March 2012 by the current Directors. One of our distinguishable attributes is that we are a family-run organisation offering a very friendly and personal service to each and every delegate.

We specialise in scientific based conferences within the academic and corporate industry for those working on the frontiers of physical, medical, life sciences and their related technologies.

Fusion Conferences strives to become internationally renowned for providing meetings of outstanding scientific quality, bringing together smaller interest groups to create informal and workshop style interactions, bridging a gap in the scientific conference community.



## Welcome Letter

Recombination Mechanisms 2023 Attendees,

We are delighted to welcome you to the Recombination Mechanisms Conference. We have a fantastic speaker line-up and a group activity and events scheduled over the next four days. These will be highlighted in your welcome pack and also addressed in the opening speech. If you have any questions during the conference please don't hesitate to approach a member of the Fusion team.

We would also like to take this opportunity to thank our outstanding conference chair, Steve West. Without our chair it wouldn't have been possible to create such a fantastic meeting. It has been an absolute pleasure working together and we hope to continue the meeting series.

We truly hope that you will enjoy the Fusion experience and we wish all our oral and poster presenters the best of luck with their presentations.

Have a great meeting!

With thanks,

A handwritten signature in black ink, appearing to read 'B. Trundle', written in a cursive style.

Brian Trundle | Founder & Managing Director

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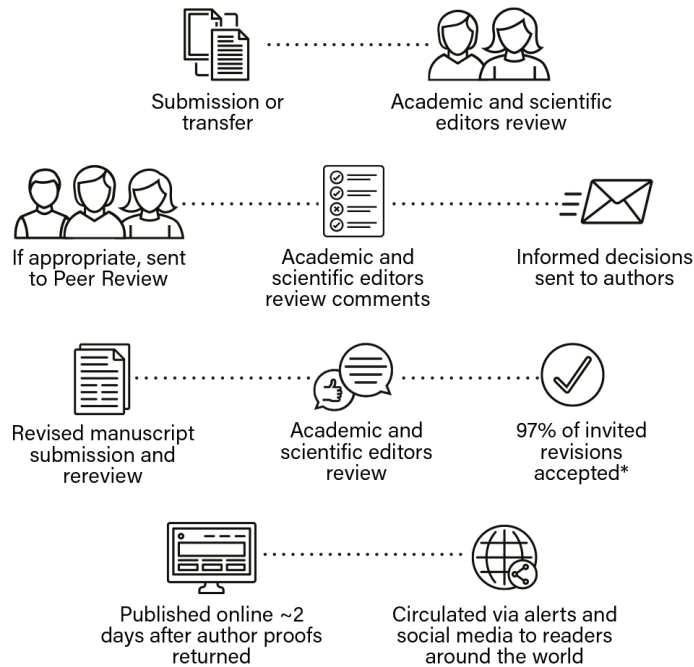
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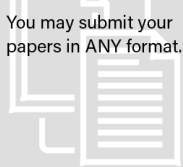
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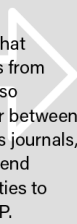
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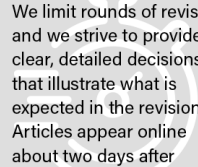
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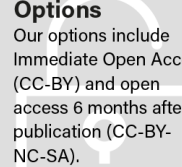
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**Media Partner**



**NOVEL CELLULAR FACTORS INVOLVED IN REGULATION OF BRCA2-DRIVEN HOMOLOGOUS RECOMBINATION IN *USTILAGO MAYDIS***

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Homologous recombination (HR) is one of the most accurate mechanisms of preserving genome integrity by precise repair of double strand breaks as the most deleterious type of DNA damage. Mechanisms of HR are mostly studied in yeast which, unlike higher eukaryotes employs RAD52 as a HR mediator, instead of BRCA2.

*Ustilago maydis* is a unicellular phytopathogen characterized by extreme radiation resistance dependent on BRCA2-driven HR. The focus of our research is to uncover novel cellular factors that regulate HR, by isolating suppressors of *blm* in *U. maydis*.

We have identified 3 new factors of unknown functions, as well as Rad55 and Mph. All mutations suppress HU sensitivity of *blm*. Presence of truncated proteins caused by point mutations that introduce the specific premature STOP codon and complete deletions of UMAG\_01566 and UMAG\_01667, both lead to genotoxins sensitivity and altered growth rates on HU to a various extent. Mutation in UMAG\_03150 leads to slow growth which can be suppressed by truncated UMAG\_01566. Mitotic or meiotic recombination is also affected in some of the mutants.

We assume that these novel factors can provide insights into HR regulation, interactions among HR participants and relations to other cellular processes.