## Black Hole Spin

A 32 bar Strathspey for four couples.
1-4 Second and third couples turn partner once round with both hands.
5-6 Second and third men and ladies turn right hand halfway on the side.
7-8 Second and third couples set on the sides.
9-12 All turn partner once round with both hands, finishing on the sidelines.
13-14 First lady casts off one place, whilst second man dances in and down one place. 3rd lady and 4th man step up.
15-16 All turn right hand once round on the sides; 3rd and 1st ladies, 2nd and $4^{\text {th }}$ ladies, 1st and 3rd men and 4th and 2nd men (to 3124 on the ladies' side and 1342 on the men's side).
17-20 Middle four people (3rd and 4th men, 1st and 2nd ladies) dance a circle to the left approx. three-quarters round and start to dance out (either top, bottom or sidelines).
21-22 Middle people dance out around corners:

- 1st lady dances out the top of the set and casts around 3rd lady to ladies' side;
- 2nd lady dances out the ladies' side and casts around 4th lady to bottom of the set;
- 3rd man dances out the men's side and casts around 1st man to top of the set;
- 4th man dances out the bottom of the set and casts around 2nd man to men's side.

23-24 All turn corner person (around whom they have just cast) once round by the right hand; 3 rd and 1st men, 4 th and 2 nd men, 1 st and 3rd ladies and 4 th and 2 nd ladies. 3rd man staying at the top of the set between 1st man and 3rd lady; 2nd lady staying at the bottom of the set between 2nd man and 4th lady.
25-30 Eight hands round in a circle to the left to new places (3142).
31-32 All set on the sidelines.

Notes: The gradually increasing number and size of circles, from two people to four people to eight, is intended to represent the increasing size of black holes over time as they merge together. The casting out of the circle is intended to represent Hawking radiation; pair production near to a black hole event horizon (pairs turn), can lead to one particle falling into the black hole (one of each pair forms a circle), the other particle free to radiate out (dance out and cast). In this way, energy is lost from a black hole and they can evaporate over time (circle disperses).
The general motion of the dance is (almost) continually in the same direction, reminiscent of the conserved angular momentum / spin properties of a black hole. This dance was devised in honour of Stephen Hawking, who passed away aged 76 on 14th March 2018.

Alison M.W. Mitchell, March 2018

| BLACK HOLE SPIN |  |  |  |  | 4x32 S |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{23}$ |  | 32$S$ | $\begin{gathered} 1324 \\ T_{B} \end{gathered}$ | $3^{1} 24$ | $\begin{aligned} & \text { 3- (1) } 2 \text { - }-4 \\ & \mathrm{~T}_{\mathrm{R}} \\ & \text { (1)- (3) (4)-(2) } \end{aligned}$ |  |
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|  |  |  |  |  |  |  |
|  |  |  |  |  |  | 3142 |
|  |  |  |  |  | (8) |  |
|  |  |  |  |  |  |  |

Alison Mitchell, 2018
Keith Rose's Diagrams

