

Morphogenesis of Gastrovascular Canal Network in Aurelia Jellyfish: possible mechanisms

Supplementary Materials

1 Canals Connections statistics

We analyzed the connections between canals for 6 Jellyfish from the Roscoff strain, grown in the same conditions (28% salinity, 22°C), and roughly the same size (for the same number of canals/connections). It presents a reasonable dispersion of more or less regular jellyfishes, with more or less regular octants, and fluctuating number of direct stomach connections, with no clear correlations.

The labelling number correspond to the number of pictured jellyfish from the same batch.

The first column counts the number of “True” connections following the bias to the younger canal at proximity, per “octant”, “Nb conn T”.

The second column counts the number of “False” connections not following the bias to the younger canal at proximity (being older canal or stomach pouch), per “octant”, “Nb conn F”.

The third column shows the percentage of “False” connections (over all connections) not following the bias to the younger canal at proximity, “F%”.

The fourth column count the number of “octant” per jellyfish (the first one has nine). There are two possible first generation canals after the fork, near the straight adradial canals, that can escape the fork and connect directly to the stomach pouch, so the number of possible connection is twice the number of octants.

The fifth column count the number of first generation canals outside the fork connecting directly to the stomach pouch, per jellyfish, “Nb stom conn”.

The sixth column shows the percentage of direct stomach connection (over the number of all possible connections the number of first generation canals outside the fork connecting directly to the stomach pouch, per jellyfish, “stom conn %”

The numbers are summed per jellyfish, to see the variations of more or less regular jellyfish, and for the sixth jellyfish at the bottom, giving the overall percentages.

n°70	Nb con T	Nb con F	F %	Nb "octant"	Nb stom con	stom con %
	9	3	25			
	11	0	0			
	8	2	20			
	11	1	8			
	7	1	13			
	6	3	33			
	8	1	11			
	8	2	20			
	7	3	30			
total	75	16	18	9	1	6
n°83						
	9	3	25			
	8	3	27			
	11	2	15			
	14	1	7			
	10	3	23			
	11	3	21			
	11	1	8			
	12	1	8			
total	86	17	17	8	2	13
n°85						
	11	3	21			
	8	6	43			
	11	2	15			
	7	3	30			
	7	6	46			
	8	4	33			
	8	4	33			
	9	3	25			
total	69	31	31	8	2	13
n°86						
	10	2	17			
	10	1	9			
	10	3	23			
	11	1	8			
	9	2	18			
	8	1	11			
	10	1	9			
	9	1	10			
total	77	12	13	8	1	6
n°87						
	11	3	21			
	9	3	25			
	13	2	13			
	8	4	33			
	10	4	29			
	10	2	17			
	10	3	23			
	8	6	43			
total	79	27	25	8	5	31

n°101						
	14	1	7			
	11	4	27			
	10	3	23			
	10	3	23			
	12	2	14			
	13	2	13			
	10	5	33			
	12	0	0			
total	92	20	18	8	6	38
Total	478	123	20	49	17	17

2 Canal connection statistics pictures

Pictures of the sixth jellyfish with true connection indicated with white circle, false connections in red circles and in particular connection to the stomach pouch with circle filled with red.

The lower part of n°83 (Fig. S2) corresponds to the part drawn in Figure 1B.

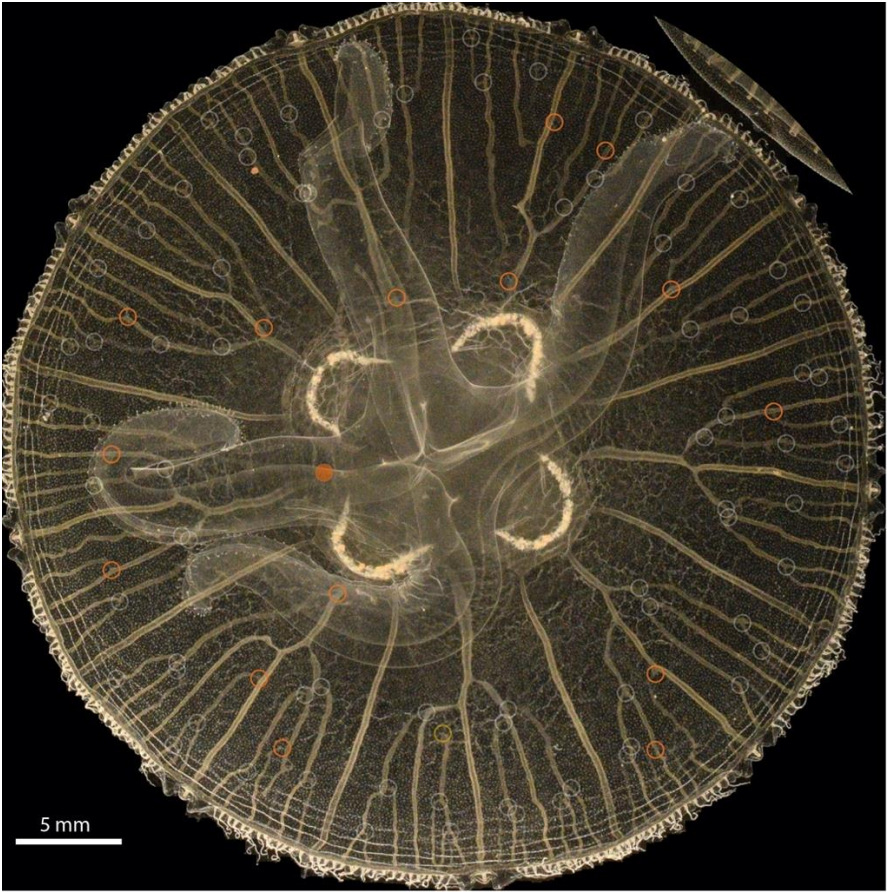


Fig. S1, n°70

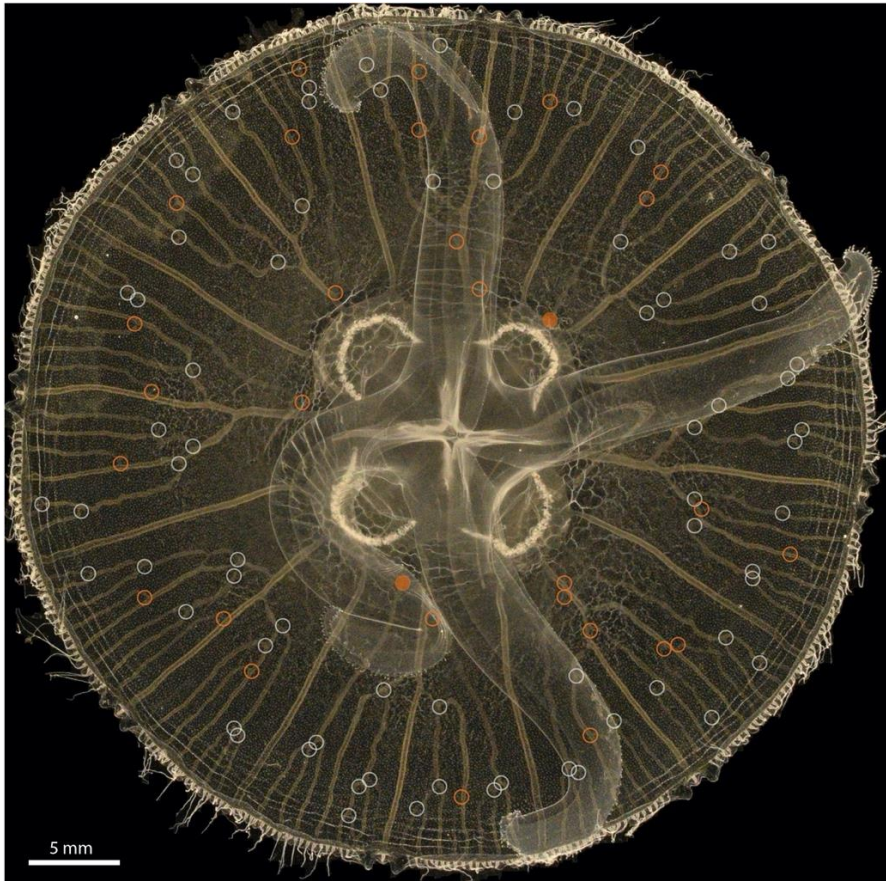


Fig. S2, n°83

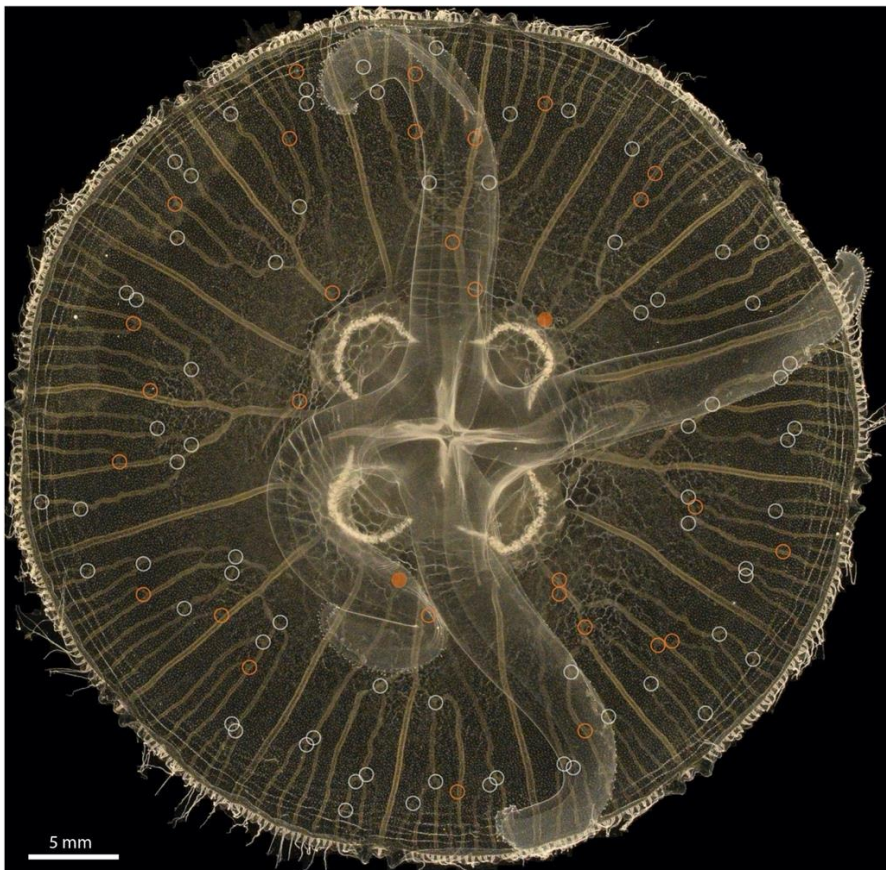


Fig. S3, n°85

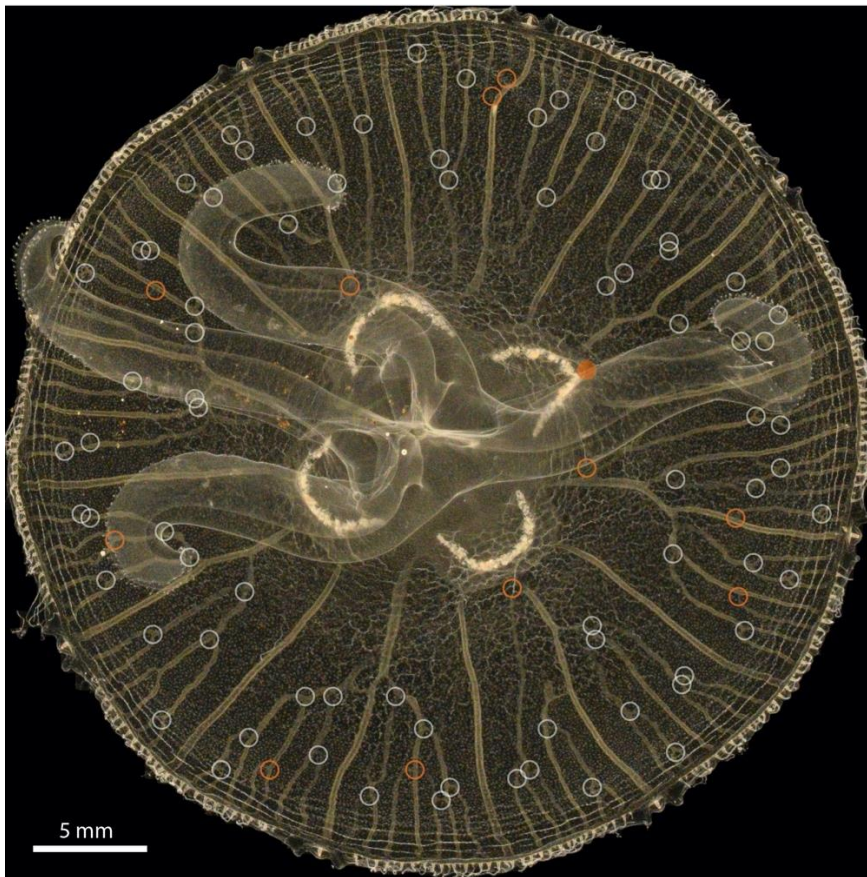


Fig. S4, n°86

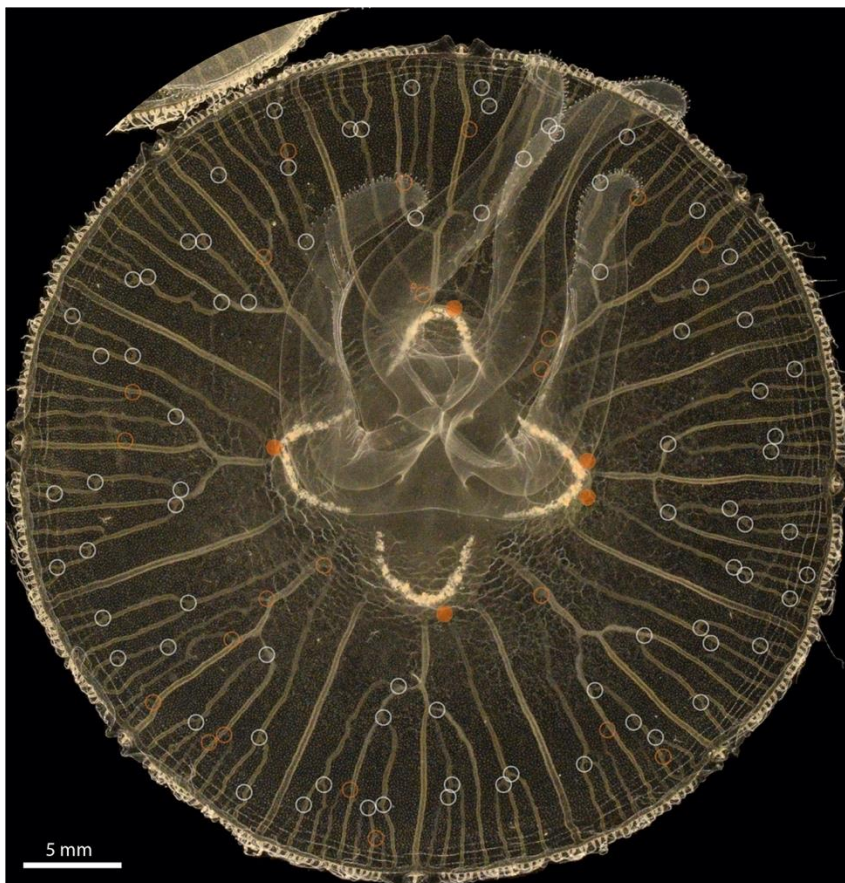


Fig S5, n°87

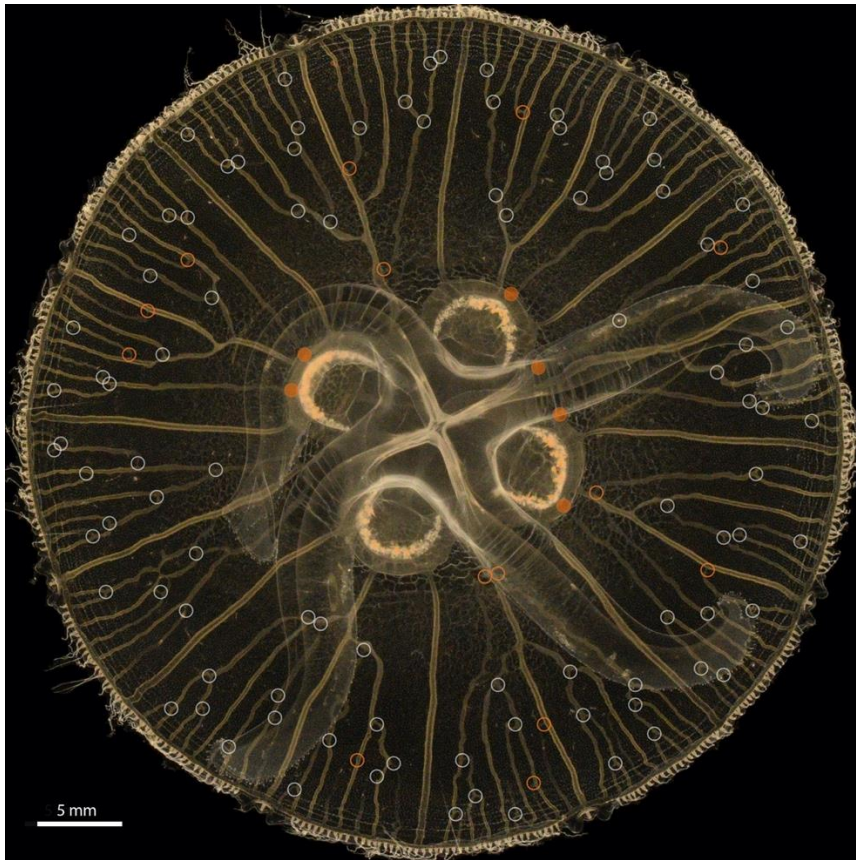


Fig S6, n°101

3 Numerical simulations frames

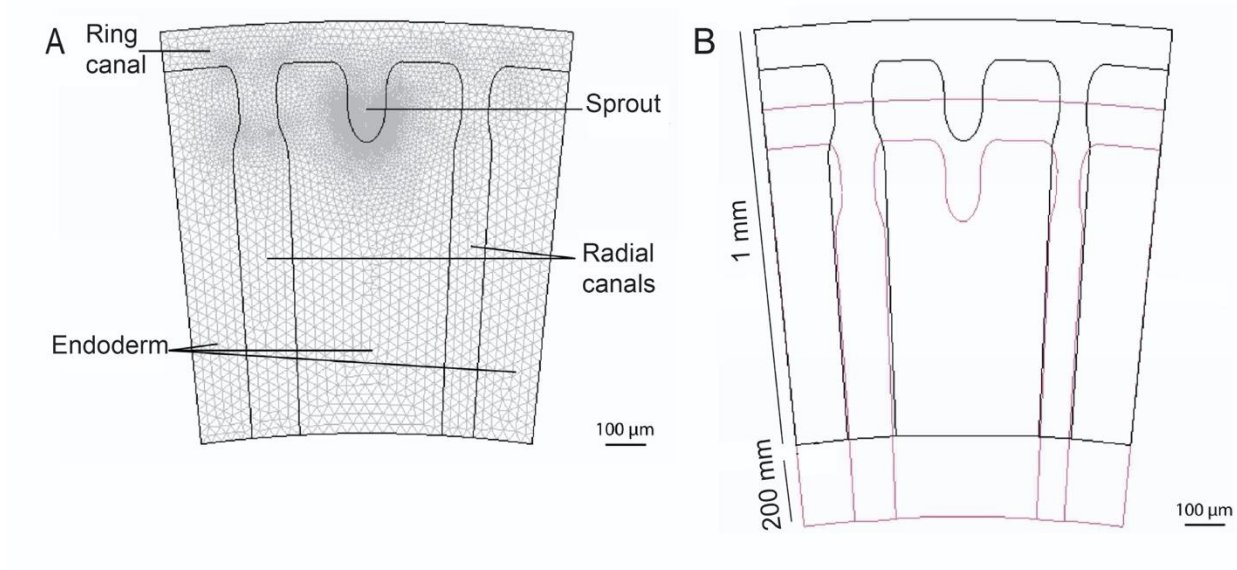


Fig S7, A) detail of the mesh used, and the different zones with their names. B) detail and scales of the deformation imposed on the outer boundaries: angular contraction resulting in a smaller octant but with the same angular opening (black is original frame, pink is compressed frame).