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 AWARDEE REPORT FORM

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| --- | --- |
| NAME | Joy Reidenberg |
| TWITTER HANDLE\* *optional* | Whale Scientist @JoyReidenberg |
| UNIVERSITY | Icahn School of Medicine at Mount Sinai (New York, NY, USA) |
| NAME OF AWARD | Symington Bequest Fund Award |
| PURPOSE OF AWARD *conference/event attended/organised (full name) with city and dates.* |
| Invited Symposium Podium Speaker for the International Congress for Vertebrate Morphology conference in Cairns, Australia, July 27-August 2, 2023. The symposium was called: “Traumatic Brain Injury: Not Just For Humans”.  |
| REPORT: What were your anticipated benefits? |
| 1. Dissemination of our recent findings on cranial morphology of head-butting bovids.
2. Postulate that endocranial ridges may help grip the brain and prevent slippage during impact.
3. Explore natural variations that also produce endocranial irregularities, such as hyperostosis.
4. Suggest that modelling this anatomy could help mitigate for concussion in humans.
5. Learn about ongoing research in related topics that may inform our own research.
6. Meet other researchers doing related projects, and form collaborations for future work.
 |
| COMMENTS: Describe your experience at the conference / lab visit / course / seminar/ event. |
| This is our first exploration of a new topic area for research: mitigating traumatic brain injury (TBI). Everything presented in this symposium was extremely valuable. It was very exciting to learn about other ongoing research projects, particularly on very different species from the ones we are studying. The talks gave some interesting background on the nature of the damage induced during TBI, the circumstances that encourage (or not) reporting TBI, various animal models of TBI, and potential development of protection against having TBI. For example, I learned that there are fish that jump out of the water along the shoreline, landing on their heads on the hard substrate. This behavior makes them a good model for studying concussion injury. I liked the format for the symposium podium sessions: talks with short question period, followed by a longer discussion period. This encouraged a deeper discussion among the participants at the conclusion of the symposium. |
| REPORT: In relation to skills, what were the most important things you gained? *(does not apply to equipment grant.* For public engagement/outreach awards what did your audience gain and how did you evaluate success? |
| The most important skill I gained came from listening/watching one of the plenary sessions. I learned that movement plays a greater role than I anticipated in the formation of footprints. I learned to evaluate physical impressions as markers of movement, not stagnant indicators of anatomy. It takes a very skilful observer to interpret how the movement of a foot through thick and soft substrates can cause deformation of the shape of the foot’s imprint. The foot’s movement causes the substrate to deform, often closing in against the foot and rising up as the foot is withdrawn. This renders the imprint unrecognizable from our typically preconceived notion that a footprint is simply a mirror image of the anatomical surface of the foot.  |
| REPORT: How do you think you will put this learning experience into practice in the future? For public engagement/outreach awards how with the materials/knowledge generated by this activity be used in the future? |
| I had the opportunity to listen to other talks outside of our symposium. As a result, I gained a new collaboration with a researcher studying turtles, particularly their ability to resist deforming forces on their shells. We will be exploring this further to see if the shell bone patterning, including flexibility at the sutures, allows them to mitigate pressure waves from a directional source.  |
| Data Protection/GDPR: I consent to the data included in this submission being collected, processed and stored by the Anatomical Society. Answer YES or NO in the Box below |
| YES |
| Graphical Images: If you include graphical images you must obtain consent from people appearing in any photos and confirm that you have consent. A consent statement from you must accompany each report if relevant. A short narrative should accompany the image. Answer N/A not applicable, YES or NO in the box below |
| N/A |
| Copyright: If you submit images you must either own the copyright to the image or have gained the explicit permission of the copyright holder for the image to be submitted as part of the report for upload to the Society’s website, Newsletter, social media and so forth. A copyright statement must accompany each report if relevant. Answer N/A not applicable, YES or NO in the box below |
| N/A |
| SIGNATURE | Professor Joy Reidenberg | DATE | 06 Sept 2023 |

*If submitted electronically, a type-written name is acceptable in place of a hand-written signature*

*File: AS-Award-Report-Form-220922 – International Conference*