

# Multimedia Appendix 7

| humans |       |       |      | embryos |       |       |       | animals |       |      |      |      |
|--------|-------|-------|------|---------|-------|-------|-------|---------|-------|------|------|------|
| Year   | Month | Sent  | SD   | Year    | Month | Sent  | SD    | Year    | Month | Sent | SD   |      |
| 2013   | 1     | -     | -    | 2013    | 1     |       |       | 2013    | 1     | -    | -    |      |
|        | 2     | -     | -    |         | 2     |       |       |         | 2     | -    | -    |      |
|        | 3     |       |      |         | 3     |       |       |         | 3     |      |      |      |
|        | 4     | -     | -    |         | 4     |       |       |         | 4     | -    | -    |      |
|        | 5     | -     | -    |         | 5     |       | -     |         | -     | 5    | -    | -    |
|        | 6     | -     | -    |         | 6     |       |       |         |       | 6    | -    | -    |
|        | 7     | -     | -    |         | 7     |       |       |         |       | 7    | -    | -    |
|        | 8     | -     | -    |         | 8     |       |       |         |       | 8    | -    | -    |
|        | 9     | -     | -    |         | 9     |       |       |         |       | 9    | -    | -    |
|        | 10    | -     | -    |         | 10    |       |       |         |       | 10   | -    | -    |
|        | 11    | 0.91  | 0.31 |         | 11    |       | -     |         | -     | 11   | -    | -    |
|        | 12    | 0.63  | 0.48 |         | 12    |       | -     |         | -     | 12   | -    | -    |
| 2014   | 1     | 0.50  | 0.50 | 2014    | 1     |       |       | 2014    | 1     | 0.84 | 0.37 |      |
|        | 2     | 0.79  | 0.41 |         | 2     |       | -     |         | -     | 2    | 0.50 | 0.50 |
|        | 3     | -     | -    |         | 3     |       |       |         |       | 3    | 0.88 | 0.33 |
|        | 4     | 0.64  | 0.49 |         | 4     |       |       |         |       | 4    | 0.86 | 0.38 |
|        | 5     | 0.42  | 0.51 |         | 5     |       |       |         |       | 5    | -    | -    |
|        | 6     | 0.62  | 0.50 |         | 6     |       | -     |         | -     | 6    | -    | -    |
|        | 7     | 0.71  | 0.45 |         | 7     |       |       |         |       | 7    | 0.78 | 0.43 |
|        | 8     | 0.88  | 0.33 |         | 8     |       |       |         |       | 8    | 0.87 | 0.35 |
|        | 9     | 0.80  | 0.45 |         | 9     |       |       |         |       | 9    | 0.72 | 0.45 |
|        | 10    | 0.64  | 0.48 |         | 10    |       |       |         |       | 10   | 0.73 | 0.44 |
|        | 11    | 0.62  | 0.50 |         | 11    |       |       |         |       | 11   | 0.80 | 0.40 |
|        | 12    | 0.84  | 0.36 |         | 12    |       |       |         |       | 12   | 0.43 | 0.51 |
| 2015   | 1     | 0.78  | 0.45 | 2015    | 1     |       | -     | 2015    | 1     | -    | -    |      |
|        | 2     | 0.80  | 0.40 |         | 2     |       | -     |         | -     | 2    | -    | -    |
|        | 3     | 0.49  | 0.62 |         | 3     |       | -0.24 |         | 0.50  | 3    | 0.74 | 0.44 |
|        | 4     | 0.36  | 0.57 |         | 4     |       | 0.08  |         | 0.51  | 4    | 0.61 | 0.50 |
|        | 5     | 0.28  | 0.62 |         | 5     |       | 0.03  |         | 0.36  | 5    | 0.74 | 0.46 |
|        | 6     | 0.57  | 0.53 |         | 6     |       | -0.03 |         | 0.33  | 6    | 0.79 | 0.41 |
|        | 7     | 0.77  | 0.44 |         | 7     |       | -0.15 |         | 0.45  | 7    | 0.53 | 0.54 |
|        | 8     | 0.51  | 0.60 |         | 8     |       | -     |         | -     | 8    | 0.44 | 0.62 |
|        | 9     | 0.43  | 0.57 |         | 9     |       | 0.05  |         | 0.28  | 9    | 0.59 | 0.52 |
|        | 10    | 0.36  | 0.57 |         | 10    |       | -0.01 |         | 0.41  | 10   | 0.76 | 0.44 |
|        | 11    | 0.51  | 0.52 |         | 11    |       | -     |         | -     | 11   | 0.77 | 0.46 |
|        | 12    | 0.23  | 0.60 |         | 12    |       | 0.05  |         | 0.59  | 12   | 0.83 | 0.38 |
| 2016   | 1     | 0.73  | 0.48 | 2016    | 1     | 0.08  | 0.27  | 2016    | 1     | 0.92 | 0.27 |      |
|        | 2     | 0.47  | 0.55 |         | 2     |       | 0.22  |         | 0.44  | 2    | 0.81 | 0.43 |
|        | 3     | 0.83  | 0.39 |         | 3     |       | -     |         | -     | 3    | 0.64 | 0.50 |
|        | 4     | 0.75  | 0.51 |         | 4     |       | 0.34  |         | 0.54  | 4    | 0.68 | 0.48 |
|        | 5     | 0.48  | 0.67 |         | 5     |       | 0.58  |         | 0.55  | 5    | 0.84 | 0.37 |
|        | 6     | 0.53  | 0.53 |         | 6     |       | -     |         | -     | 6    | 0.69 | 0.48 |
|        | 7     | 0.40  | 0.52 |         | 7     |       | -     |         | -     | 7    | 0.57 | 0.51 |
|        | 8     | 0.77  | 0.45 |         | 8     |       | -     |         | -     | 8    | 0.77 | 0.43 |
|        | 9     | 0.63  | 0.53 |         | 9     |       | 0.15  |         | 0.40  | 9    | 0.68 | 0.50 |
|        | 10    | 0.82  | 0.43 |         | 10    |       | 0.16  |         | 0.37  | 10   | 0.70 | 0.47 |
|        | 11    | 0.50  | 0.52 |         | 11    |       | 0.05  |         | 0.22  | 11   | 0.62 | 0.69 |
|        | 12    | 0.71  | 0.48 |         | 12    |       | -     |         | -     | 12   | 0.86 | 0.37 |
| 2017   | 1     | 0.59  | 0.64 | 2017    | 1     |       | -     | 2017    | 1     | 0.48 | 0.57 |      |
|        | 2     | 0.63  | 0.51 |         | 2     |       | 0.07  |         | 0.27  | 2    | 0.80 | 0.44 |
|        | 3     | 0.73  | 0.49 |         | 3     |       | 0.28  |         | 0.51  | 3    | 0.84 | 0.40 |
|        | 4     | 0.81  | 0.43 |         | 4     |       | 0.18  |         | 0.51  | 4    | 0.58 | 0.58 |
|        | 5     | 0.78  | 0.50 |         | 5     |       | -     |         | -     | 5    | 0.79 | 0.49 |
|        | 6     | 0.72  | 0.54 |         | 6     |       | -     |         | -     | 6    | 0.66 | 0.61 |
|        | 7     | 0.64  | 0.56 |         | 7     |       | 0.18  |         | 0.40  | 7    | 0.50 | 0.54 |
|        | 8     | 0.70  | 0.53 |         | 8     |       | 0.61  |         | 0.57  | 8    | 0.82 | 0.41 |
|        | 9     | 0.66  | 0.50 |         | 9     |       | 0.07  |         | 0.71  | 9    | 0.82 | 0.40 |
|        | 10    | 0.72  | 0.50 |         | 10    |       | 0.66  |         | 0.54  | 10   | 0.84 | 0.39 |
|        | 11    | 0.55  | 0.58 |         | 11    |       | 0.15  |         | 0.67  | 11   | 0.51 | 0.64 |
|        | 12    | 0.70  | 0.51 |         | 12    |       | 0.39  |         | 0.49  | 12   | 0.89 | 0.34 |
| 2018   | 1     | 0.04  | 0.81 | 2018    | 1     | 0.34  | 0.55  | 2018    | 1     | 0.78 | 0.46 |      |
|        | 2     | 0.74  | 0.55 |         | 2     |       | -     |         | -     | 2    | 0.63 | 0.52 |
|        | 3     | 0.68  | 0.56 |         | 3     |       | -     |         | -     | 3    | 0.64 | 0.55 |
|        | 4     | 0.77  | 0.47 |         | 4     |       | 0.45  |         | 0.59  | 4    | 0.40 | 0.53 |
|        | 5     | 0.64  | 0.62 |         | 5     |       | 0.35  |         | 0.48  | 5    | 0.64 | 0.53 |
|        | 6     | 0.13  | 0.89 |         | 6     |       | 0.15  |         | 0.39  | 6    | 0.78 | 0.47 |
|        | 7     | 0.55  | 0.66 |         | 7     |       | 0.01  |         | 0.52  | 7    | 0.63 | 0.57 |
|        | 8     | 0.70  | 0.54 |         | 8     |       | 0.54  |         | 0.57  | 8    | 0.79 | 0.43 |
|        | 9     | 0.69  | 0.56 |         | 9     |       | 0.76  |         | 0.44  | 9    | 0.84 | 0.42 |
|        | 10    | 0.71  | 0.51 |         | 10    |       | 0.20  |         | 0.43  | 10   | 0.67 | 0.60 |
|        | 11    | 0.00  | 0.70 |         | 11    |       | -0.07 |         | 0.43  | 11   | 0.53 | 0.62 |
|        | 12    | 0.10  | 0.73 |         | 12    |       | -0.12 |         | 0.60  | 12   | 0.32 | 0.70 |
| 2019   | 1     | 0.26  | 0.77 | 2019    | 1     | -0.41 | 0.63  | 2019    | 1     | 0.76 | 0.50 |      |
|        | 2     | -0.21 | 0.87 |         | 2     |       | -0.03 |         | 0.56  | 2    | 0.70 | 0.53 |
|        | 3     | 0.40  | 0.64 |         | 3     |       | -0.14 |         | 0.49  | 3    | 0.73 | 0.55 |
|        | 4     | 0.69  | 0.56 |         | 4     |       | -0.29 |         | 0.60  | 4    | 0.79 | 0.46 |
|        | 5     | 0.55  | 0.64 |         | 5     |       | -0.35 |         | 0.62  | 5    | 0.79 | 0.47 |

| bacteria |       |      |      | plants |       |      |      | unspecified |       |       |      |
|----------|-------|------|------|--------|-------|------|------|-------------|-------|-------|------|
| Year     | Month | Sent | SD   | Year   | Month | Sent | SD   | Year        | Month | Sent  | SD   |
| 2013     | 1     | -    | -    | 2013   | 1     | -    | -    | 2013        | 1     | -     | -    |
|          | 2     | -    | -    |        | 2     | -    | -    |             | 2     | -     | -    |
|          | 3     | -    | -    |        | 3     | -    | -    |             | 3     | -     | -    |
|          | 4     | -    | -    |        | 4     | -    | -    |             | 4     | -     | -    |
|          | 5     | -    | -    |        | 5     | -    | -    |             | 5     | -     | -    |
|          | 6     | -    | -    |        | 6     | -    | -    |             | 6     | -     | -    |
|          | 7     | -    | -    |        | 7     | -    | -    |             | 7     | 0.31  | 0.61 |
|          | 8     | -    | -    |        | 8     | -    | -    |             | 8     | 0.57  | 0.53 |
|          | 9     | -    | -    |        | 9     | -    | -    |             | 9     | 0.48  | 0.51 |
|          | 10    | -    | -    |        | 10    | -    | -    |             | 10    | 0.40  | 0.53 |
|          | 11    | -    | -    |        | 11    | -    | -    |             | 11    | 0.64  | 0.51 |
|          | 12    | -    | -    |        | 12    | -    | -    |             | 12    | 0.70  | 0.47 |
| 2014     | 1     | -    | -    | 2014   | 1     | -    | -    | 2014        | 1     | 0.76  | 0.43 |
|          | 2     | -    | -    |        | 2     | -    | -    |             | 2     | 0.56  | 0.50 |
|          | 3     | -    | -    |        | 3     | -    | -    |             | 3     | 0.75  | 0.44 |
|          | 4     | -    | -    |        | 4     | -    | -    |             | 4     | 0.52  | 0.51 |
|          | 5     | -    | -    |        | 5     | -    | -    |             | 5     | 0.47  | 0.52 |
|          | 6     | -    | -    |        | 6     | -    | -    |             | 6     | 0.61  | 0.51 |
|          | 7     | -    | -    |        | 7     | -    | -    |             | 7     | 0.48  | 0.51 |
|          | 8     | -    | -    |        | 8     | -    | -    |             | 8     | 0.56  | 0.52 |
|          | 9     | -    | -    |        | 9     | -    | -    |             | 9     | 0.52  | 0.50 |
|          | 10    | 0.91 | 0.28 |        | 10    | -    | -    |             | 10    | 0.51  | 0.51 |
|          | 11    | -    | -    |        | 11    | -    | -    |             | 11    | 0.60  | 0.50 |
|          | 12    | -    | -    |        | 12    | -    | -    |             | 12    | 0.37  | 0.51 |
| 2015     | 1     | -    | -    | 2015   | 1     | -    | -    | 2015        | 1     | 0.54  | 0.51 |
|          | 2     | 0.87 | 0.33 |        | 2     | -    | -    |             | 2     | 0.58  | 0.50 |
|          | 3     | 0.74 | 0.45 |        | 3     | 0.46 | 0.53 |             | 3     | 0.45  | 0.59 |
|          | 4     | 0.59 | 0.49 |        | 4     | 0.56 | 0.53 |             | 4     | 0.45  | 0.55 |
|          | 5     | 0.78 | 0.42 |        | 5     | 0.73 | 0.45 |             | 5     | 0.38  | 0.53 |
|          | 6     | 0.51 | 0.50 |        | 6     | 0.65 | 0.48 |             | 6     | 0.44  | 0.63 |
|          | 7     | 0.64 | 0.48 |        | 7     | 0.61 | 0.49 |             | 7     | 0.59  | 0.55 |
|          | 8     | -    | -    |        | 8     | 0.42 | 0.49 |             | 8     | 0.55  | 0.52 |
|          | 9     | 0.73 | 0.46 |        | 9     | 0.66 | 0.47 |             | 9     | 0.52  | 0.56 |
|          | 10    | 0.56 | 0.50 |        | 10    | 0.83 | 0.39 |             | 10    | 0.40  | 0.54 |
|          | 11    | 0.52 | 0.52 |        | 11    | 0.61 | 0.49 |             | 11    | 0.49  | 0.56 |
|          | 12    | 0.71 | 0.46 |        | 12    | 0.50 | 0.51 |             | 12    | 0.49  | 0.55 |
| 2016     | 1     | 0.56 | 0.57 | 2016   | 1     | 0.71 | 0.45 | 2016        | 1     | 0.40  | 0.55 |
|          | 2     | 0.38 | 0.49 |        | 2     | 0.72 | 0.46 |             | 2     | 0.33  | 0.56 |
|          | 3     | 0.48 | 0.51 |        | 3     | 0.59 | 0.51 |             | 3     | 0.31  | 0.64 |
|          | 4     | 0.53 | 0.50 |        | 4     | 0.26 | 0.59 |             | 4     | 0.49  | 0.54 |
|          | 5     | 0.45 | 0.50 |        | 5     | 0.38 | 0.56 |             | 5     | 0.44  | 0.54 |
|          | 6     | 0.62 | 0.49 |        | 6     | 0.72 | 0.45 |             | 6     | 0.56  | 0.52 |
|          | 7     | 0.23 | 0.57 |        | 7     | 0.48 | 0.54 |             | 7     | 0.31  | 0.54 |
|          | 8     | 0.61 | 0.49 |        | 8     | 0.73 | 0.45 |             | 8     | 0.57  | 0.53 |
|          | 9     | 0.65 | 0.52 |        | 9     | 0.55 | 0.53 |             | 9     | 0.33  | 0.58 |
|          | 10    | 0.52 | 0.65 |        | 10    | 0.44 | 0.54 |             | 10    | 0.33  | 0.56 |
|          | 11    | 0.54 | 0.50 |        | 11    | 0.66 | 0.48 |             | 11    | 0.26  | 0.59 |
|          | 12    | 0.58 | 0.50 |        | 12    | 0.71 | 0.46 |             | 12    | 0.40  | 0.53 |
| 2017     | 1     | 0.36 | 0.49 | 2017   | 1     | 0.63 | 0.49 | 2017        | 1     | 0.56  | 0.52 |
|          | 2     | 0.64 | 0.49 |        | 2     | 0.67 | 0.47 |             | 2     | 0.28  | 0.49 |
|          | 3     | 0.76 | 0.44 |        | 3     | 0.75 | 0.44 |             | 3     | 0.46  | 0.53 |
|          | 4     | 0.95 | 0.23 |        | 4     | 0.58 | 0.50 |             | 4     | 0.44  | 0.55 |
|          | 5     | 0.27 | 0.49 |        | 5     | 0.85 | 0.37 |             | 5     | 0.16  | 0.72 |
|          | 6     | 0.86 | 0.36 |        | 6     | 0.70 | 0.48 |             | 6     | 0.12  | 0.67 |
|          | 7     | 0.25 | 0.44 |        | 7     | 0.62 | 0.51 |             | 7     | 0.34  | 0.60 |
|          | 8     | 0.75 | 0.43 |        | 8     | 0.66 | 0.47 |             | 8     | 0.46  | 0.57 |
|          | 9     | 0.84 | 0.37 |        | 9     | 0.84 | 0.37 |             | 9     | 0.43  | 0.56 |
|          | 10    | 0.66 | 0.48 |        | 10    | 0.67 | 0.50 |             | 10    | 0.52  | 0.54 |
|          | 11    | 0.81 | 0.40 |        | 11    | 0.66 | 0.55 |             | 11    | 0.44  | 0.57 |
|          | 12    | 0.80 | 0.40 |        | 12    | 0.64 | 0.58 |             | 12    | 0.38  | 0.58 |
| 2018     | 1     | 0.49 | 0.70 | 2018   | 1     | 0.63 | 0.53 | 2018        | 1     | 0.42  | 0.60 |
|          | 2     | 0.75 | 0.45 |        | 2     | 0.68 | 0.47 |             | 2     | 0.50  | 0.58 |
|          | 3     | 0.87 | 0.35 |        | 3     | 0.50 | 0.52 |             | 3     | 0.49  | 0.62 |
|          | 4     | 0.75 | 0.44 |        | 4     | 0.63 | 0.52 |             | 4     | 0.51  | 0.63 |
|          | 5     | 0.69 | 0.48 |        | 5     | 0.73 | 0.47 |             | 5     | 0.51  | 0.55 |
|          | 6     | 0.74 | 0.48 |        | 6     | 0.65 | 0.48 |             | 6     | 0.36  | 0.61 |
|          | 7     | 0.78 | 0.42 |        | 7     | 0.17 | 0.70 |             | 7     | -0.03 | 0.85 |
|          | 8     | 0.76 | 0.46 |        | 8     | 0.34 | 0.76 |             | 8     | 0.46  | 0.59 |
|          | 9     | 0.74 | 0.44 |        | 9     | 0.44 | 0.67 |             | 9     | 0.35  | 0.59 |
|          | 10    | 0.91 | 0.29 |        | 10    | 0.60 | 0.59 |             | 10    | 0.49  | 0.57 |
|          | 11    | 0.66 | 0.68 |        | 11    | 0.47 | 0.69 |             | 11    | 0.39  | 0.63 |
|          | 12    | 0.24 | 0.56 |        | 12    | 0.71 | 0.48 |             | 12    | 0.40  | 0.64 |
| 2019     | 1     | 0.74 | 0.51 | 2019   | 1     | 0.69 | 0.49 | 2019        | 1     | 0.49  | 0.59 |
|          | 2     | 0.67 | 0.47 |        | 2     | 0.77 | 0.45 |             | 2     | 0.40  | 0.60 |
|          | 3     | 0.70 | 0.46 |        | 3     | 0.63 | 0.52 |             | 3     | 0.45  | 0.60 |
|          | 4     | 0.72 | 0.46 |        | 4     | 0.59 | 0.66 |             | 4     | 0.47  | 0.63 |
|          | 5     | 0.85 | 0.38 |        | 5     | 0.65 | 0.53 |             | 5     | 0.55  | 0.56 |

**Table : Monthly mean sentiments and standard deviations per organism.** The table shows the mean sentiments (Sent) and their standard deviations (SD) for every month and organism. A dash (-) indicates that less than 100 tweets were in the respective organism class for that month and that we did not calculate the mean sentiment. Months with empty rows had no tweets in that class. The mean values of this table were used in Figure 3.