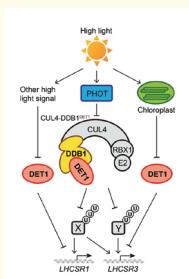


## Selected Press Releases from NIBB (Jan. 2019 to Mar. 2020)

Press releases on a paper whose first and corresponding authors both have affiliation in NIBB

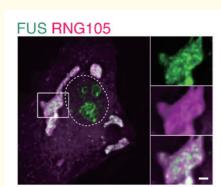
### ■ 1 January, 2019



#### Elucidating algal protection mechanisms against excessively strong light and its core component, E3 ubiquitin ligase, prevailing from plants to animals

Aihara, Y., Fujimura-Kamada, K., Yamasaki, T., and Minagawa, J. (2019). Algal photoprotection is regulated by the E3 ligase CUL4-DDB1DET1. *Nat. Plants* 5, 34-40. doi: 10.1038/s41477-018-0332-5

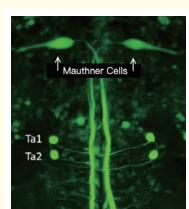
### ■ 17 January, 2019



#### The characterization of a group of proteins necessary for intracellular compartmentalization not performed by the cell membrane: Formation of liquid and solid-like RNA granules by proteins related to long-term memory, ALS and dementia

Shiina, N. (2019). Liquid- and solid-like RNA granules form through specific scaffold proteins and combine into biphasic granules. *J. Biol. Chem.* 294, 3532-3548. doi: 10.1074/jbc.RA118.005423

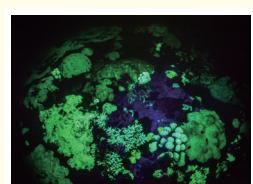
### ■ 18 January, 2019



#### The mechanism of left-right asymmetrical function of the brain firstly elucidated at cellular level

Shimazaki, T., Tanimoto, M., Oda, Y., and Higashijima, S. (2019). Behavioral role of the reciprocal inhibition between a pair of Mauthner cells during fast escapes in zebrafish. *J. Neurosci.* 39, 1182-1194. doi: 10.1523/JNEUROSCI.1964-18.2018

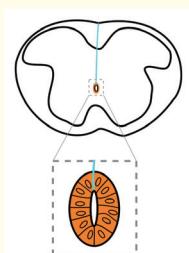
### ■ 22 January, 2019



#### Green fluorescence from reef-building corals attracts symbiotic algae

Aihara, Y., Maruyama, S., Baird, A.H., Iguchi, A., Takahashi, S., and Minagawa, J. (2019). Green fluorescence from cnidarian hosts attracts symbiotic algae. *Proc. Natl. Acad. Sci. USA* 116, 2118-2123. doi: 10.1073/pnas.1812257116

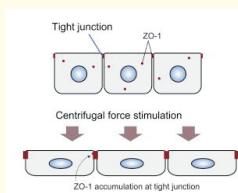
### ■ 7 February, 2019



#### The novel mechanism of intercellular signaling caused by morphological changes in cells: Deformation of Wnt producing cells promotes the proliferation of neural stem/progenitor cells

Shinozuka, T., Takada, R., Yoshida, S., Yonemura, S., and Takada, S. (2019). Wnt produced by stretched roof-plate cells is required for the promotion of cell proliferation around the central canal of the spinal cord. *Development* 146, dev159343. doi: 10.1242/dev.159343

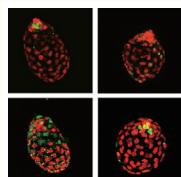
■ 7 March, 2019



### Elucidating cellular responses to force: Mechanical force induces phosphorylation-mediated signaling that underlies tissue response and robustness in *Xenopus* embryos

Hashimoto, Y., Kinoshita, N., Greco, T.M., Federspiel, J.D., Jean Beltran, P.M., Ueno, N., and Cristea, I.M. (2019). Mechanical force induces phosphorylation-mediated signaling that underlies tissue response and robustness in *Xenopus* embryos. *Cell Syst.* 8, 226-241. doi: 10.1016/j.cels.2019.01.006

■ 8 April, 2019



### The mechanism underlying the temporal suspension (diapause) of the development of mammalian embryos: The timing of suspension and resumption of development differs depending on embryonic region and the individual cell

Kamemizu, C., and Fujimori, T. (2019). Distinct dormancy progression depending on embryonic regions during mouse embryonic diapause. *Biol. Reprod.* 100, 1204-1214. doi: 10.1093/biolre/izz017

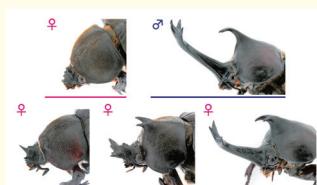
■ 9 April, 2019



### LDAIR, a lncRNA regulates seasonal changes in stress response: Unraveling the mechanism for seasonal adaptation in animals

Nakayama, T., Shimmura, T., Shinomiya, A., Okimura, K., Takehana, Y., Furukawa, Y., Shimo, T., Senga, T., Nakatsukasa, M., Nishimura, T., Tanaka, M., Okubo, K., Kamei, Y., Naruse, K., and Yoshimura, T. (2019). Seasonal regulation of the lncRNA LDAIR modulates self-protective behaviours during the breeding season. *Nat. Ecol. Evol.* 3, 845-852. doi: 10.1038/s41559-019-0866-6

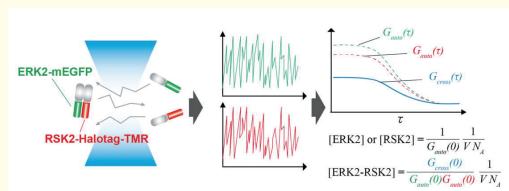
■ 11 April, 2019



### When do male and female differences appear in the development of beetle horns?

Morita, S., Ando, T., Maeno, A., Mizutani, T., Mase, M., Shigenobu, S., and Niimi, T. (2019). Precise staging of beetle horn formation in *Trypoxylus dichotomus* reveals the pleiotropic roles of doublesex depending on the spatiotemporal developmental contexts. *PLoS Genet.* 15, e1008063. doi: 10.1371/journal.pgen.1008063

■ 26 April, 2019



### Single-living-cell quantification of the concentrations and dissociation constants of endogenous proteins by genome editing and microscopic techniques

Komatsubara, A.T., Goto, Y., Kondo, Y., Matsuda, M., and Aoki, K. (2019). Single-cell quantification of the concentrations and dissociation constants of endogenous proteins. *J. Biol. Chem.* 294, 6062-6072. doi: 10.1074/jbc.RA119.007685

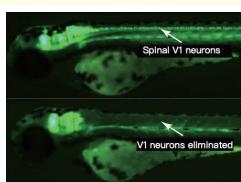
■ 30 April, 2019



### An important function of non-nucleated sperm

Sakai, H., Oshima, H., Yuri, K., Gotoh, H., Daimon, T., Yaginuma, T., Sahara, K., and Niimi, T. (2019). Dimorphic sperm formation by Sex-lethal. *Proc. Natl. Acad. Sci. USA* 116, 10412-10417. doi: 10.1073/pnas.1820101116

■ 22 May, 2019



### Identifying the neural mechanisms that inhibit slow muscle activity during fast swimming in fish

Kimura, Y., and Higashijima, S.-I. (2019). Regulation of locomotor speed and selection of active sets of neurons by V1 neurons. *Nat. Commun.* 10, 2268. doi: 10.1038/s41467-019-09871-x

■ 20 June, 2019



### A novel mechanism for increasing the quality and quantity of oils in soybeans

Kanai, M., Yamada, T., Hayashi, M., Mano, S., and Nishimura, M. (2019). Soybean (*Glycine max* L.) triacylglycerol lipase GmSDP1 regulates the quality and quantity of seed oil. *Sci. Rep.* 9, 8924. doi: 10.1038/s41598-019-45331-8

■ 9 July, 2019



### Finding of STEMIN (STEM CELL INDUCING FACTOR) for feasible reprogramming in plants

Ishikawa, M., Morishita, M., Higuchi, Y., Ichikawa, S., Ishikawa, T., Nishiyama, T., Kabeya, Y., Hiwatashi, Y., Kurata, T., Kubo, M., Shigenobu, S., Tamada, Y., Sato, Y., and Hasebe, M. (2019). Physcomitrella STEMIN transcription factor induces stem cell formation with epigenetic reprogramming. *Nat. Plants* 5, 681-690. doi: 10.1038/s41477-019-0464-2

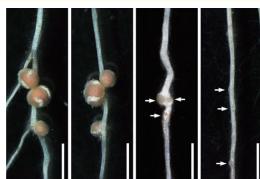
■ 10 September, 2019



### The discovery of a new function of the gene (CONSTANS) which controls the timing of flower formation in flowering plants: CONSTANS controls photoprotection in green algae

Tokutsu, R., Fujimura-Kamada, K., Matsuo, T., Yamasaki, T., and Minagawa, J. (2019). The CONSTANS flowering complex controls the protective response of photosynthesis in the green alga *Chlamydomonas*. *Nat. Commun.* 10, 4099. doi: 10.1038/s41467-019-11989-x

■ 22 November, 2019



### Recruitment of a lateral root developmental pathway into root nodule formation of legumes

Soyano, T., Shimoda, Y., Kawaguchi, M., and Hayashi, M. (2019). A shared gene drives lateral root development and root nodule symbiosis pathways in *Lotus*. *Science* 366, 1021-1023. doi: 10.1126/science.aax2153

■ 26 November, 2019



### The determination of the 3d structure of the supercomplex between the light-harvesting complex II and the photosystem II: The full picture of a huge light-harvesting machine with a molecular weight of 1.66 million

Sheng, X., Watanabe, A., Li, A., Kim, E., Song, C., Murata, K., Song, D., Minagawa, J., and Liu, Z. (2019). Structural insight into light harvesting for photosystem II in green algae. *Nat. Plants* 5, 1320-1330. doi: 10.1038/s41477-019-0543-4

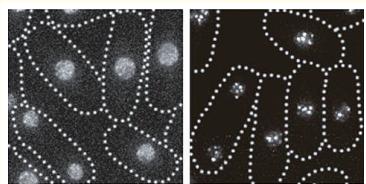
■ 7 January, 2020



### Discovery of a new factor informing the plant root of the direction of gravity: A mechanism that makes auxin flow toward the direction of gravity

Furutani, M., Hirano, Y., Nishimura, T., Nakamura, M., Taniguchi, M., Suzuki, K., Oshida, R., Kondo, C., Sun, S., Kato, K., Fukao, Y., Hakoshima, T., and Morita, M.T. (2020). Polar recruitment of RLD by LAZY1-like protein during gravity signaling in root branch angle control. *Nat. Commun.* *11*, 76. doi: 10.1038/s41467-019-13729-7

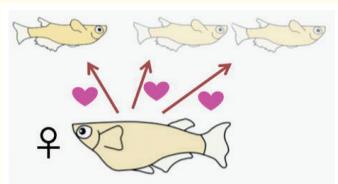
■ 5 February, 2020



### Discovery of a mechanism that selectively eliminates the transcripts of meiotic genes necessary for the formation of reproductive cells

Shichino, Y., Otsubo, Y., Yamamoto, M., and Yamashita, A. (2020). Meiotic gene silencing complex MTREC/NURS recruits the nuclear exosome to YTH-RNA-binding protein Mmi1. *PLoS Genet.* *16*, e1008598. doi: 10.1371/journal.pgen.1008598

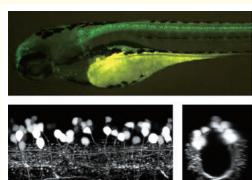
■ 18 February, 2020



### The oxytocin (love hormone) controls mate choice in medaka: Oxytocin works in a contrary manner between males and females

Yokoi, S., Naruse, K., Kamei, Y., Ansai, S., Kinoshita, M., Mito, M., Iwasaki, S., Inoue, S., Okuyama, T., Nakagawa, S., Young, L.J., and Takeuchi, H. (2020). Sexually dimorphic role of oxytocin in medaka mate choice. *Proc. Natl. Acad. Sci. USA* *117*, 4802-4808. doi: 10.1073/pnas.1921446117

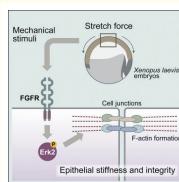
■ 4 March, 2020



### The importance of the commissural inhibitory neurons that control coordinated left-right body movement in larval zebrafish

Satou, C., Sugioka, T., Uemura, Y., Shimazaki, T., Zmarz, P., Kimura, Y., and Higashijima, S.-I. (2020). Functional diversity of glycinergic commissural inhibitory neurons in larval zebrafish. *Cell Rep.* *30*, 3036-3050. doi: 10.1016/j.celrep.2020.02.015

■ 18 March, 2020



### Control mechanism of force-induced cell-to-cell adhesion

Kinoshita, N., Hashimoto, Y., Yasue, N., Suzuki, M., Cristea, I.M., and Ueno, N. (2020). Mechanical stress regulates epithelial tissue integrity and stiffness through the FGFR/Erk2 signaling pathway during embryogenesis. *Cell Rep.* *30*, 3875-3888. doi: 10.1016/j.celrep.2020.02.074