

Sex i(n) motion

The *sex i(n) motion* project by the science education team brings science into the public sphere. Scientists and their equipment take leave of their laboratories and lecture halls, and put science on display at an unusual location: the main square of Linz. In a container a lab will be set up in order to provide an unconventional approach to the many biological facets of sexuality—and, indeed, not *for* visitors but rather *with* them. Science in the public sphere—in this case in the Container Lab—is something extraordinary. To step outside of the laboratories and research facilities in order to explain the work of a scientist to the man on the street is a new form of enlightenment. Unfortunately, the scientific community, while apprising colleagues of the latest developments, has long neglected to also keep laymen informed about them. Frequently, the only options that remained available to non-scientists have been blind faith in science or apprehensive rejection of it—two sides of the same coin. Furthermore, scientific data are for the most part dry-as-dust numbers and facts without apparent relevance to everyday life. In their pure form, they are incomprehensible and unattractive to laymen. One way to facilitate the encounter of laymen with science is to combine information with entertainment, and the terms “infotainment” or “sciencertainment” are emblematic of this approach.

Sperm were long considered to be the sole “means of transport” of inheritable information: the man is the source of the seed; the woman is merely the vessel, the “incubator.” Whereas this quite one-sided perspective of sexuality is, at best, a source of levity for those studying the history of science, sperm itself has lost none of its fascination. It is particularly the sperm’s motility or—a problem of modern man—these hard-pressed couriers’ lack thereof or the scarcity of them per ejaculation that continues to be grounds for discussion or a source of concern. These “unfamiliar creatures” we call sperm will be investigated in the Container Lab. Visitors can follow an analysis of motility, take part in a sort of sperm race, and male guests can also have photographs suitable for framing taken of their semen—as a sort of depiction of an opportunity not taken advantage of.

In contrast to sperm, egg cells contain some additional information. For example, genetic information from the mitochondria, the so-called power plants of the cell, is passed along only via the egg cells. This also means that we can receive this “data” only from our mother. Furthermore, this fact reveals that even a clone is never 100% identical. What’s more, for the initial developmental steps, a maternal biological material has been provided in the egg cell as a start-up packet. The lab in the container will be hot on the trail of this additional information. How can one examine the contents of egg cells using the analytical methods of molecular biology? And how are observations and research performed on the egg cells of animals?

At what point does life begin? Not until the 12th week after fertilization, as established by law? Or at the moment of insemination, or shortly thereafter? How are sperm or egg cells to be assessed in the context of this discussion? In any case, the entrance of a sperm into the egg cell initiates the fantastic process of development of an organism. An early phase of development is gastrulation, whereby the fundamental structure of the physical body build that will ultimately develop is established. This procedure is considerably more significant for the process of becoming a human being than the process of birth. This procedure can be optimally observed in the *Xenopus laevis*, a species of frog. How does a living creature develop out of an egg and a sperm? How do the earliest basic

structures unfold, and how does a marvelous living creature subsequently emerge?

In evaluating sexuality, human beings often utilize their own sexuality as a yardstick to assess developmental steps in the animal kingdom. To address problematic issues associated with this approach, the science education team invites visitors to come along on a journey to observe the many modes of sexuality in the animal kingdom. There are animals that multiply by cloning, no-holds-barred forms of competition among sperm, tiny males collaborating with large dominant females, and much more—nature knows no limits. And this absence of limitations will be illustrated by a number of truly astounding examples.

The next step is the application of state-of-the-art research in the fields of molecular analysis and genetic engineering, or new forms of reproductive biology. Human beings themselves are now the objects of research, or rather they are already the objects of the application of the results of this research.

What means and methods will be employed in the attempt to trace human development? What is mankind capable of, what is conceivable, and what have animals already developed far in advance of our efforts?

Here we have the entire spectrum—from the sperm and egg cells as sexuality's chief protagonists, to the initial steps in the emergence of life, the highly diverse variants of sexuality in the animal kingdom, and all the way to the intervention by human beings in their own development. What we aim to provide is not just academic information but rather fun in investigating this world of sexuality.