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Abschluss-Vortrag der Heidegger-Tagung von Dieter Thomae; Mitglieder des aktuellen FRIAS-Forschungsschwerpunktes im Gespräch; FRIAS-Fellows Franz Brüggeleier und Marco Caracciolo; GIGA-Präsidentin Amrika Narlikar bei den Freiburger Horizonten



What characterizes the academic year 2015/2016 is the full implementation and further enhancement of the new FRIAS concept developed some three years ago. Above all, this concerns changes in the organizational structure and in the funding formats of the institute, which will therefore figure prominently in both issues of the FRIAS NEWS in 2016.

On October 1st, 2015, the three scientific directors of FRIAS and the nine members of the FRIAS scientific advisory board officially assumed office. The members of the new directorate are: Marlene Bartos, neurophysiologist, responsible for the natural and life sciences, medicine, and engineering; Günther Schulze, economist, responsible for the social sciences; and Bernd Kortmann, linguist, full-time director and speaker of the board of directors, who is primarily responsible for the humanities. Together with the steering committee, whose noble task it is to make recommendations concerning strategic decisions and the long-term development of FRIAS, all three boards responsible for the governance and functioning of FRIAS have now officially and actively taken office. (More information on the boards' tasks and members the reader will find on p.24.) Last October, the big question still was whether the implementation of these innovations at the top level of the institute would prove their value. Half a year later, it is no exaggeration to say: "Very much so!" Each of the three boards strengthens FRIAS in its own way, both from inside and outside of the university. What applies to the members of all three boards is their exceptionally high academic standing and expertise in all things scientific and relating to (inter)national research policies and politics as well as their rich experience in committee and management work. This in turn pushes FRIAS even more to the limits in terms of professionalism and meeting the highest quality standards – a push that couldn't be more welcome!

Concerning funding formats, FRIAS has created a new option for the individual funding of early career researchers, namely the (re-)introduction of up to five 10-month junior fellowships for postdocs (including Junior Professors) from the University of Freiburg. This was only possible thanks to the support of and collaboration with the Deans of the 11 faculties, since successful applicants transfer as Junior Fellows to FRIAS with their respective positions and salaries, while FRIAS generously finances teaching substitutes. It turns out that this funding format is especially attractive for early career researchers with families, apart from the fact that it offers the unique opportunity of a major leap forward in the postdoc phase in terms of advancing, possibly even completing, big research projects or planned publications . Of particular importance to FRIAS are its new group research formats: in addition to the already established "kingsize" format of the research foci (with the current academic year issuing a cell-biological topic on "Membrane trafficking in aging and disease") and the start of the second round of the joint Freiburg-Strasbourg two-year research groups (three projects in total, each with two PIs and one postdoc), FRIAS has introduced project groups as a new funding format. Currently there are, in total, three project groups which started in Freiburg in October 2015. On top of these, we formed two joint project groups which have been selected as instruments for consolidat-

ing and further fuelling the strategic partnership between the universities of Freiburg and Nagoya as represented by FRIAS and the Nagoya Institute for Advanced Research, respectively. What is particularly satisfying about the various formats for group research at FRIAS is the large number of top quality applications from the University of Freiburg and/or its strategic global partner universities. This funding format thus falls on very fertile ground, which is something that was to be expected from excellent research universities competing with the best universities in the world, but it is reassuring to see that this expectation is really borne out. FRIAS thus shows its strategically important role in promoting individual and group research formats, on the one hand, and giving a new quality to research cooperation with international premium-partner institutions of the University of Freiburg, on the other hand.

But FRIAS would not be a proper Institute for Advanced Studies if research collaboration happened only top down. Besides such official funding formats as sketched above, which come with official applications, fixed time schedules and extensive peer-review processes, it is fantastic to see that group research can also emerge bottom-up, quite simply through FRIAS fellows identifying shared thematic and methodological interests and defining interfaces for joint activities. A case in point this academic year is the interdisciplinary research group on the topic of “Inequality” that has emerged at FRIAS, formed by fellows from disciplines as diverse as Criminology, Sociology, Anthropology, History or Cultural Studies (see the article on pp. 12-13). It is activities like these that demonstrate the added value an international research college such as FRIAS has to offer. The fact that the emergence of such bottom-up activities does not have to be left to pure chance can be exemplified by the extremely successful experiment of a joint FRIAS retreat in the Black Forest right at the beginning of the current academic year (the 2nd weekend of October). The primary objective of this joint undertaking was to speed up the community building process between the new fellows and members of the project groups, with a particular focus on bridging the cultural gap between the humanities and social sciences, on the one hand, and the natural and life sciences, medicine, and engineering, on the other. (Some impressions of the retreat can be found on p.34.)

You see: FRIAS is not running out of ideas for innovations and optimizing existing formats and practices!

Bernd Kortmann
Speaker, FRIAS Board of Directors

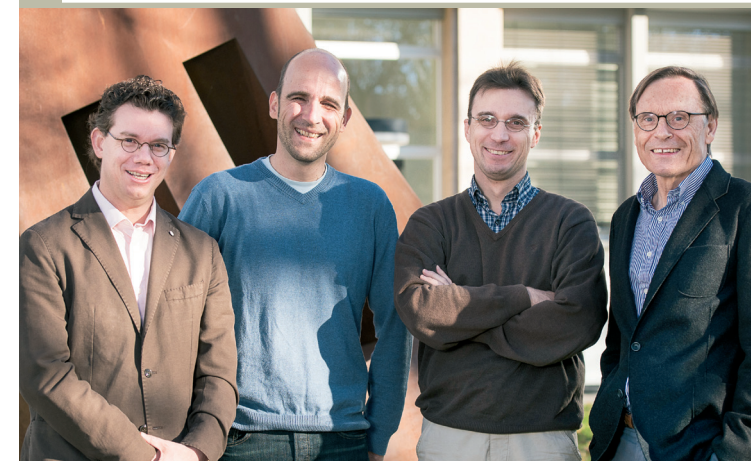


When complex systems age, defects become more likely – in this respect, cells and technical components are not so very different. But biology has a distinct advantage over technology: Not only do cells make use of a large number of mechanisms to monitor and control the quality of their components, they can also draw upon a broad range of repair processes. It is only when these processes cease to function optimally that diseases appear – in particular, cancer and heart disease, but also diseases that stem from the degeneration of the nervous system, such as Alzheimer’s and Parkinson’s.

One specific repair process is known as autophagy or autophagocytosis. The word is derived from the Greek, combining the words for “auto” (self) and “phagein” (to eat). Accordingly, autophagy is an intercellular process in which cellular waste is broken down so that it can later be used to create new structures – in other words, it is a form of cellular recycling.

To stick with the technology comparison, someone is needed to collect the rubbish within the cell and someone is needed to dismantle it. Autophagosomes are responsible for collection, using their double membranes to envelop proteins and protein aggregates as well as cell organelles and infectious organisms. In effect, they serve as the cell’s rubbish bins. Lysosomes are then introduced to dismantle the material. Lysosomes are cell organelles that contain digestive enzymes, which allow them to enclose the material to be disposed of and then break it down into its individual proteins.

RESEARCHING CELLULAR CLEANERS FRIAS PROJECT “MEMBRANE TRAFFICKING IN AGEING AND DISEASE”



v.l.n.r.: Prof. Dr. Tobias Huber; Prof. Dr. Jörn Dengjel; Prof. Dr. Stefan Eimer; Prof. Dr. Klaus Aktories

Once the components have been separated in this manner, they are available to build new organelles within the cell. This process is used not only to break down the cell’s own ageing functional units, but also to dismantle biogenic foreign bodies, in other words bacteria and viruses.

Unfortunately, this sophisticated system does not always work flawlessly, and over the course of a lifetime, an individual’s cellular repair functions begin to weaken. The reasons for this have not yet been conclusively established. Do the control and repair mechanisms lack sufficient ca-

capacity, allowing unprocessed materials to accumulate over time? Is there damage in the cell organelles that the repair troops cannot detect? Or do individual actors perhaps send contradictory signals as part of this complex interaction?

The current FRIAS Research Focus, “Membrane Trafficking in Ageing and Disease”, is seeking answers to these questions. The group comprises representatives of various faculties at the University of Freiburg: Jörn Dengjel is a dermatologist, Klaus Aktories a pharmacologist and toxicologist, Stefan Eimer a cell biologist