



#### **36** | *FILLED WITH HOPE*

Many people leave their homeland in search of a better life.

# **42** | *FILLED WITH ENJOYMENT*

Thomas Vilgis researches the physics of food - for example, its texture.

## **56** | FILLED WITH DANGER

Quantum computing poses security risks for online communications.

## **60** | FILLED WITH SECRETS

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The new James Webb telescope provides fantastic images of distant galaxies.

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Free electron laser in Berlin

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#### **Diagnosing Digital Disease**

Hate speech, propaganda, and disinformation are ever-growing problems on the Internet and in social media. A diagnosis of the underlying causes is needed. It should take its cue from the world of medicine.

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Masks Protect!

# FOCUS

To Stay or to Go?

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The day-to-day life of the Wodaabe, a traditionally nomadic population group in Niger, has never involved staying in one place for long. But since the 1980s, more and more of them have begun to settle in cities. How does this change the lives of the Wodaabe?

#### **30** | Homesickness is in the Genes

This fall, billions of birds around the world are once again departing for their winter or summer quarters. But where exactly do they go? Tiny sensors will reveal where the birds have been over the winter.

## **36** | A Decision for Life

For decades now, migration has been massively changing the structure of society in Europe. But how does it actually feel to grow older in a new country? And does the risk that comes with migration ultimately pay off for those who take it? **42** | **VISIT TO** Thomas Vilgis

# 48 | DOUBLE TAKE

# KNOWLEDGE FROM

## **50** | A Copying Machine for Genes

A cell cannot do anything with an incomprehensible code. An enzyme rewrites the DNA code so that a protein can be produced from a gene

## 56 | Quantum-proof

As soon as quantum computers exist, they will make today's encryption techniques vulnerable overnight. Methods of what is being referred to as "post-quantum cryptography" are therefore required.

## **60** | The Universe in a New Light

The James Webb telescope provides images of galaxies as well as turbulent views of the birth and death of stars. The spectra of exoplanets are also something to behold.

## **66** | The Overfertilized Earth

No animal, plant, or single-celled organism can do without nitrogen, but humans are putting more and more of it into circulation – with various consequences for health and the environment.

# 72 | POST FROM ...

Big Bear Lake, USA

# 74 | FIVE QUESTIONS

On the Energy Crisis

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