WATERWISE WOMEN

Urban runoff stories

Funded by
the European Union

aimen
TECHNOLOGY CENTRE

LAB TECHNICIAN IN ENVIRONMENTAL TECHNOLOGY UNIT

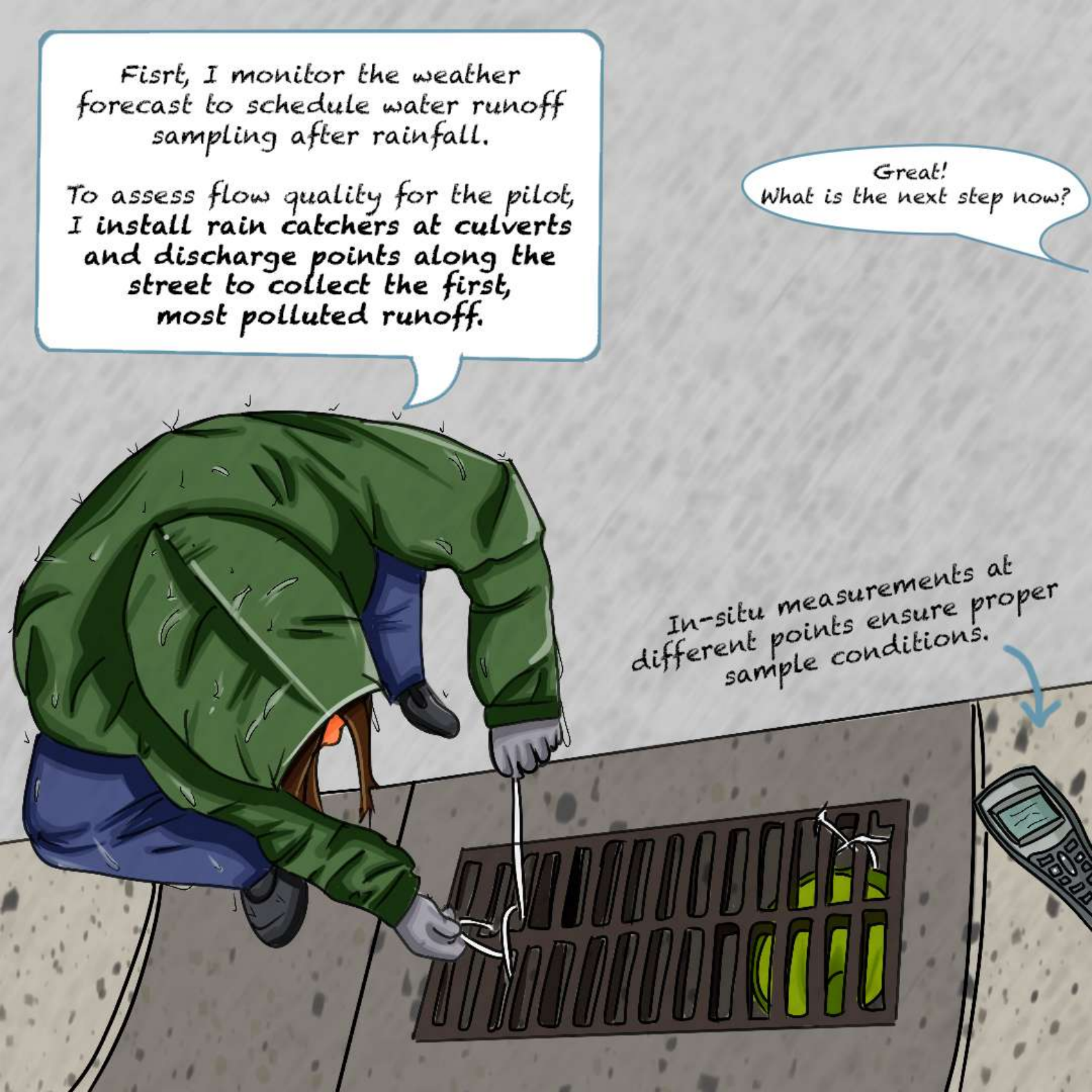
"My activities in **WATERUN** are focused on the performance of sampling and monitoring campaigns in the case study of Santiago de Compostela.

You may wonder, how does my daily work look like
Let me show you!"

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF


My work aims to characterize water runoff in the streets of an industrial park near a site where **Nature-based Solutions** will be used for treatment.
Analyzing pollutant concentrations and key physical and chemical properties will help optimize the operation of the pilot plant.
What a nice sample here!
But how I collected it?

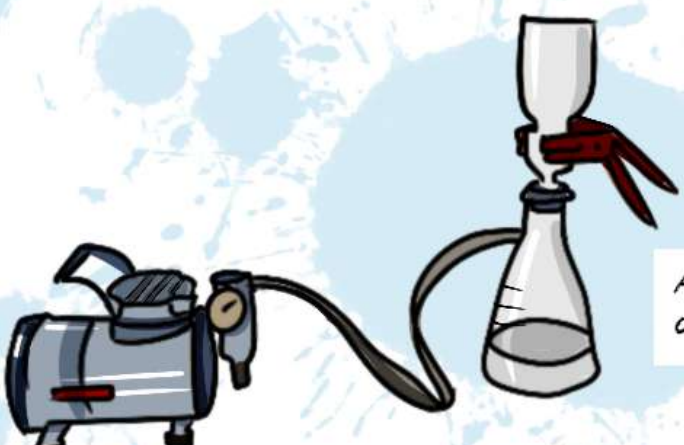

Fisrt, I monitor the weather forecast to schedule water runoff sampling after rainfall.
To assess flow quality for the pilot, I install rain catchers at culverts and discharge points along the street to collect the first, most polluted runoff.
Great! What is the next step now?
In-situ measurements at different points ensure proper sample conditions.

In the laboratory, various parameters (pH, heavy metals, etc.) are analyzed to identify pollutants in water runoff. Different equipment is used depending on the pollutant type. For microplastics, the analysis follows procedure with multiple steps:

First, digest the sample to remove organic matter

Next, separate particles based on density to remove higher density particles

Afterwards, the samples are dyed with Nile red to increase their visibility and facilitate the particle and fibre counting



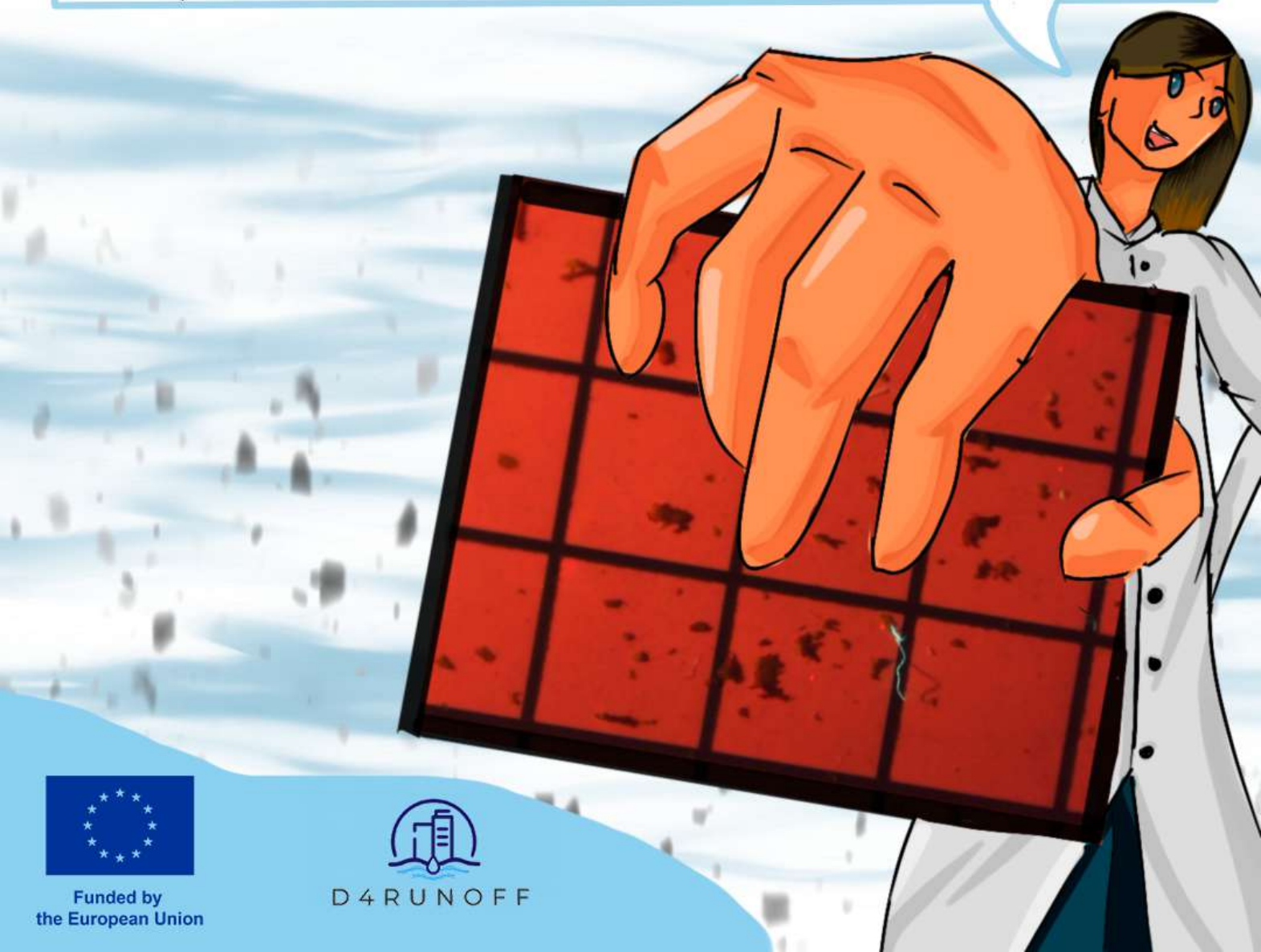
And I examine it using an electric magnifier!

Here is the result!

And now we have identified our microplastics!

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

You can see them on this photo in white bright colour.
To better manage them, and provide efficient solutions we need to know their concentration.in urbanrunoff.
More samplings will be done in the WATERUN's project,
so stay tuned for the results!



Funded by the European Union

D4RUNOFF

Funded by
the European Union

Want to read more Urban runoff stories?

Discover a new waterwise woman next month!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun

Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN

WATERWISE WOMEN

Urban runoff stories

Funded by
the European Union

PhD Sara
García Argüelles

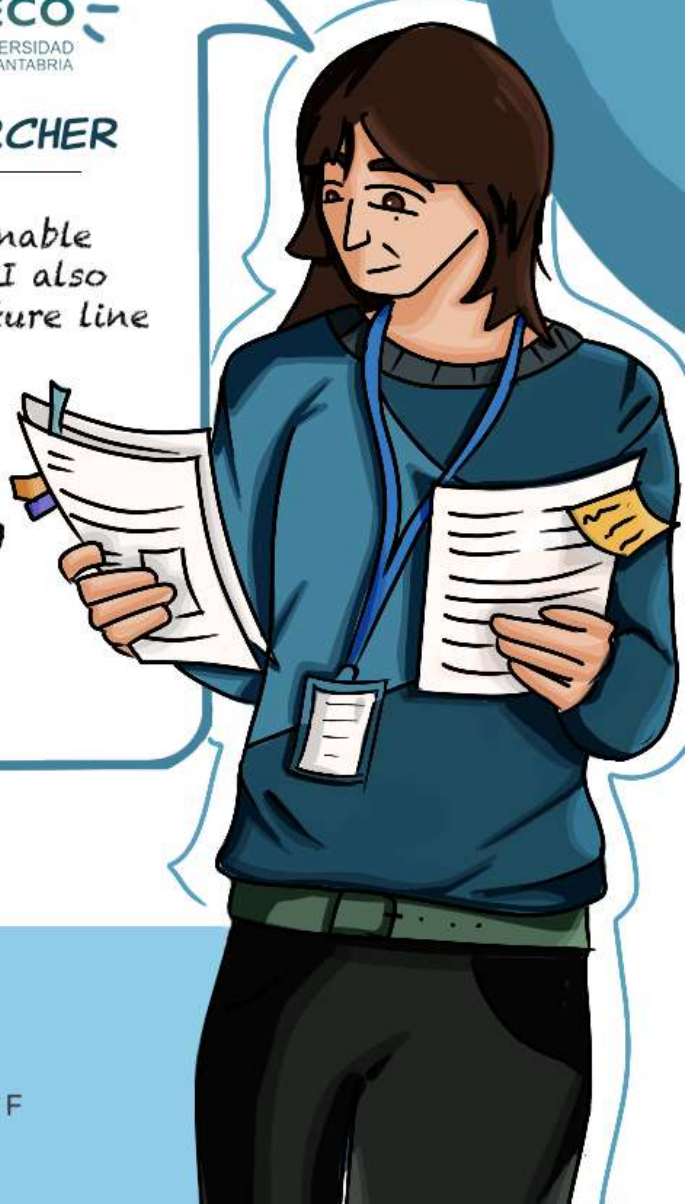
GITECO
UC UNIVERSIDAD DE CANTABRIA

PROJECT MANAGER AND RESEARCHER

"My main project is **D4RUNOFF** at Sustainable Urban Drainage System Development but I also help partners from New pavements structure line with the chemical and environmental characterization of new materials at other European or national projects.

My daily work is quite entertaining for me as it is multidisciplinary.

I don't get bored!"



waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF

My work often combines **office work, field work and national and international travel.**

FIELD WORK

I mainly spend my days in front of the computer. **Preparing the documentation** of the different tasks we do in the D4RUNOFF project for other partners, for the European Commission and for **dissemination to different sectors of society.**

DESK WORK

TRAVELS

London

Berlin

Barcelona

Lisbon

Brussels

I also help the **PhD students** to select the best characterization technique according the project needs and help them with the **interpretation of results.**

From time to time, I go out into the field to take samples.

In the case of D4RUNOFF, these are samples of **urban runoff, to measure the level of contamination or to see the capacity of our NBS to remove these compounds**

Last year, for example (2024),
I made three international and two national trips to attend project meetings or congresses

D4RUNOFF

This in itself is one of the best things about my job!

Funded by
the European Union

Want to read more Urban runoff stories?

Discover a new waterwise woman next month!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun

Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN

Funded by
the European Union

WATERWISE WOMEN

Urban runoff stories

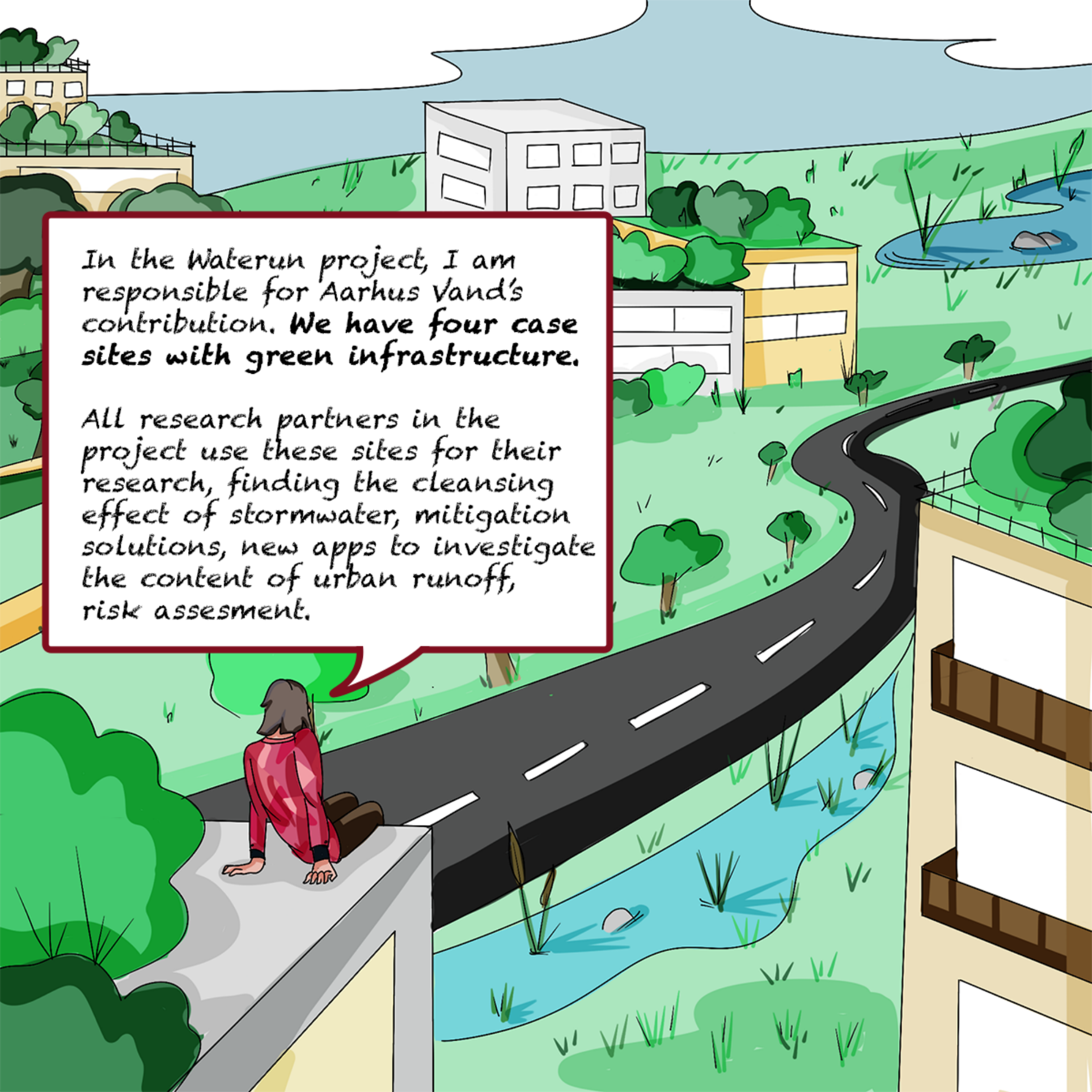
DIRECTOR FOR CLIMATE ADAPTION

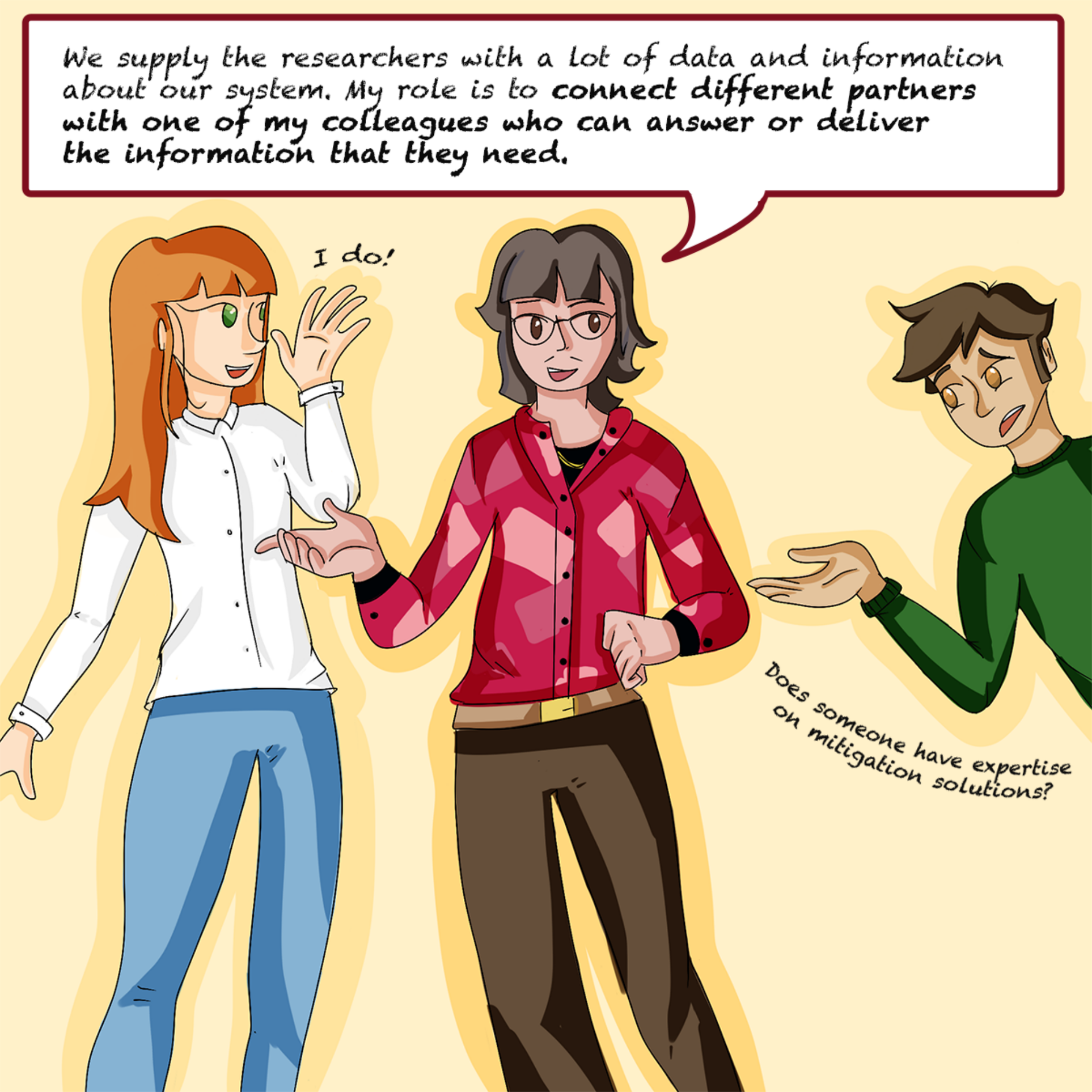
aarhusvand

«Hi my name is Anne and I work at Aarhus Vand as a director for climate adaptation. **My job is to make sure that we at all levels respond to a changing climate.**
In Aarhus we have a Water Vision.
I assist my colleagues in how to carry out this vision in real life.
We should integrate climate adaption and ensure a livable city.»

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF


In the Waterun project, I am responsible for Aarhus Vand's contribution. **We have four case sites with green infrastructure.**
All research partners in the project use these sites for their research, finding the cleansing effect of stormwater, mitigation solutions, new apps to investigate the content of urban runoff, risk assesment.


We supply the researchers with a lot of data and information about our system. My role is to connect different partners with one of my colleagues who can answer or deliver the information that they need.
I do!
Does someone have expertise on mitigation solutions?

I am also part of the **discussions about the results of the research.** I see it as my role to inform researchers on the needs of our utility. That way we gain new knowledge, software, sensors etc. that we can use in the daily operation of our utility.

Waterun is only a small part of my work. In my everyday working life, I am focused on climate adaptation in Aarhus Vand securing and setting standards for this. Also, I am concerned with water situation in cities in Ghana and South Africa. I cooperate with colleagues in the city of Pretoria and Tema where I seek to transfer my experiences with a water vision for a city's water infrastructure.

Funded by
the European Union

Want to read more Urban runoff stories?

Discover a new waterwise woman next month!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN

Funded by
the European Union

WATERWISE WOMEN

Urban runoff stories

VandCenterSyd
DIT VAND · VORES ELEMENT

PROJECT MANAGER / COORDINATOR OF D4RUNOFF

«Hi! I am Laura Roed Bonde, I work at VandCenter Syd as a Project Manager and EU Project Coordinator.

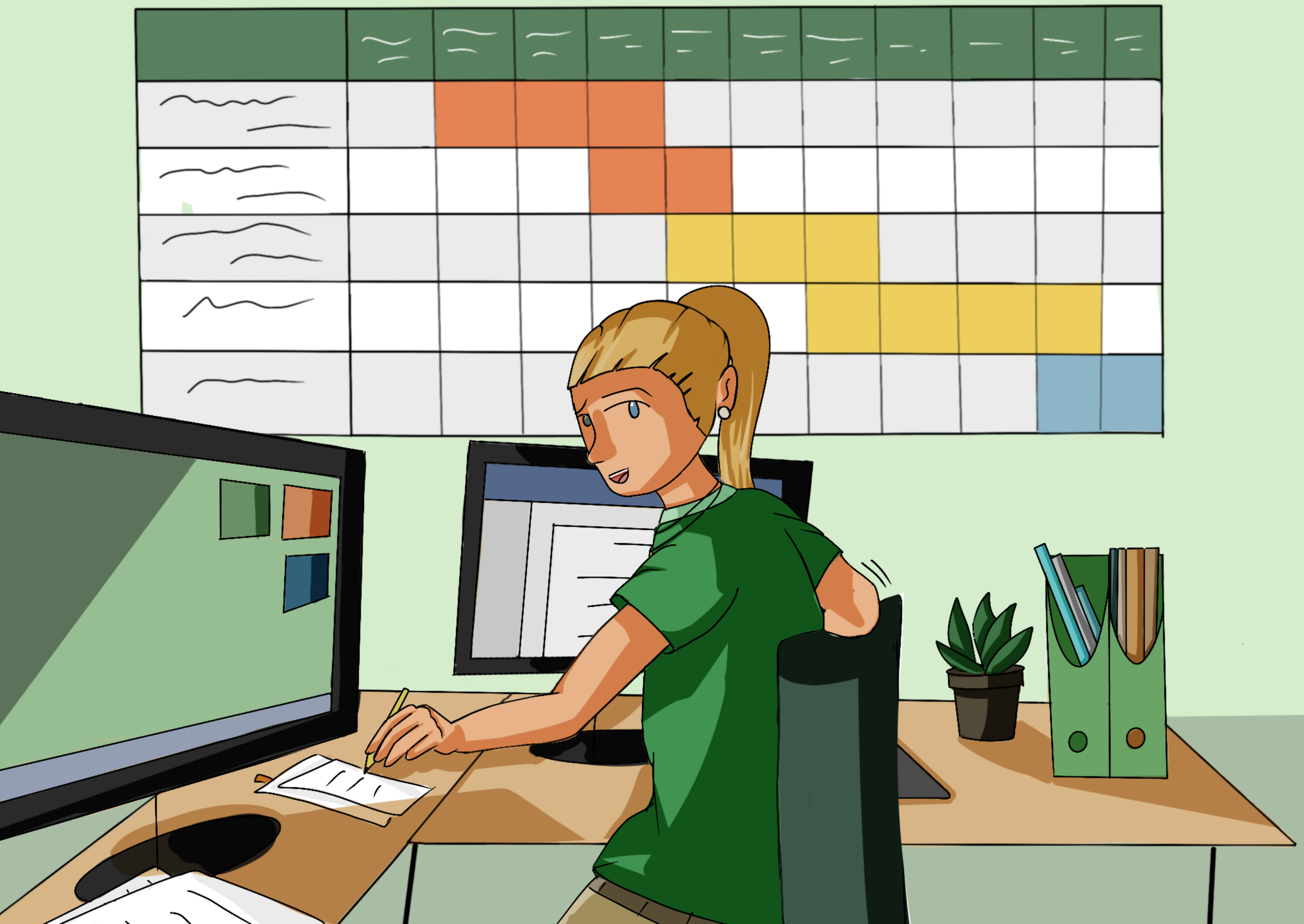
I work at the **intersection of sustainability, innovation, and water management.** My role is centered around leading and coordinating development and innovation projects, with a particular focus on D4RUNOFF, an EU-funded initiative.»

Let me introduce you to the diversity of my activities!

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF

As the D4RUNOFF Coordinator, I ensure the project's progress by **managing activities**, facilitating **collaboration between partners**, and ensuring compliance with EU regulations and objectives. My daily tasks include **strategic planning, stakeholder engagement, and transforming innovative ideas into actionable solutions.**



My role is dynamic, **requiring a balance** between technical knowledge, project management, and fostering collaboration to drive sustainable change.

A key part of my work involves **exploring new solutions for climate resilience**, participating in conferences and networking events, and **ensuring that our climate action strategies and Nature-based Solutions are effectively implemented.**

I have multiple jobs to keep myself out of the traditional routine and to **ensure diversity in my career.**

This is possible because my education as a **Forest and Landscape Engineer** has given me a broad skill set.

As a recent graduate from the summer of 2024, I am **still exploring my path in the professional world.** My daily routine varies greatly depending on whether I am traveling, working from home, or at the office collaborating with colleagues to exchange ideas and **learn from their experience.**

Each day brings new challenges and opportunities, allowing me to continuously grow and shape my future career.

Funded by
the European Union

Want to read more Urban runoff stories?

Discover a new waterwise woman next month!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun

Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN

Funded by
the European Union

WATERWISE WOMEN

Urban runoff stories

ASSOCIATE PROFESSOR IN ANALYTICAL CHEMISTRY

DCU
Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

"In the WATERUN project, I lead Work Package 2, which focuses on **advanced monitoring strategies for diffuse pollution.**

At DCU, my team is working on developing **portable, low-cost sensors** that can detect microplastics and polycyclic aromatic hydrocarbons (PAHs) directly in the field!
As the Principal Investigator, I oversee the whole research process, from planning to supervision.

I work closely with my two PhD students: **Caoilte**, who's designing sensors for PAHs, and **Marianna**, who's tackling the challenge vof microplastics.

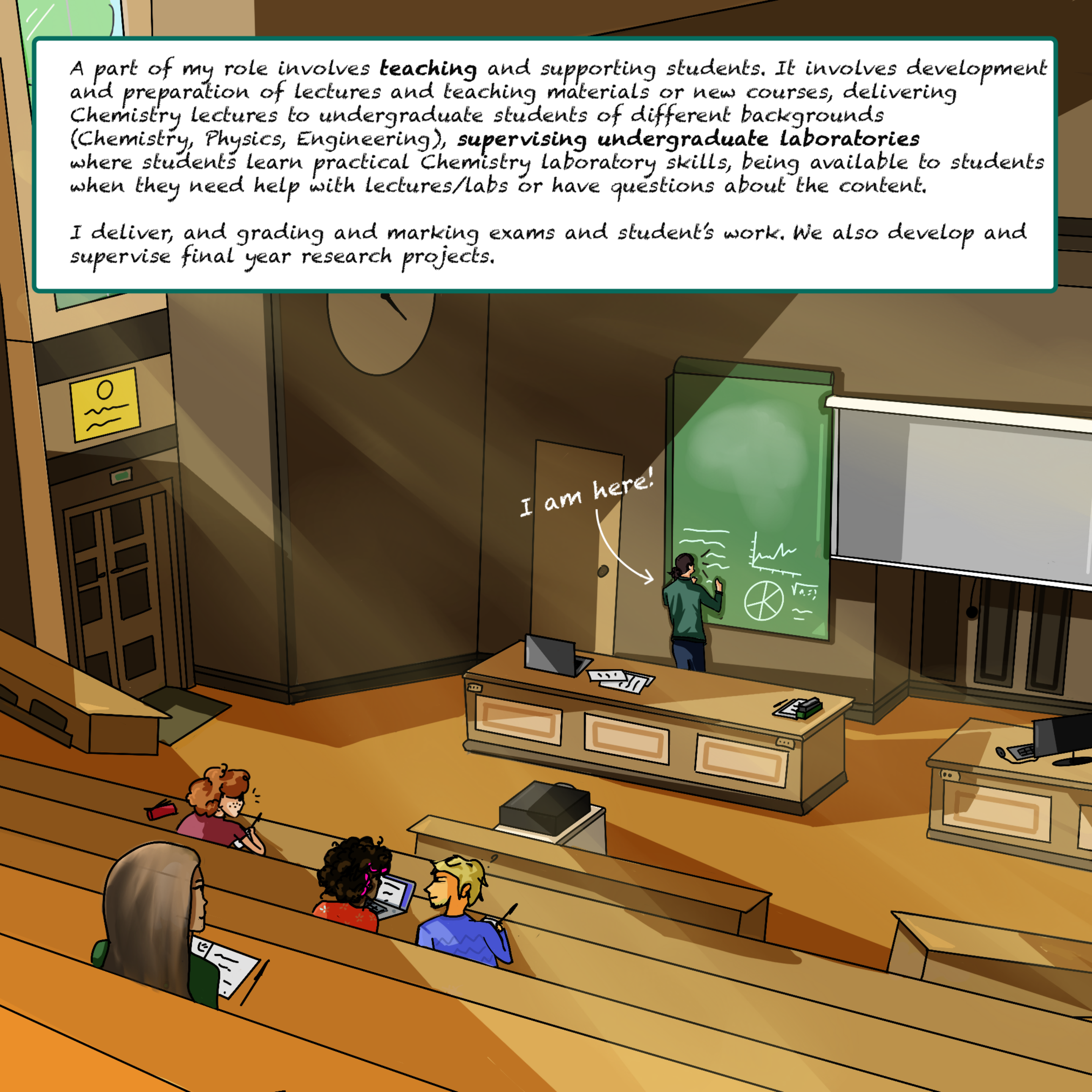
Together, we're trying to make invisible pollution... visible to better act on.»

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF

A part of my role involves **teaching** and supporting students. It involves development and preparation of lectures and teaching materials or new courses, delivering Chemistry lectures to undergraduate students of different backgrounds (Chemistry, Physics, Engineering), **supervising undergraduate laboratories** where students learn practical Chemistry laboratory skills, being available to students when they need help with lectures/labs or have questions about the content.

I deliver, and grading and marking exams and student's work. We also develop and supervise final year research projects.



I am also the **Chair of the Analytical Sciences (AS)** programme at the School of Chemical Sciences, I support students with programme-related issues, **communicate key updates and opportunities, and lead orientation activities throughout the year.** I also serve on the Programme Board, where I help maintain academic standards and ensure the **AS programme evolves to meet new challenges and career paths.**

I'm a **Principal Investigator at several DCU Research Centres,** including the **Water Institute and the I-Form Centre for Advanced Manufacturing.** I lead a research group composed of PhD and postdoctoral researchers.

Together, we design and carry out research projects, often related to water and sustainability. develop project ideas, write funding proposals, recruit and supervise researchers and coordinate the work to ensure timely progress. I also support postgraduate students through their master's or PhD journey, guiding their theses and lab work.

Sharing our results through scientific publications and international conferences is key, not only to spread knowledge but also to build collaborations and keep research connected to real-world challenges!

In summary, in a normal day, I could be teaching, or in the lab discussing research with my research group, or in front of the computer in my office developing new research projects, reporting on ongoing projects, or writing funding applications, or I could be away presenting results at a conference or at project consortium meeting discussing collaborative work.

So, I hope this gives you an idea of what a normal day could look like for me!

Funded by
the European Union

Want to read more Urban runoff stories?

Discover a new waterwise woman next month!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN

WATERWISE WOMEN

Urban runoff stories

Funded by
the European Union

RESEARCH SCIENTIST PI

INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY

«Hi! I'm Laura Rodriguez-Lorenzo, a researcher at the International Iberian Nanotechnology Laboratory (INL).

I'm involved in several exciting projects!

- **D4RUNOFF**, to prevent and manage pollution from urban runoff
- **LABPLAS**, where I work on detectingthe tiniest micro-and nanoplastics in water
- And **ONEBLUE**, where I help develop sensors to monitor coastal water quality.

Keep reading to find out more about my work in these projects and how we're pushing science forward to protect our waters!»

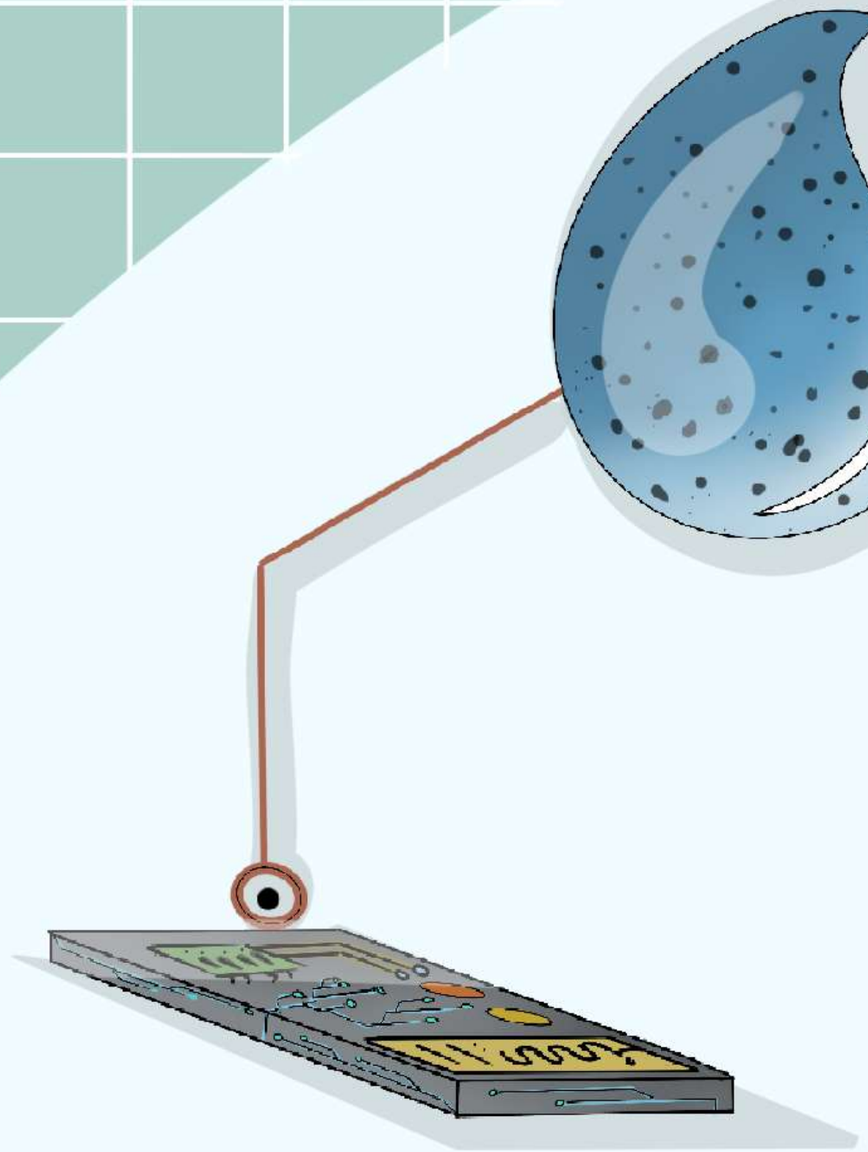
waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

D4RUNOFF

In **LABPLAS**, my participation is focused on:

1. Development of **guidelines for the extraction, preconcentration, purification and detection of the smallest small microplastics** (less than 20 μm) and nanoplastics from water and suspended solid.

2. **LAB-on-a-Chip** device for the Raman and SERS* analysis of the smallest small microplastics and nanoplastics, respectively in environmental waters (freshwater and seawater).



*SERS? Raman?
What does it mean?
The answer in the next slide!

In ONEBLUE, my participation is focused on developing an online SERS sensor for **antimicrobial detection in coastal water.**

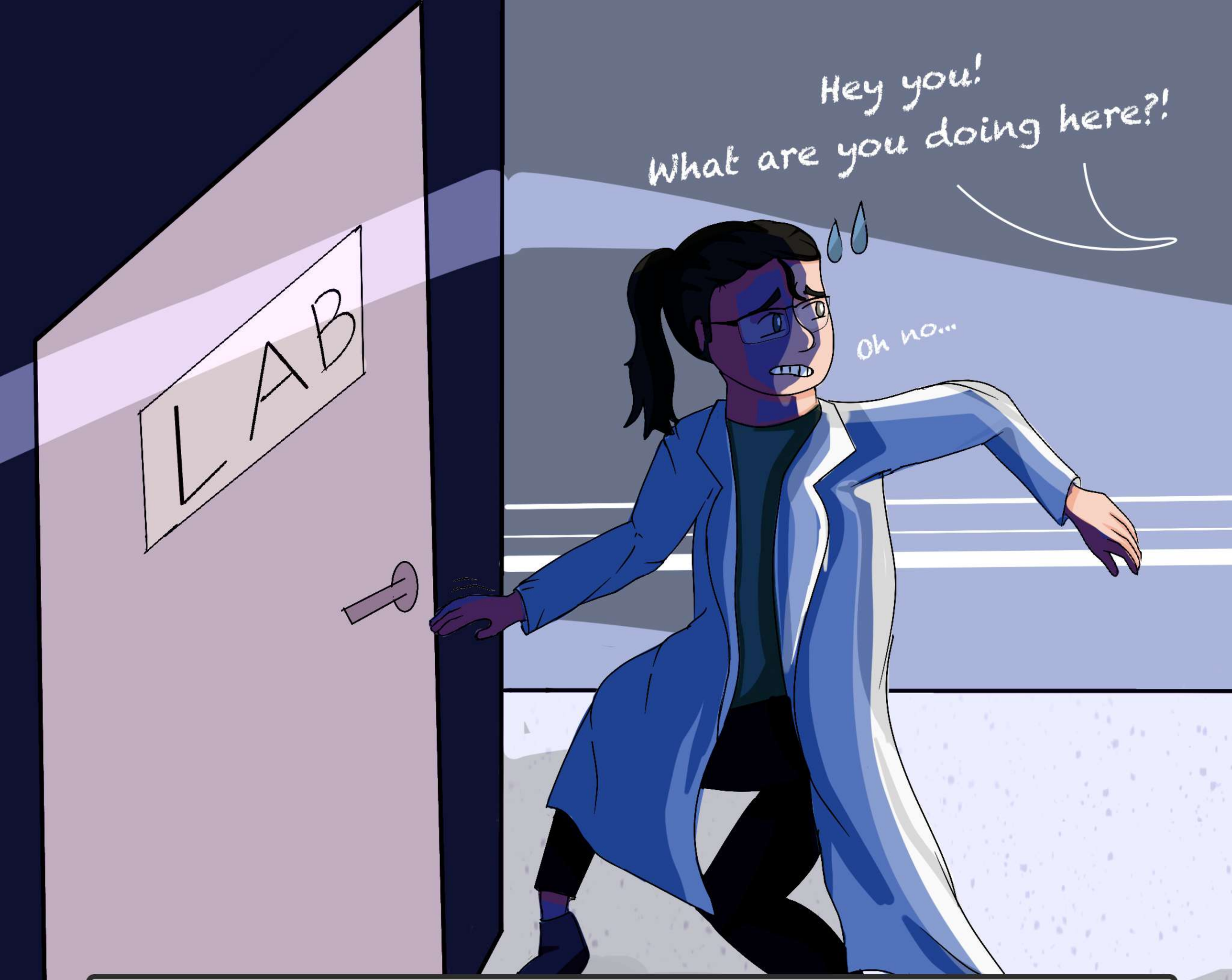
Before continuing our story, some definition...

Raman spectroscopy: When a laser shines on a material, some of the light changes its energy because of the way the molecules vibrate.
By measuring this change, we can identify the material's chemical 'fingerprint'.

SERS (Surface-Enhanced Raman spectroscopy):
These sensors use tiny metal surfaces to make the Raman signal much stronger. This way, we can detect even very small amounts of a substance, sometimes down to single molecules!

HMM....

As a researcher who leads a Raman/SERS team in the **Water Quality group (also led by a woman, Begoña Espiña)**, my daily work involves the supervision of very motivated people, 3 young women and 3 young men, in their task related to the design nanomaterials that allow us to improve the water monitoring using Raman spectroscopy and Surface-enhanced Raman scattering.



I'm supervising them and working actively in the lab to help the team and test some innovative, and "crazy", strategies to achieve our objectives.

I love working in the lab, so I sneak out to the lab during my writing of projects/publications, etc., to "empty" the mind and recharge energies to continue with the writing time.

Funded by
the European Union

Want to read more Urban runoff stories?

You can catch up previous stories on WATERUN LinkedIn page!

In the meantime, discover the projects:

D4RUNOFF

https://d4runoff.eu

D4RUNOFF

waterun
Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff

https://www.waterun.eu/

EU PROJECT WATERUN