March Newsletter | BrachyDOSE



March 6, 2025

March is a month dedicated for the prostate and colorectal cancer awareness.

Prostate cancer is the second most common cancer in men worldwide. Yet, too often, conversations around it are avoided due to stigma or discomfort.

- 1 in 8 men will be diagnosed with prostate cancer in their lifetime.
- Early detection can save lives—when caught early, the survival rate is over 99%.
- Risk factors include age (50+), family history, and ethnicity (higher risk for Black men).

How can we make a difference?

- Encourage men in your life to talk to their doctors about PSA screenings.
- Raise awareness by sharing information and breaking the stigma.
- Support organizations dedicated to research and patient care.

Health is wealth, and awareness is power. Let's use this month to spread the word and ensure more men take proactive steps for their health.

Read more:

https://prostatecanceruk.org/

https://health.ec.europa.eu/non-communicable-diseases/cancer/europes-beating-cancer-planeu4health-financed-projects/projects/praise-u_en

https://ligoniukasa.lrv.lt/lt/veiklos-sritys/informacija-gyventojams/ligu-prevencijosprogramos/prostatos-vezio-prevencija/

Colorectal cancer is the second leading cause of cancer-related deaths worldwide—but it's also one of the most preventable and treatable cancers if caught early.

- 1 in 24 people will be diagnosed with colorectal cancer in their lifetime.
- Symptoms can be silent in early stages—making regular screening essential.
- Screening is recommended starting at age 45 (or earlier with a family history).

What can we do?

- Get screened—colonoscopy and other tests can detect cancer early or even prevent it.
- Know the symptoms—persistent changes in bowel habits, blood in stool, and unexplained weight loss shouldn't be ignored.
- Spread awareness—breaking the stigma around screenings can save lives.

Colorectal cancer is highly preventable when caught early. Let's use this month to start the conversation and encourage action!



Read more:

https://colorectalcancer.org/get-involved/advocate/colorectal-cancer-awareness-month

https://www.ligastrohealth.com/blog/start-spreading-the-news-its-colorectal-cancer-awarenessmonth

https://www.nvi.lt/storosios-zarnos-vezio-prevencija/

Milestones achieved:

• We are thrilled to announce that we have finally applied for a patent: A SYSTEM FOR MONITORING A RADIOTHERAPY DOSE. No.: EP25160770.1 Date: 2025-02-27.

Science news:

- A pancreatic cancer blood test called PAC-MANN could spot the disease early. The disease is one of the most lethal cancers and can be hard to diagnose. Read full article: <u>https://www.sciencenews.org/article/pancreatic-cancer-pac-mann-blood-test</u>
- Promising target in brain cancer. Scientists have discovered a previously unknown mechanism for how aggressive brain cancers reprogram immune system cells from fighting cancer to enabling further tumor growth. Read full article: <u>https://www.sciencedaily.com/releases/2025/02/250228113602.htm</u>
- AI tool mimics radiologist gaze to read chest X-rays. Most AI diagnostic tools are black boxes, but the approach allows doctors and patients to understand how the computer reached a diagnosis. Read full article: https://www.sciencedaily.com/releases/2025/02/250225121525.htm

Interview with an expert

BrachyDOSE has been a long-term partner of the <u>Kaunas University of Technology</u>, <u>Faculty of</u> <u>Mathematics and Natural Sciences</u>, <u>Department of Physics</u>, collaborating on several projects uniting scientists and business together.

Prof. Dr. Diana Adlienė is a professor at Kaunas University of Technology in Lithuania, specializing in **medical physics**, **radiation protection**, **and applied physics**. She has extensive experience in **radiation dosimetry**, **medical imaging**, **and the development of innovative radiation shielding materials**. Her research contributes to improving safety standards in radiation therapy and diagnostic radiology.

In recognition of her contributions to medical physics, Diana Adlienė was honored by the <u>International Organization of Medical Physics</u> in 2024 for her efforts in popularizing the field and was named the best physicist in Europe.



1. Can you briefly describe the projects you are currently working on?

Right now, I'm leading two major projects:

ADAM – Development of lead-free adaptive modular radiation protection constructions against mixed high-energy radiation in nuclear medicine.

SMART – Precision medicine: stereotactic ablative magnetic resonance imageguided radiotherapy for early-stage laryngeal cancer.

The ADAM project aligns with CERN's initiatives in Lithuania. Our goal is to

develop lightweight, modular radiation protection structures designed to shield individuals working with mixed high-energy radiation. Currently, heavy, U-shaped protective equipment is standard but cumbersome. At Kaunas University of Technology (KTU), we are designing an innovative solution—lightweight, modular shielding optimized for shape and function. This protective equipment will be used in Kaunas cyclotron, where radionuclides will be produced for disease treatment and diagnostics.

The SMART project focuses on enhancing laryngeal cancer treatment. At KTU, we are responsible for dosimetry—modeling and optimizing radiation doses while assessing their impact on surrounding organs. We will 3D-print phantoms and integrate AI and machine learning to analyze patient data and treatment history. The ultimate goal is to develop personalized treatment recommendations for different patient cases, ensuring the most effective and safe therapy.

2. What led you to pursue a scientific career in cancer treatment?

It was actually quite unexpected. I never originally planned to study anything related to medical sciences. However, after returning from my studies in the UK and Sweden, I saw an opportunity to develop medical physics in Lithuania, a field that was not yet established here. That realization set me on this path.

Upcoming events:

• BrachyDOSE team is going to attend <u>EIC summit</u> on April 2-3rd in Brussels, Belgium. Our CEO Neringa will be sharing her experience at StartupEU in Action: Real Stories of Growth from Widening Countries event.

BrachyDOSE team



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