Newsletter - 11/2022 Collaborative Research Institute Intelligent Oncology (CRIION)

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Abstract:

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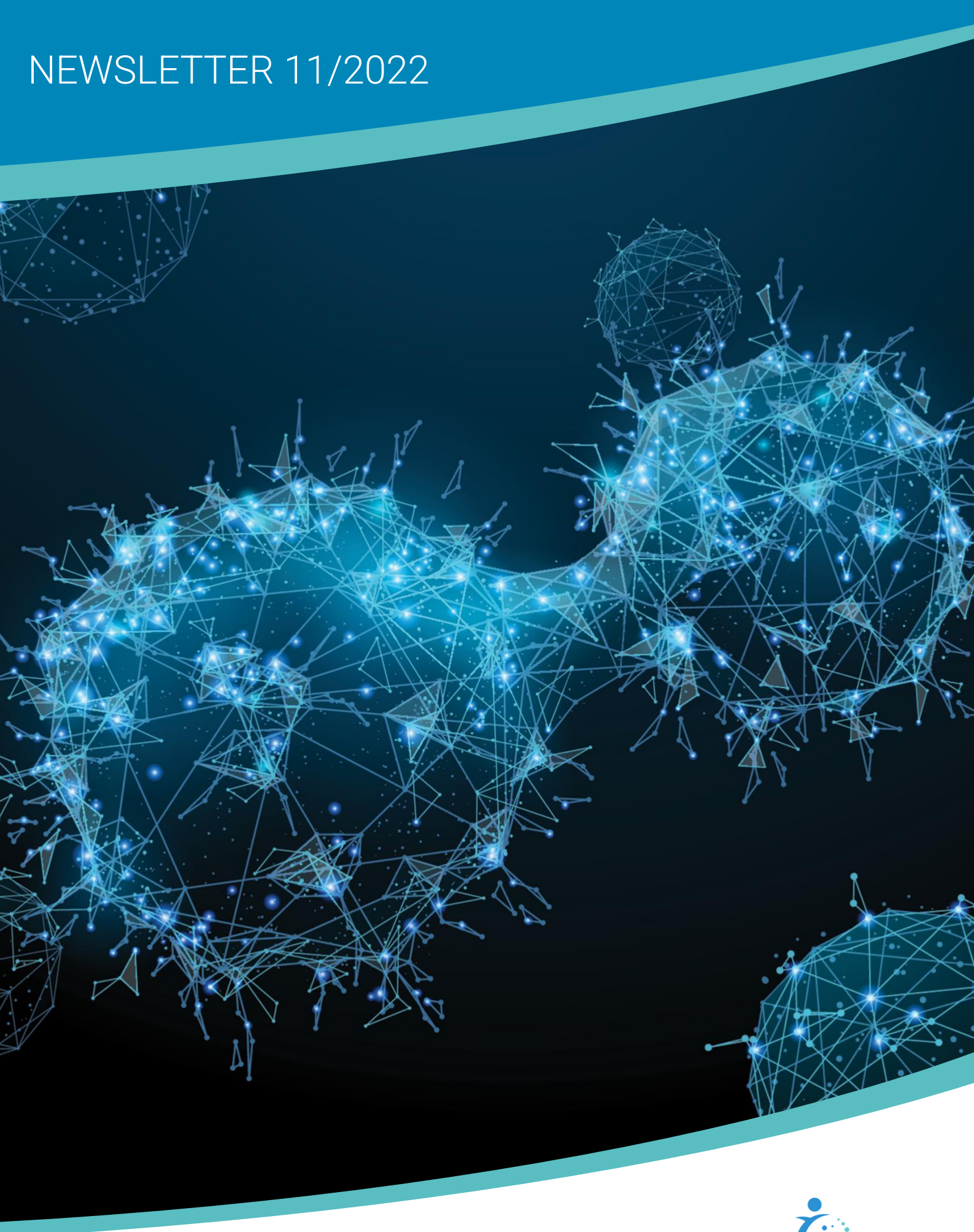
NEWSLETTER 11/2022



This newsletter issue:
CRIION Rules of Procedure, current research projects and our Inaugural Symposium “Intelligent Oncology – The Potential of AI to Cure Cancer”

CRIION
COLLABORATIVE RESEARCH INSTITUTE
INTELLIGENT ONCOLOGY

NEWSLETTER 11/2022

Dear friends of CRIION and the Mertelsmann Foundation,

The CRIION journey continues! The first round of research proposals is granted, and we are proud to give an overview of all ongoing and prospective projects.

We established our Rules of Procedure which will provide guidance for all internal processes from *membership application* over *collaborations* and *funding* in order to foster world-class data-driven cancer research at the heart of Freiburg and beyond.

To celebrate the launch of CRIION, we held the Inaugural Symposium “Intelligent Oncology – The Potential of AI to Cure Cancer” with an incredible set of world-renowned speakers from the United States, Israel, Norway, Switzerland, United Kingdom, Argentina and Germany on September 30 in the Otto-Krayer-Haus in Freiburg. The interest and feedback were amazing with in total 200 attendees.

Our joint vision is starting to take shape. Thank you for being part of it.

Roland Mertelsmann

MERTELSMANN FOUNDATION

Joschka Boedecker

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CRIION Rules of Procedure

On August 18, our Rules of Procedure came into force. They establish CRIION as an Institution of the Mertelsmann Foundation gGmbH.

CRIIONs purpose is to implement interdisciplinary cancer research in the fields of experimental and clinical oncology, as well as artificial intelligence and philosophy. In addition, CRIION fosters national and international collaborations with other research facilities, early-career scientists, students as well as equality of opportunity. Its aims are to fund professorships, to tie close bonds with other universities and to fund and promote research projects with the help of its very own AI Research Facility, Wetlab Research Facility, Engineering Research Facility and its Philosophy Research Program.

In order to become member of CRIION, an application has to be sent to its scientific advisory board, which will then decide whether a membership will be granted. Scientists can become a *Member*, an *Associate Member*, an *Assistant Member* or a *Research Member* according to their respective qualifications.

CRIION Memberships

Benefits:

- Members can apply for research funds,
- Members have access to the core research facilities
- Members can add their project pages on CRIION websites
- Regular Seminars, Webinars, conferences, research stays

Publication Guidelines

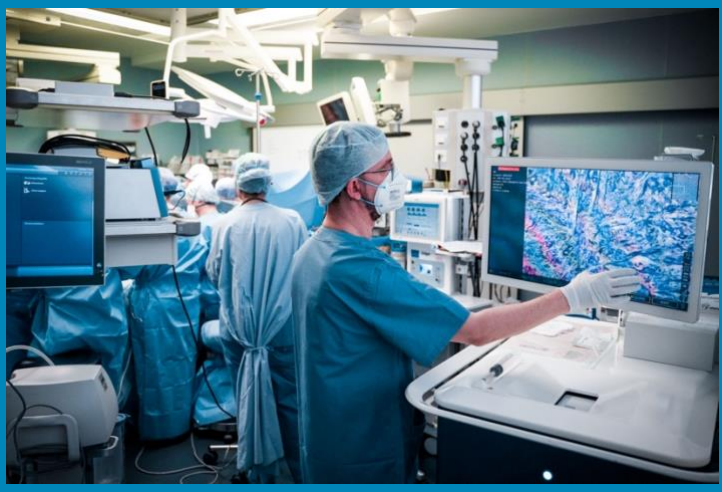
- Members are obligated to add CRIION as an affiliation to all upcoming publications:
  Collaborative Research Institute Intelligent Oncology (CRIION), Freiburg, Germany
- Funding received from the Mertelsmann Foundation has to be acknowledged. Please add the following line in the acknowledgements:
  This project was funded by the Mertelsmann Foundation, Freiburg, Germany

All members should aim at collaborations within the institute.

Please send your application to membership@intelligent-oncology.org

CRIION Projects

AMLAMO
Automated Machine Learning-Assisted Media Optimization
(Prof. Dr. Robert Huber)

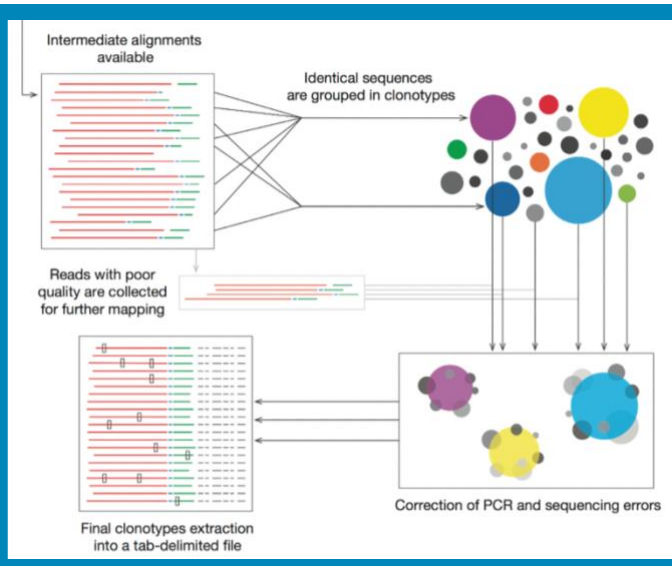


HISTOMaiTE
Artificial intelligence augmented intraoperative real time histology for head and neck cancer treatment
(PD Dr. Dr. Philipp Poxleitner)

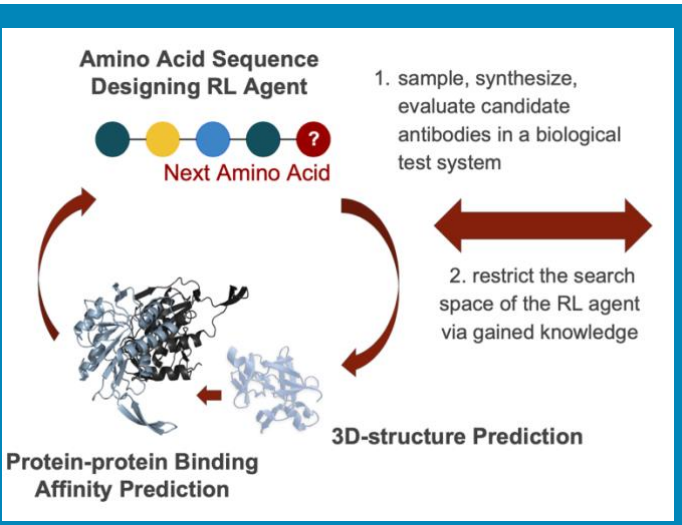
Liquid Biopsy
Ultra-sensitive genotyping of circulating tumor DNA for noninvasive classification of brain cancers
(PD Dr. Florian Scherer)

Cell Migration
Development of a machine learning approach for leukemia cell-microenvironment interactions
(Prof. Dr. Tanja Hartmann)

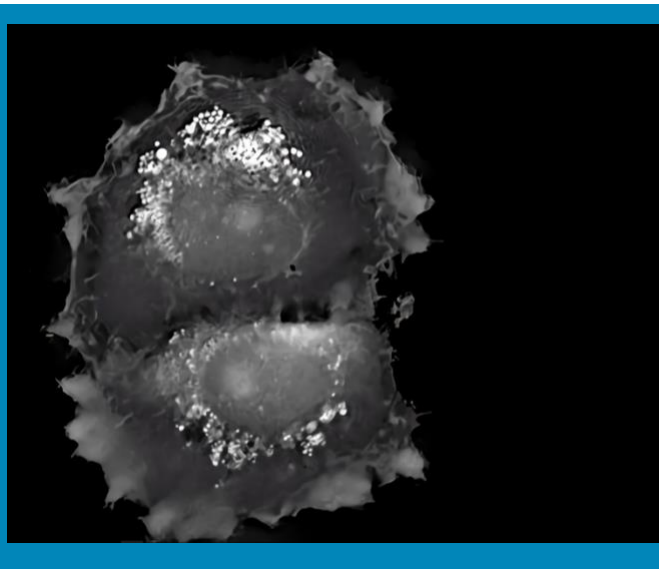
AI@AML
Using artificial intelligence to decipher and manipulate cellular growth patterns in acute myeloid leukemia
(Prof. Dr. Rainer Claus)



IMMUSIGN
Using machine learning and a living immune repository to detect disease-specific and anti-tumor immune signatures
(Prof. Dr. Mascha Binder)



Automated Antibody Design for Targeted Cellular Immunotherapy
(Dr. Cornelius Miething)



NANOLIVE Cell Differentiation and Death Prediction
(Dr. Marie Follo)

CRIION Core Research Facilities

CRIION has four core facilities: the WetLab Research Facility, the AI Research Facility (comprised of the Fundamental AI Research group led by Gabriel Kalweit and the Applied AI Research group led by Maria Kalweit), the Engineering Research Facility and the Philosophy Research Facility. While we are still building the WetLab and Engineering teams, the Philosophy and AI core facilities are already working at “full power”.

We are here to help! Founded projects can receive support from all facilities. Please contact ai@intelligent-oncology.org or philosophy@intelligent-oncology.org.

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CRIION Inaugural Symposium
“Intelligent Oncology – The Potential of AI to Cure Cancer”

To celebrate the launch of the institute, CRIION held its inaugural symposium on September 30. We had an amazing set of international speakers:

- Dr. Quaid Morris, Memorial Sloan Kettering Cancer Center, USA
- Prof. Christoph Merten, EPFL, Switzerland
- Dr. Victor Greiff, University of Oslo, Norway
- Dr. Itay Tirosh, Weizmann Institute, Israel
- Dr. Jan Moritz Middeke, University Hospital Dresden, Germany
- Dr. Ignacio Mastroleo, University of Buenos Aires, Argentina
- Dr. Nikolaus Schultz, Memorial Sloan Kettering Cancer Center, USA
- Dr. Adriana Tomic, University of Oxford, United Kingdom
- Prof. Lena Maier-Hein, German Cancer Research Center, Germany

Recordings of all talks are available online (Password: IO2022RL)

Visit Event Website

Watch Recordings

After the success and amazing feedback, we are incredibly happy to announce that the planning of the second symposium “Intelligent Oncology – The Potential of AI to Cure Cancer” is already in progress and will taken place in Spring 2024.


Passenger mutations better classify cancers than drivers


Intelligent Oncology
The Potential of AI to Cure Cancer
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