IRE
ISTITUTO NAZIONALE TUMORI
REGINA ELENA
ISTITUTO DI RICOVERO E CURA A CARATTERE SCIENTIFICO

Introduction, Strategic Plan of Research and Scientific Productivity 2019-2020

Gennaro Ciliberto

Scientific Director

IRCSS Regina Elena National Cancer Institute

A VIRTUAL WELLCOME TO OUR INSTITUTES!

https://www.youtube.com/watch?v=u6HhYD335cA

IFO Site since 2002

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IRE

IRE ISTITUTO NAZIONALE TUMORI REGINA ELENA ISG ISTITUTO DERMATOLOGICO SAN GALLICANO

ISTITUTI DI RICOVERO E CURA A CARATTERE SCIENTIFICO

Istituti Fisioterapici Ospitalieri (IFO): IRE & ISG

Common administrative authority: General Director Francesco Ripa di Meana

IRCCS Regina Elena National Cancer Institute (IRE)
(Scientific Director: Gennaro Ciliberto)

Oncology

IRCCS Dermatological Institute S. Gallicano (ISG)
(Scientific Director: Aldo Morrone)

Dermatology

Recognized since 1939 by the Italian Ministry of Health as:
Scientific Institutes for Research and Care (IRCCS)

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The Institute's *mission is*:

CLINICAL CARE

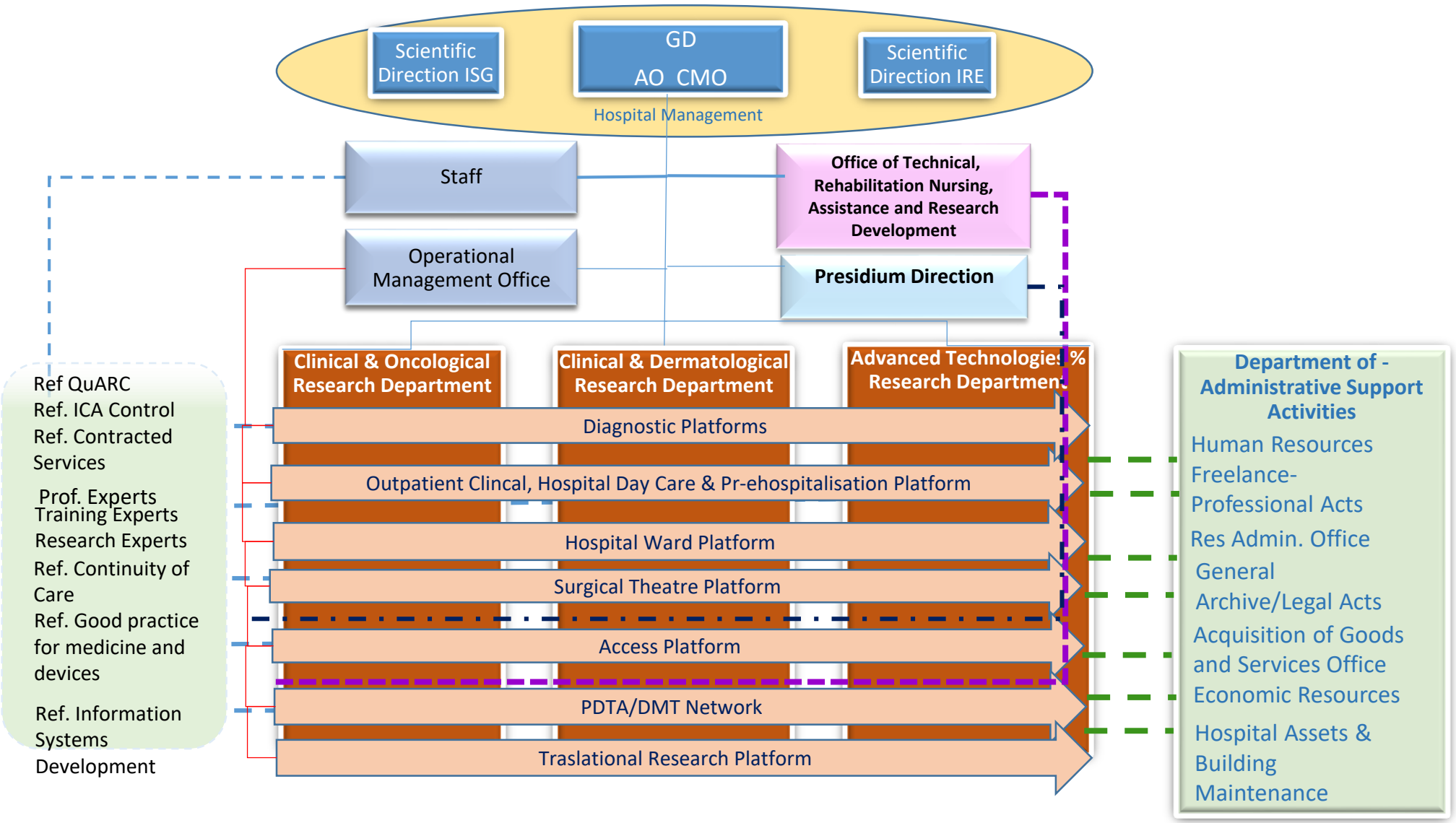
To best respond to the health needs of the population by combining our scientific expertise and technological resources in the fields of oncology and dermatology

RESEARCH

To provide technologies and laboratories that are among the most advanced in Europe towards more precise and personalized medicine in prevention, diagnosis and treatment

ISG IRE

Relationship between Support Units, Departments and Platforms



IFO – Personnel at September 30th 2020

1054 permanent employees

- 835 Health care and research staff
- 219 Technical- administration staff

160 non-permanent employees (10 years contract)

- 111 Health care and research staff
- 49 Technical- administration staff

33 research fellows (PhD students, fellowships, etc.)

IRE – Hospital beds

234 ordinary
27 day hospital
11 day surgery

ISG – Hospital beds

11 day hospital
4 day surgery

IFO and COVID-19

De Luca et al. Journal of Experimental & Clinical Cancer Research (2020) 39:177
https://doi.org/10.1186/s13046-020-01675-y

Journal of Experimental & Clinical Cancer Research

COMMENTARY Open Access

Reorganization of Istituti Fisioterapici Ospitalieri, an oncological and dermatological clinical and research center, to face the coronavirus health emergency: adopted measures and metrics of success to achieve and keep a COVID-19-free status

Assunta De Luca[1], Francesco Ripa di Meana[2], Branka Vujovic[2], Aldo Morrone[3], Chiara Degirolamo[4], Gennaro Ciliberto[5*] and Tiziana Lavalle[6]

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SARS-CoV-2 Serological Survey in the first pandemic wave: April 2020

MARCH 2020: A PILOT CROSS-SECTIONAL STUDY ON HEALTHCARE WORKERS AND ON BIOBANKED BLOOD SAMPLES OF ONCOLOGICAL PATIENTS WITH 2 AIMS:

- TO ASSESS DIFFERENT SEROLOGICAL TESTS PERFORMANCES
- TO EVALUATE COVID-FREE HOSPITAL PROCEDURES

- EC FAVOURABLE OPINION : 31 MARCH 2020

MAIN RESULTS :

- 300 HEALTHCARE WORKERS (BLOOD SAMPLES TAKEN AT THE END OF APRIL 2020): 13 (4.3%) IgG POSITIVE (EITHER ELISA OR CLIA)
    - 5 POSITIVE AT NASOPHARYNGEAL SWAB
- 150 ONCOLOGICAL PATIENTS (SERUM BIOBANKED MARCH 2020): 1 (0.7%) IgG POSITIVE

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National Cancer Institute Regina Elena (IRE)

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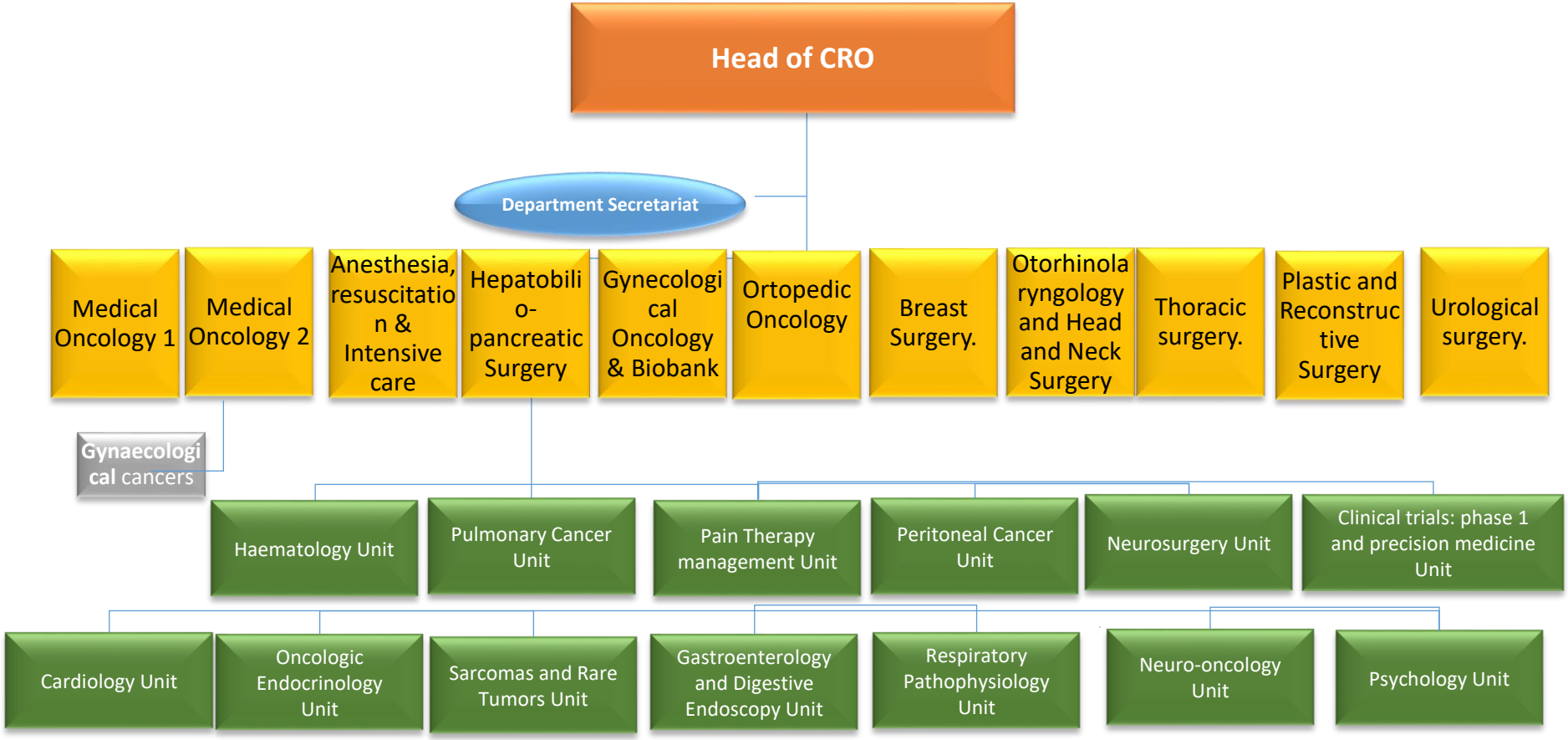
Two Departments:

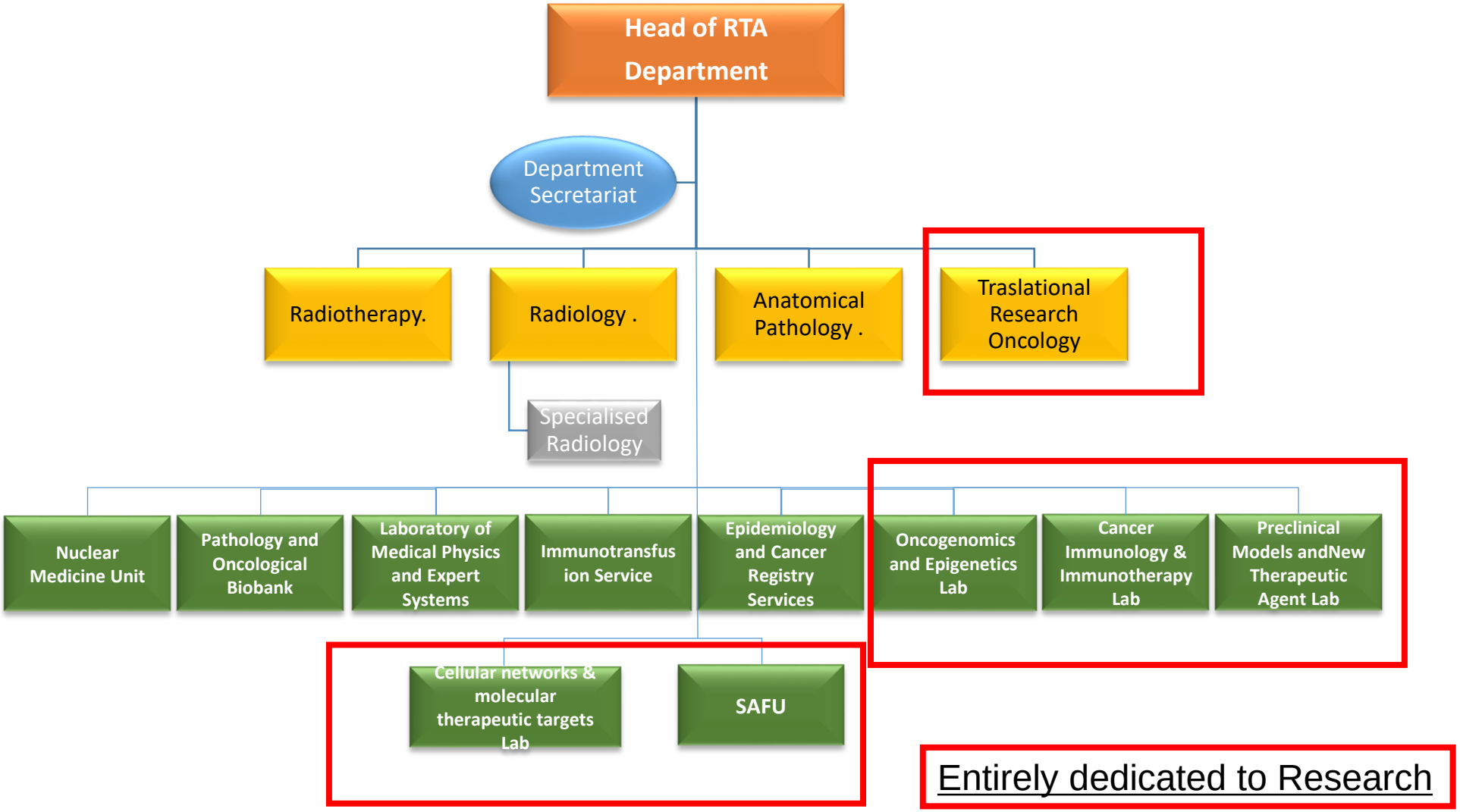
Oncological Clinical and Research (CRO)

Advanced Research and Technologies (RTA)

Oncological Clinical & Research (CRO) Department



Advanced Technologies & Research (RTA) Department



Entirely dedicated to Research

OECI ACCREDITATION

OECI

ORGANISATION OF EUROPEAN CANCER INSTITUTES

EUROPEAN ECONOMIC INTEREST GROUPING

Registered Number RPM N. 0473647634

CERTIFICATE OF ACCREDITATION AND DESIGNATION

OECI

hereby certifies that the

Regina Elena National Cancer Institute, IRE

Roma – Italy

meets the quality standards for cancer care and research and it is therefore designed as:

OECI COMPREHENSIVE Cancer Centre

Issued on: September 10th 2015

Validity date: September 10th 2020

Dominique de Valeriola
OECI President

Mahasti Saghatchian
Chair OECI Accreditation Designation Programme

ISG IRE

Alliance Against Cancer

- Istituto Regina Elena is one of the 6 founding Institutes of Alliance Aganist Cancer (ACC), the italian largest network of clinical and research institutes
- ACC has grown with time to include now 26 IRCCS
- Participation to ACC is strategic for IRE both because of the inclusion in several network projects (e.g Genomic Screens) and because of extra-funding from MoH and from international grants
- G. Ciliberto is a member of the Executive Board of ACC

ALLEANZA CONTRO IL CANCRO

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Tight relationship with the Italian MoH

- As part of the Ministry of Health Network of Research and Clinical Centers (n=52) we are subjected to annual assessment of productivity (scientific and assistance) and to a biennial reaccreditation process

- Yearly performance
  - Five parameters assessed:

	Weight (%)
Scientific Productivity	55
Attraction of competitive funds	10
Clinical Performance	20
Clinical Trials	10
Technology Transfer	5

IRE Research Planning approved by the Ministry of Health (2018-2020)

1) Prevention and early diagnosis of cancer
2) Immunotherapy of Cancer
3) Personalized medicine in oncology
4) New approaches and technologies for the Integrated therapy of cancer
5) QoL for cancer patients

First ISAB Meeting 2018
November 14, 2018

- Main feedback from the panel:

A short and long term strategy needs to be more clearly defined that would delineate IRE from other institutions. For example, it was agreed that most cancer treatments in the future will involve combination therapies. Therefore a strategy should include the rationale for the selection of combinations based around the cancer-, immune-biology and discovery biomarker research that is carried out by scientists at the IRE.

The IRE Strategic Plan for Research

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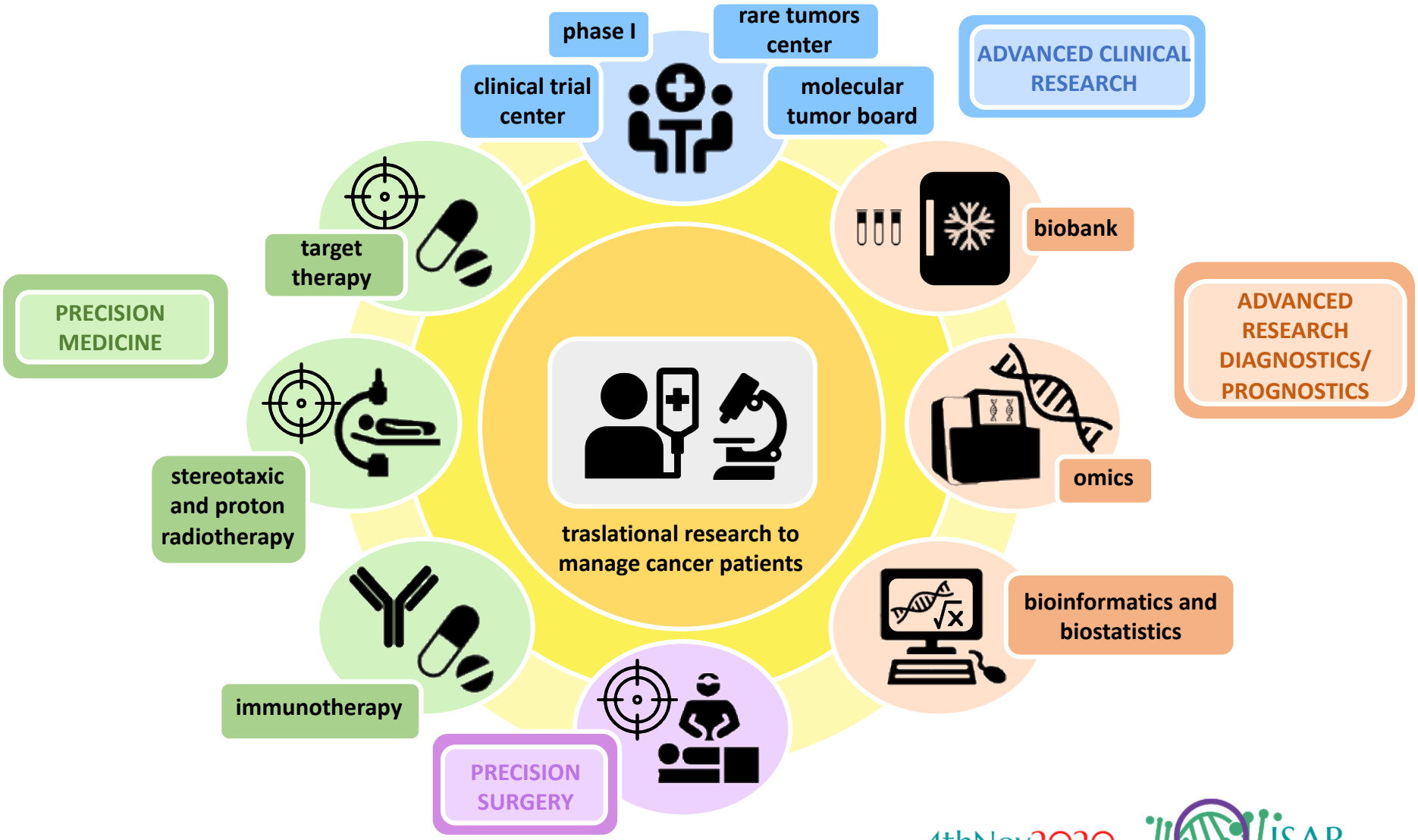
IRE Research Strategic Plan 2020-2022



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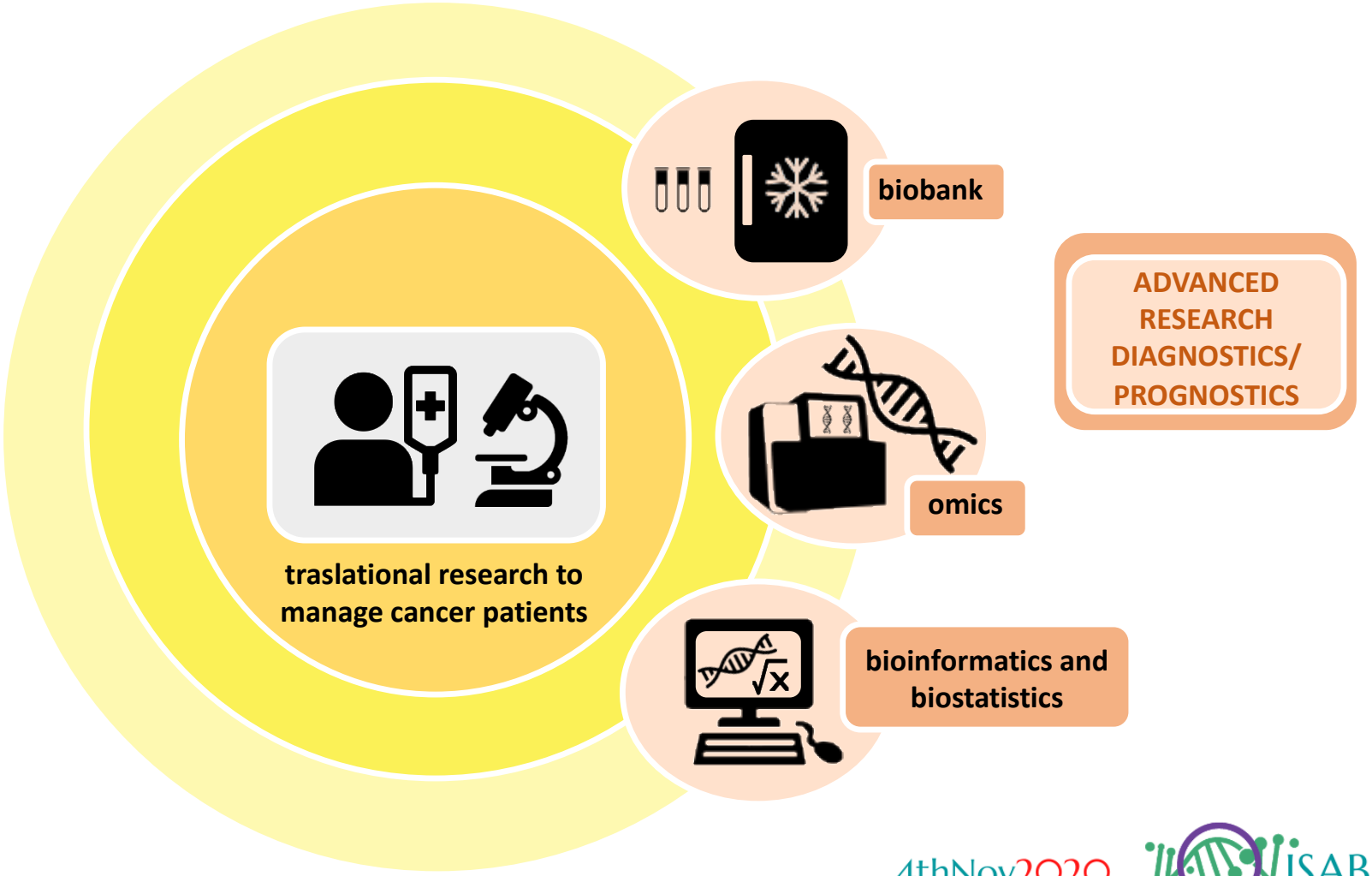
1. ADVANCED RESEARCH DIAGNOSTIC/PROGNOSTIC



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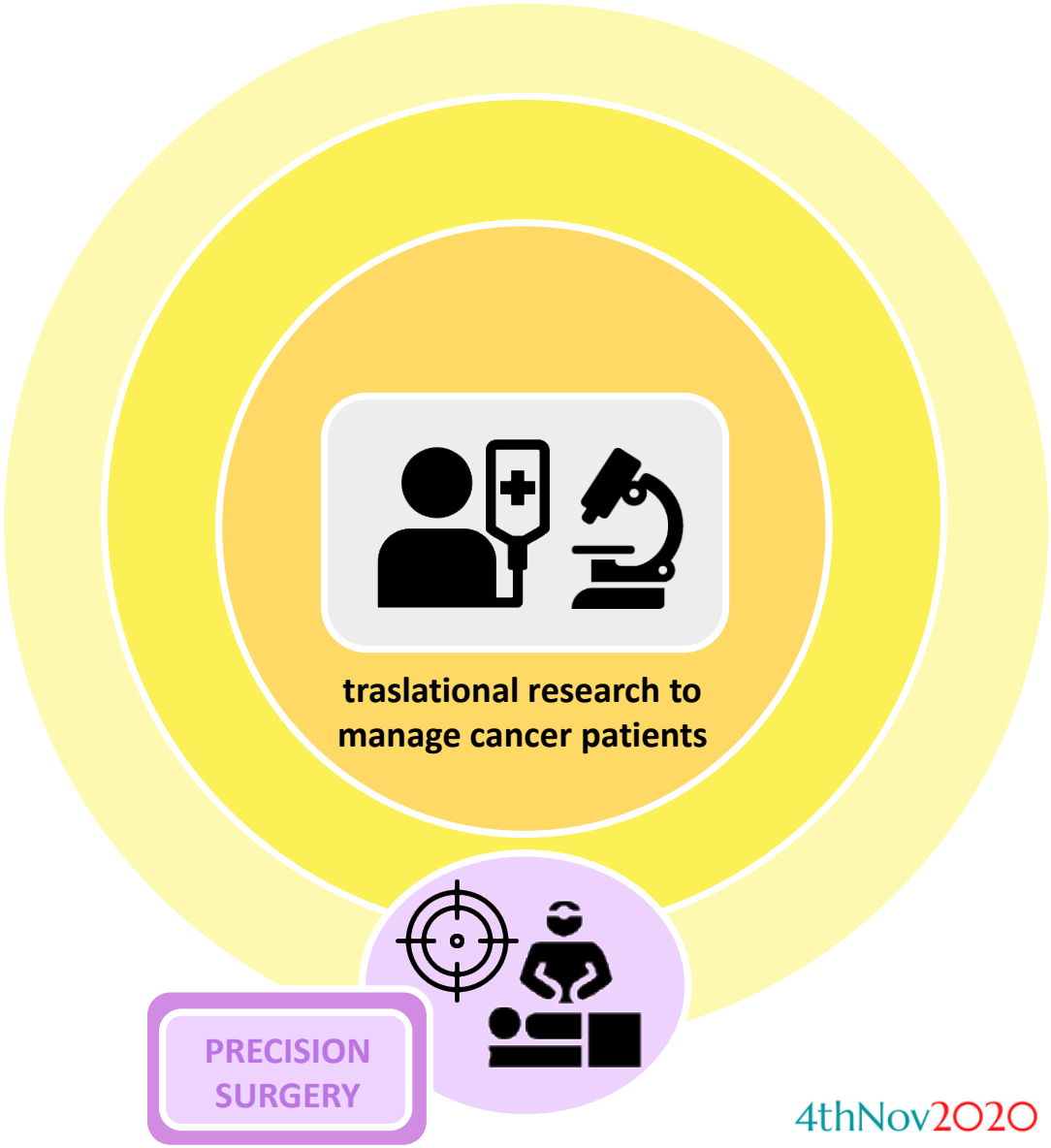
2. PRECISION SURGERY



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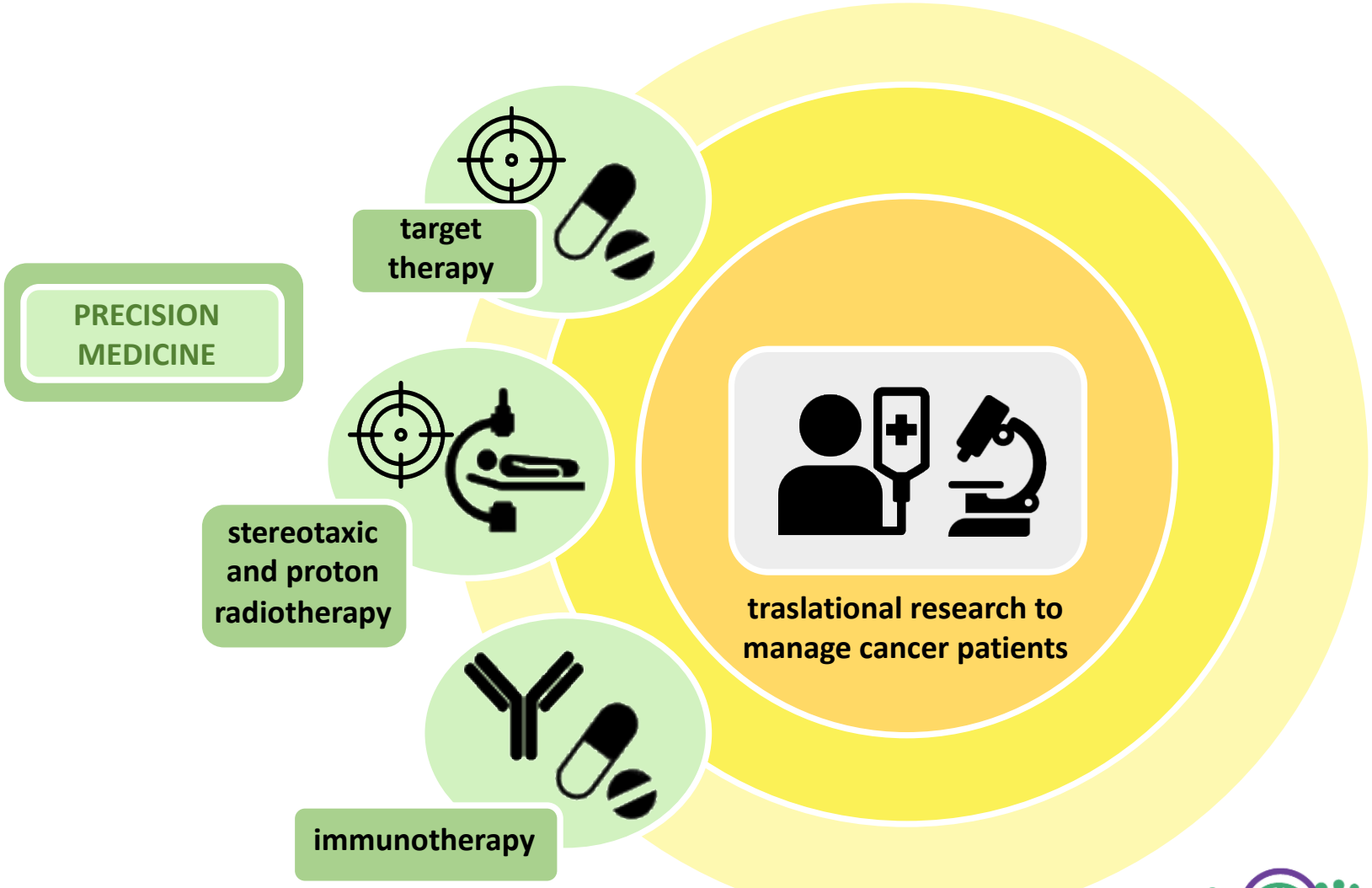
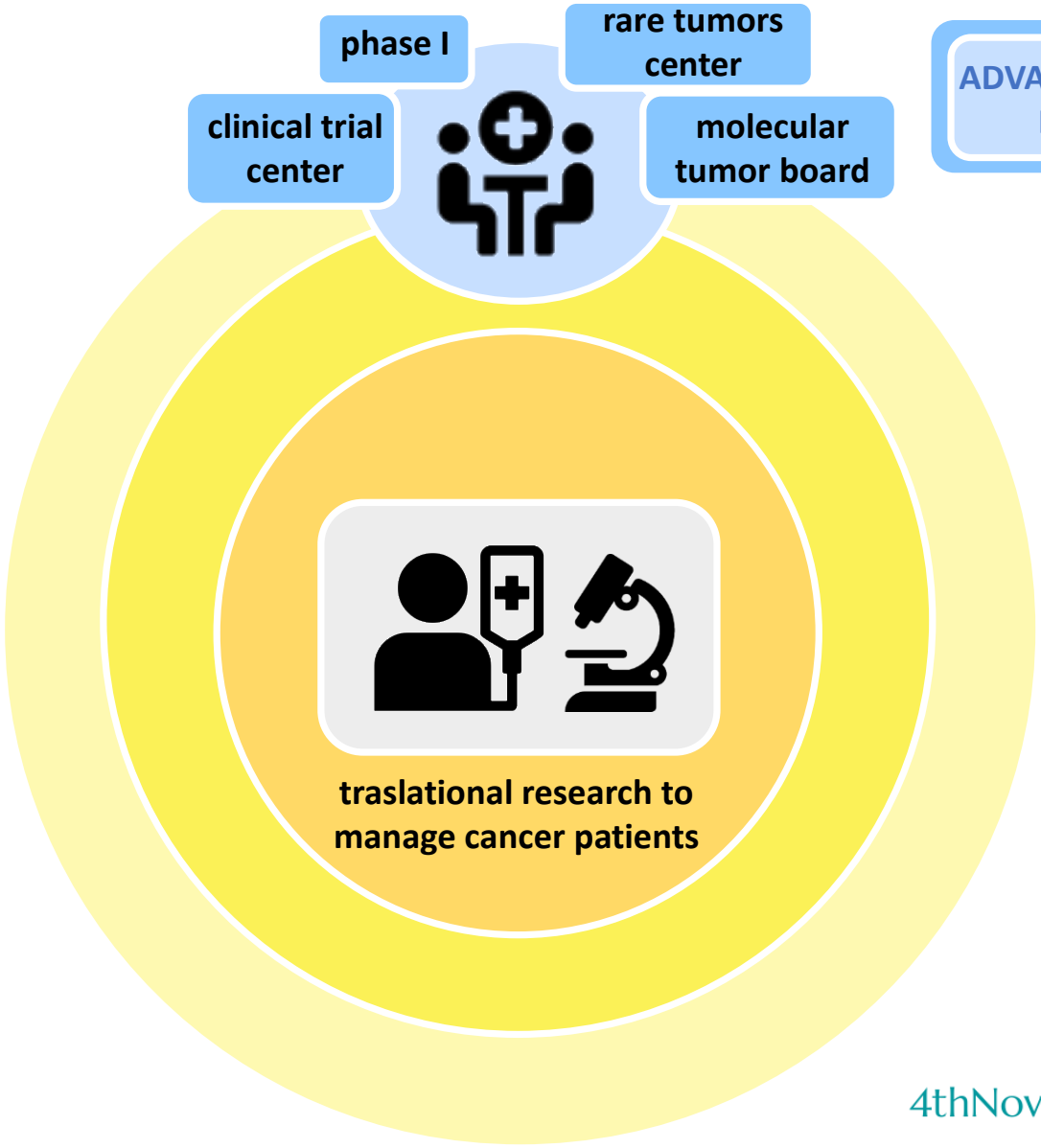
3. PRECISION MEDICINE



4. ADVANCED CLINICAL RESEARCH



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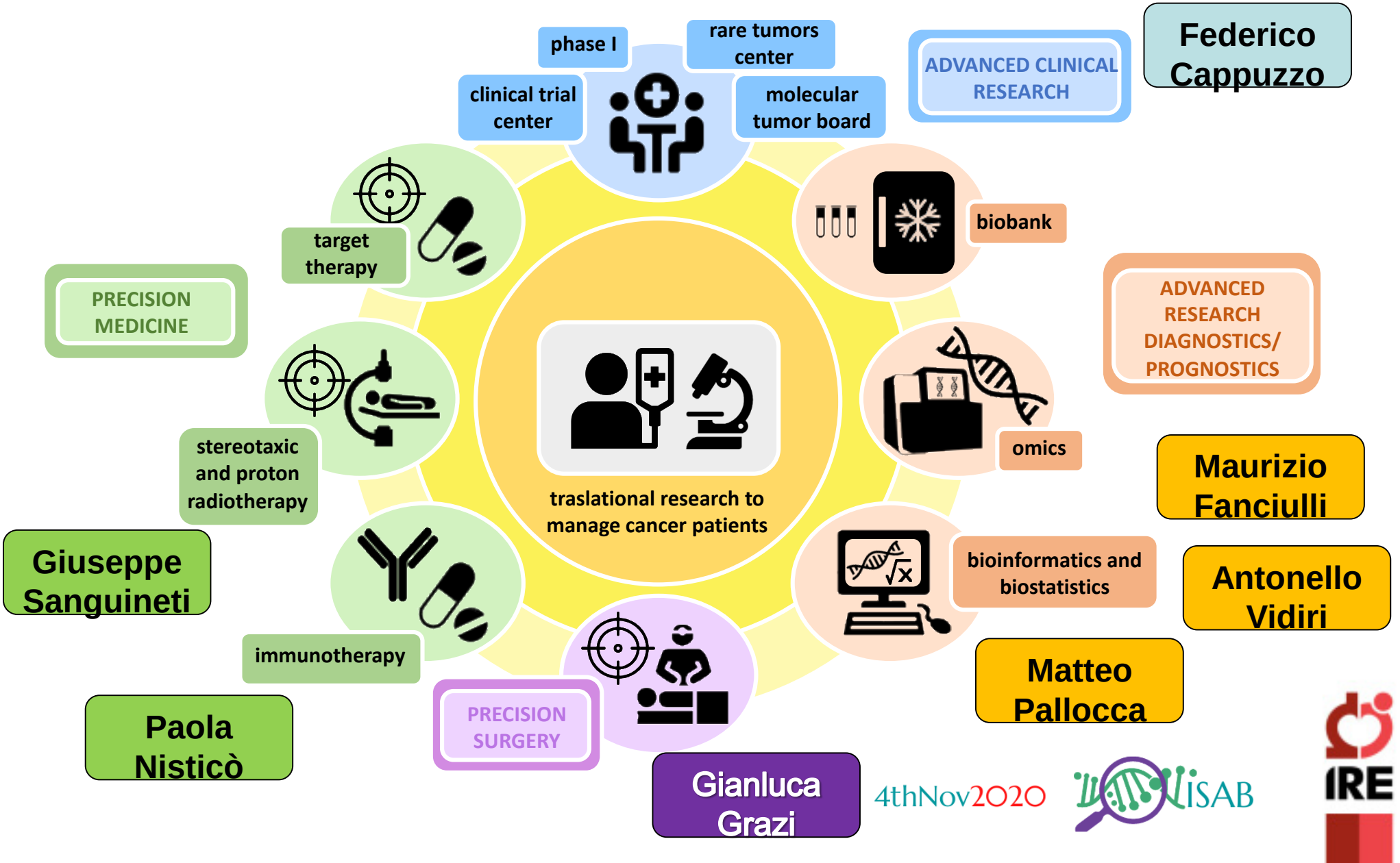
IRE Research Strategic Plan 2020-2022

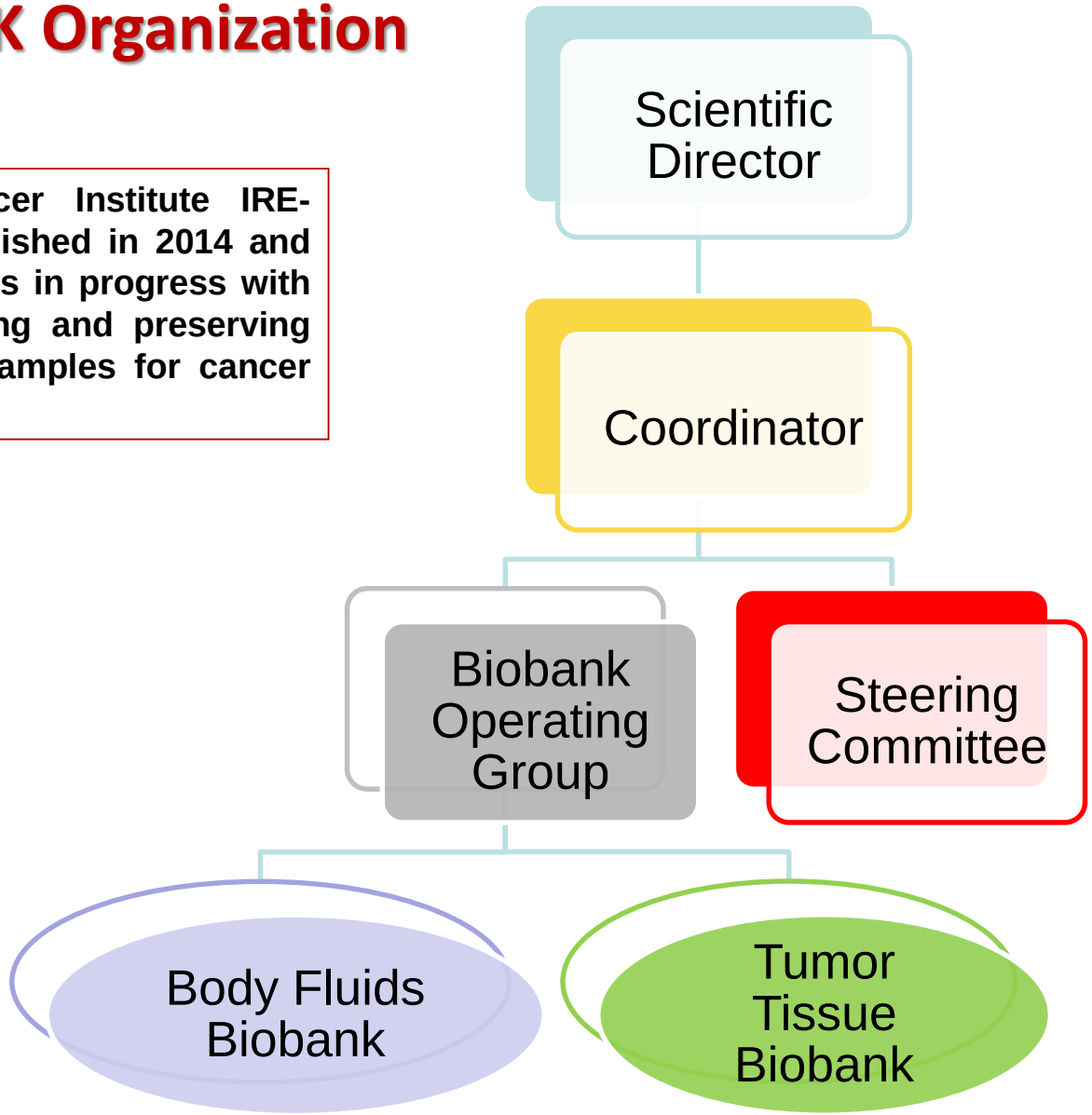


The rest of the presentation will focus on two assets

- Tumor Biobank
- Molecular Tumor Board

IRE-BIOBANK Organization

The National Cancer Institute IRE-Biobank was established in 2014 and its implementation is in progress with the aim of collecting and preserving human biological samples for cancer research purposes



Laura Conti and Edoardo Pescarmona

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Cooperation partners: supported studies

IRE

BBMRI.it
Biobanking and BioMolecular Resources Research Infrastructure of Italy

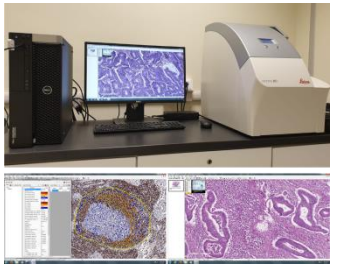
ADOPT BBMRI-ERIC®
gateway for health

Partner of BBMRI

(2017/2018)

- The CRC-Cohort developed within the ADOPT project (this project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement.

- Participation in the Digital Pathology Competition based on the Adopt BBMRI-ERIC Colorectal Cancer Cohort



EORTC
European Organisation for Research and Treatment of Cancer
The future of cancer therapy

Partner of EORTC

(2018/2019)

SPECTA
Screening Patients for Efficient Clinical Trial Access

- EORTC research project 1843 Molecular characterization of rare cancers – Arcagen (EORTC-EURACAN)

ALLEANZA CONTRO IL CANCRO

ACC –Working Group Department of Pathology and Biobank

BBIRE is involved in 40 internal projects and in the Molecular Tumour Board

Simona Di Martino on behalf of theTumour Biobank

Special Projects Biobanking

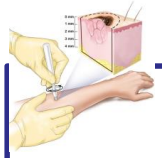
- Melanoma 4P
- Glioma Project

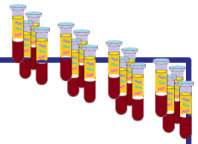
MELANOMA 4P

(Predictive, Personalized, Precision,Partecipated)
-In collaboration with Istituto San Gallicano-

Part 1: patients and samples (two cohorts)

Recruitment





Collection

Biobanking

Part 2: Three projects

New metrics of response to MAPK inhibitors (BRAFi/MEKi)

New metrics of response to checkpoint inhibitors

Radiomics

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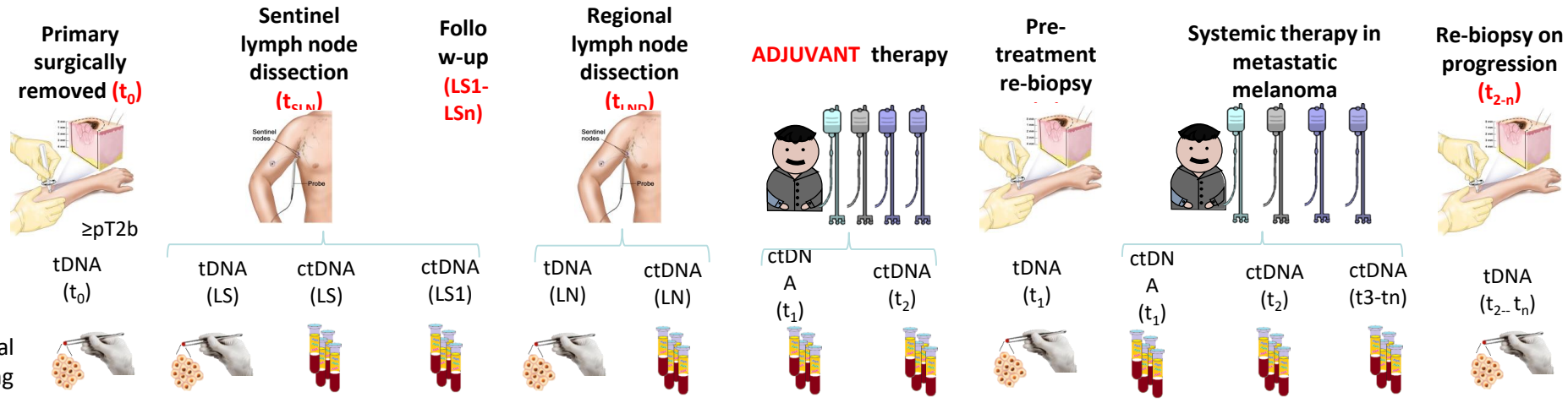
Fabio Valenti on behalf of the Melanoma Translational Group

Clinical sample collection in Melanoma 4P



Cohort 1
98 enrolled patients

Follow-up

87

Therapy

11

Cohort 2
35 enrolled patients

35

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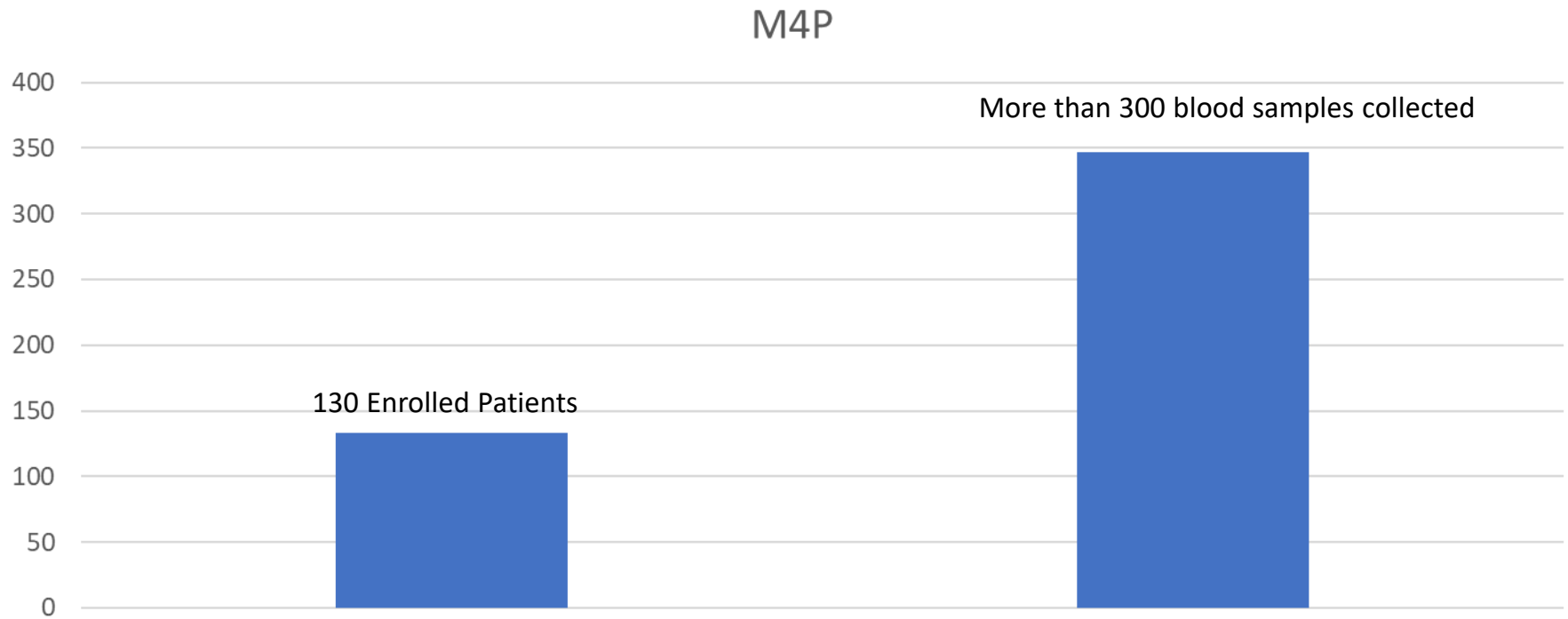
Fabio Valenti on behalf of the Melanoma Translational Group

M4P Biobanking: October 2020



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Fabio Valenti on behalf of the Melanoma Translational Group

GLIOMA Project

Multicenter prospective observational study

CENTRO PROPONENTE:
IFO-IRE Istituto Nazionale Tumori Regina Elena
Via Elio Chianesi, 53 – 00144 ROMA

PRINCIPAL INVESTIGATOR/COORDINATORE:
Dr.ssa Veronica Villani - UOSD Neuroncologia IRE
tel. 06-5266.6975
mail: veronica.villani@ifo.gov.it

STRUTTURE DI RIFERIMENTO e PARTECIPANTI IRE:
Anatomia Patologica
M. Carosi, E. Pescarmona, B. Casini, S. Di Martino, V. La Quintana
Fisica Medica e Sistemi Esperti
Simona Marzi
Neuroncologia
M. Maschio, A. Pace, T. Koudriavtseva,
Neurochirurgia
F. Cattani, F. Crispo, PA Oppido, L. Raus, S. Telera,
Oncologia medica 1
A. Fabi
Patologia Clinica
L. Conti, C. Mandoj, I. Cordone
Radiologia
F. Piludu, A. Vidiri
Radioterapia
A. Farneti, L. Marucci, G. Sanguineti

MAIN OBJECTIVES:

- Radiomics: demonstrate if there is a correlation between non-morphological data on brain MRI obtained with diffusion and perfusion techniques with molecular data
- Implementation of a new model for molecular diagnostics

NGS_Focus Analysis
RNA – seq Analysis:
- Differential Expression Analysis
- Immune Deconvolution
- Survival Analysis
- Others

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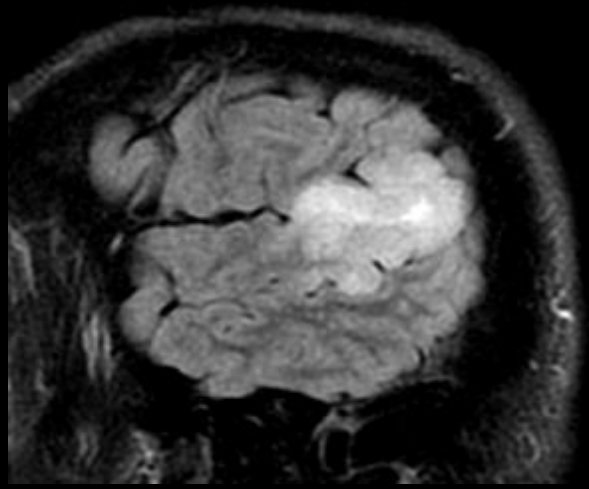
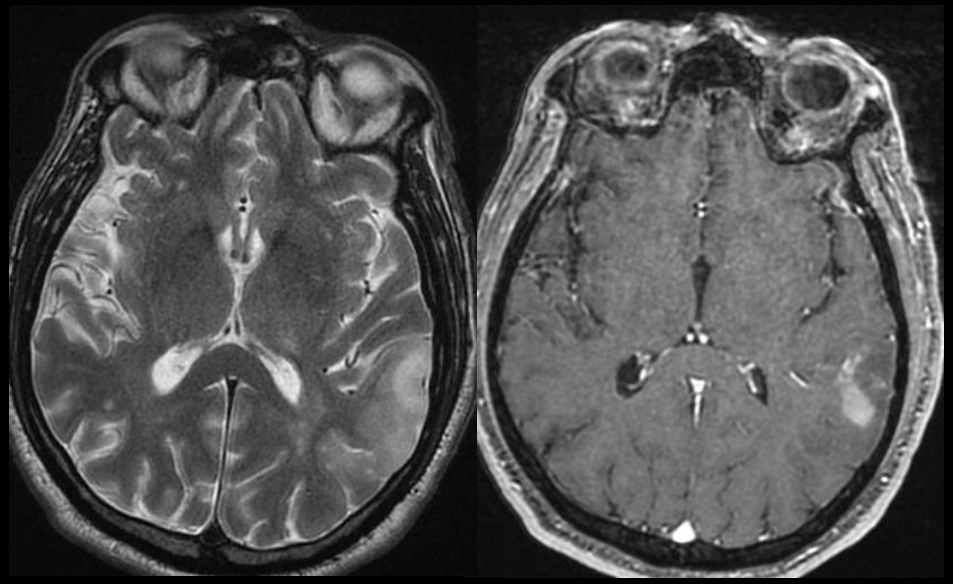
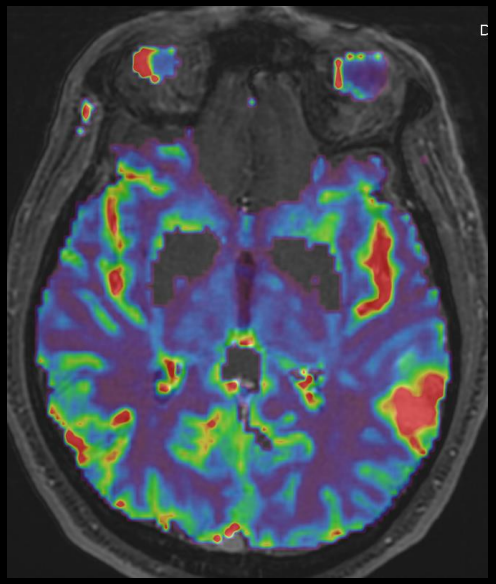
Veronica Villani on behalf of the Brain Tumors Translational Group

Inclusion criteria: Patient with Glioma at diagnosis or recurrence



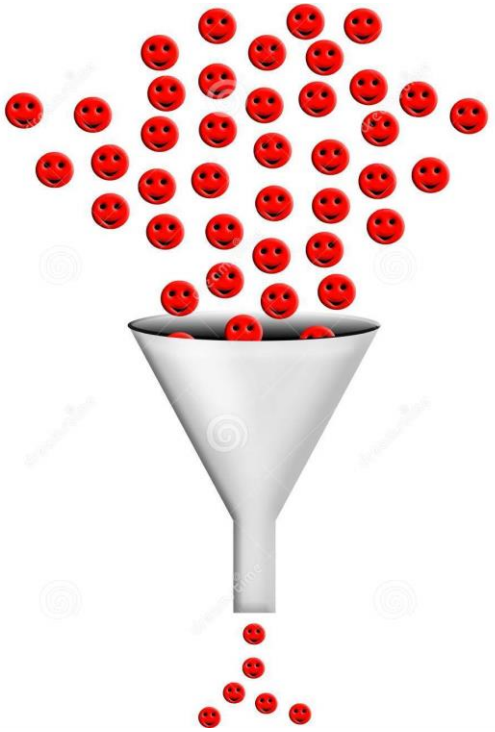
MRI before surgery: morphological and non morphological imaging





Veronica Villani on behalf of the Brain Tumors Translational Group

Evaluated 200 patients with glioma in 9 months



Screening failures:

- MRI at enrollmente does not meet inclusion criteria
- Tumour tissue not available or scarce

Enrolled 35 patients

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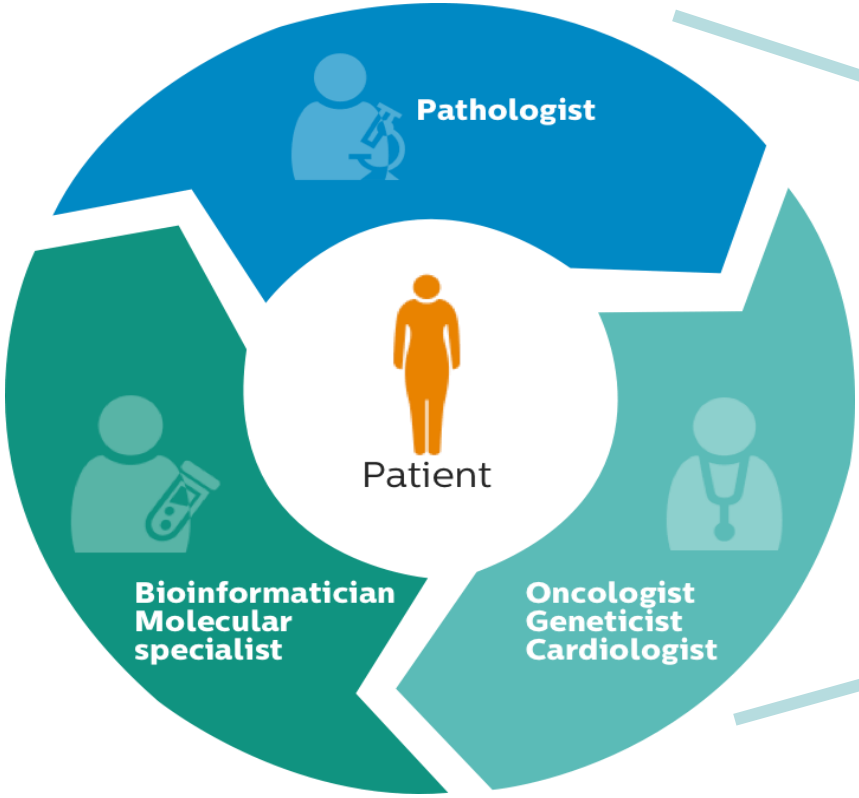
Veronica Villani on behalf of the Brain Tumors Translational Group

The Molecular Tumor Board for cancer patients: interdisciplinary group with diversified expertise



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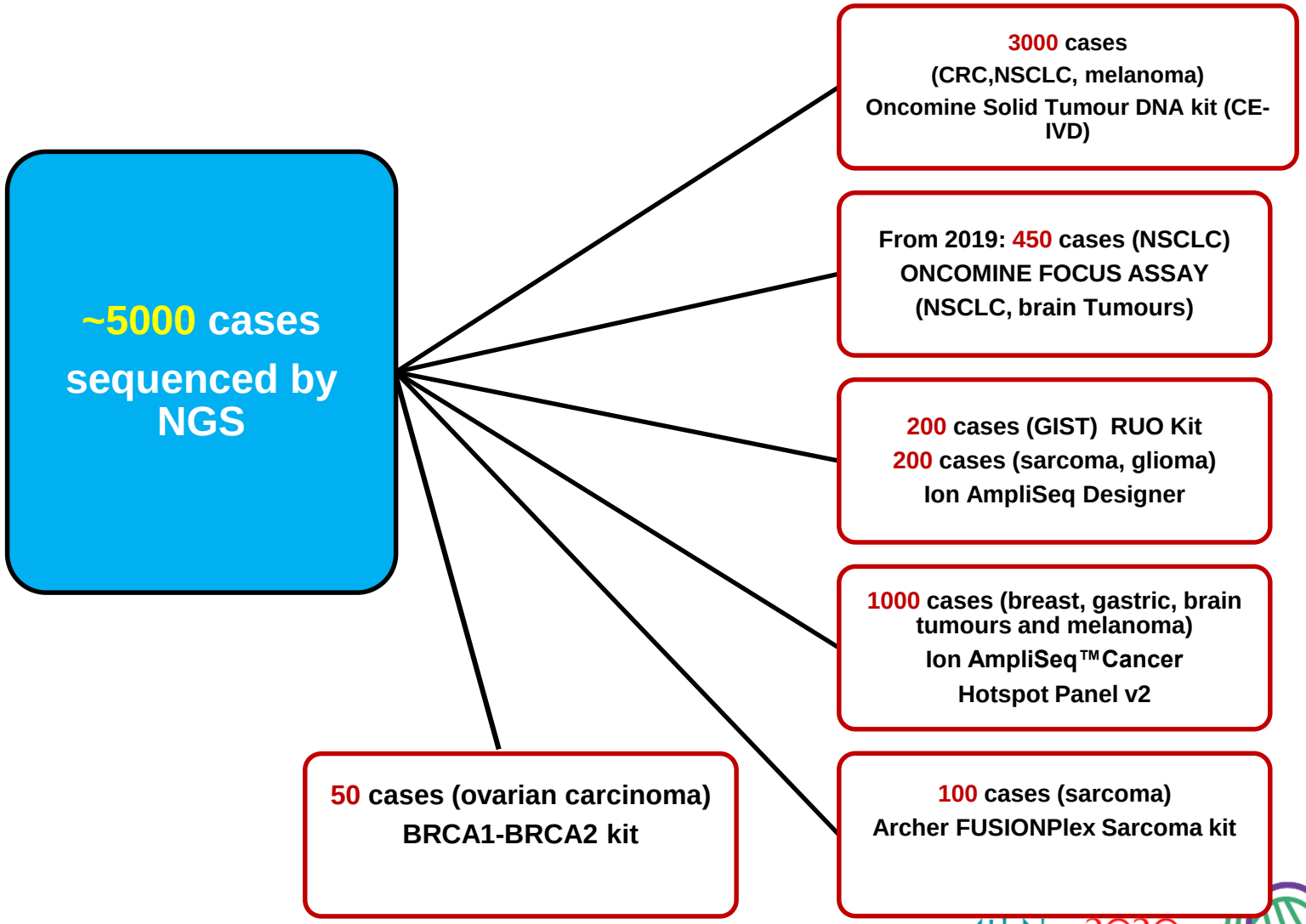
Pathology Unit: Molecular diagnostics



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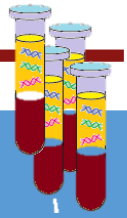
Simonetta Buglioni on behalf of the Pathology Unit

LB for ctDNA: throughput 2016 - 2020



tumor	technique	patients		samples		notes
		# enrolled	# tested	# collected	# tested NGS & dPCR	
BrCa	pCanc + dPCR	36	28	411	398	GIM21; at least 1/4th dPCR & NGS
Colorectal	pCanc + dPCR	139	52	158	101	At surgery and post-surgery FU
Sarcoma	dPCR + Archer*	25	7	71	28*	longit
Melanoma	dPCR + ?	124	12	303	*(12)*	longit
Thyroid (MTC)	dPCR (RETmut)	16	16	16	16	Adv refract
MTB	pCanc + dPCR	22	22	28	63	50 dPCR and 13 NGS
H&N	dPCR	10	10	10	10	MRD in LN and blood
misc	nanophotonics	-	-	-	-	Proteogenomics
TOT		**372**	**147**	**997**	**628**	

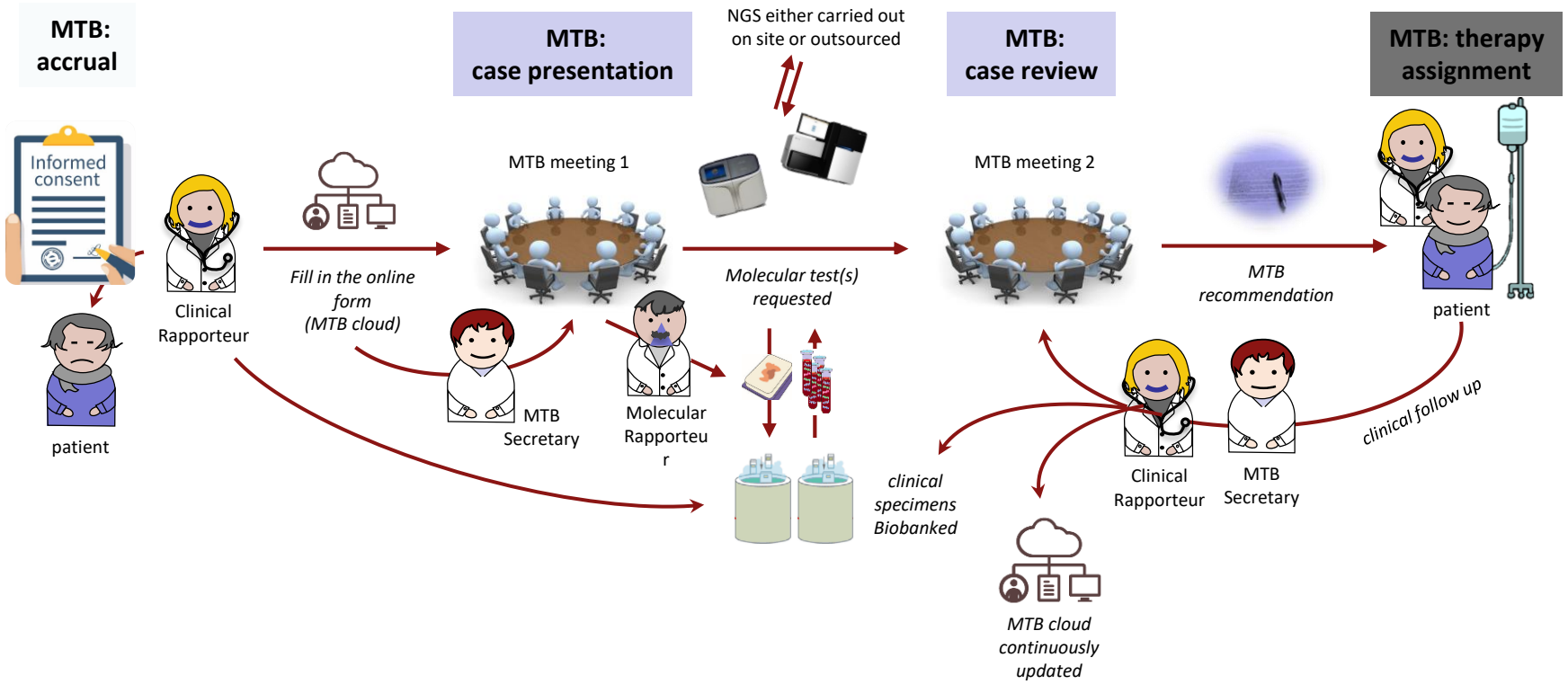
ACC Lung not included

Patrizio Giacomini

MTB Roles and responsibilities

1) Considers patients progressing after standard lines of therapy
2) Prescribes NGS to be executed
3) Interprets results
4) When actionable alterations are found suggests a molecularly matched therapy outside standards
es clinical trial or off label on the basis of well defined parameters and robust information in the literature
5) Monitoring of results (follow up)

The IRE MTB workflow



Matteo Allegretti and Patrizio Giacomini

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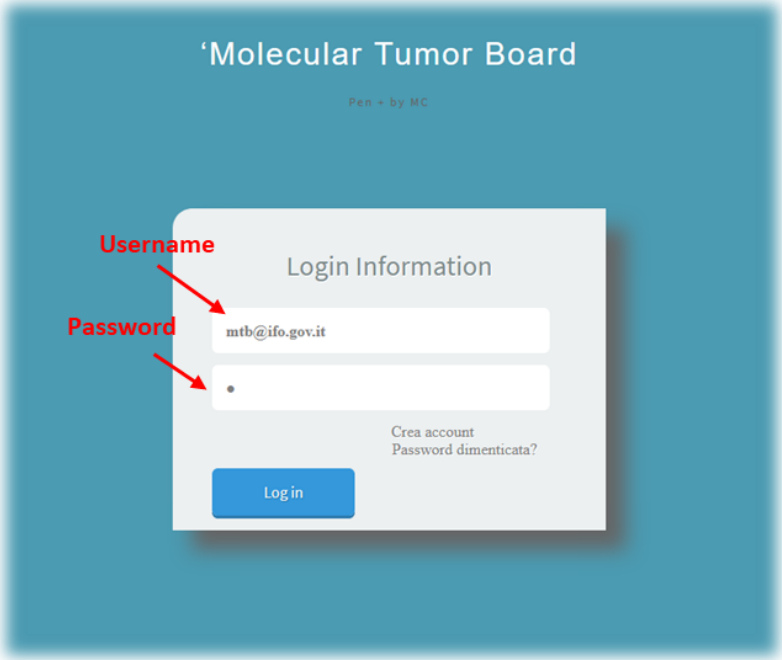
ISTITUTI DI RICOVERO E CURA A CARATTERE SCIENTIFICO

DELIBERAZIONE N. **468** DEL **19/06/2018**
OGGETTO: ISTITUZIONE DEL MOLECULAR TUMOR BOARD DELL'ISTITUTO REGINA ELENA

The MTB cloud platform: login



IP address

172.19.30.105:82

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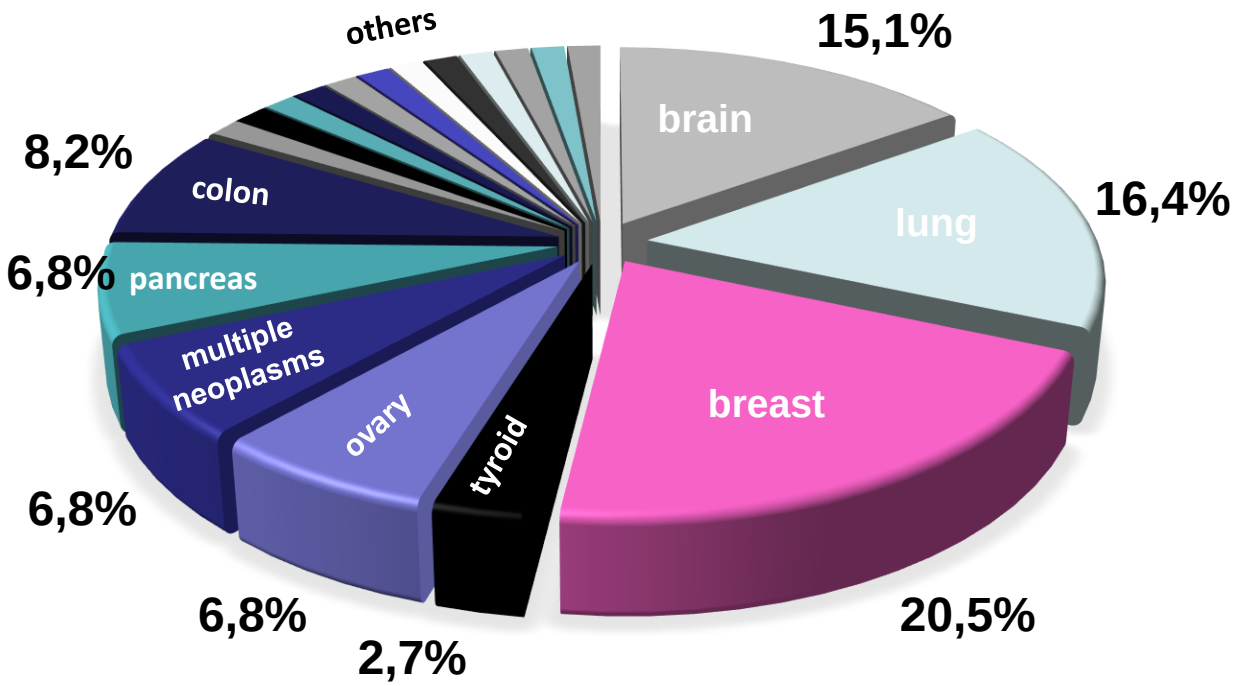
Sep 2018 - today: cases and recommendations

73 pts have been discussed



37/75 **(49.3%)** pts showed ≥1 actionable mutation

25/37 **(67.6%)** pts have received therapeutic hints

14/25 **(56.0%)** started molecularly matched new therapy

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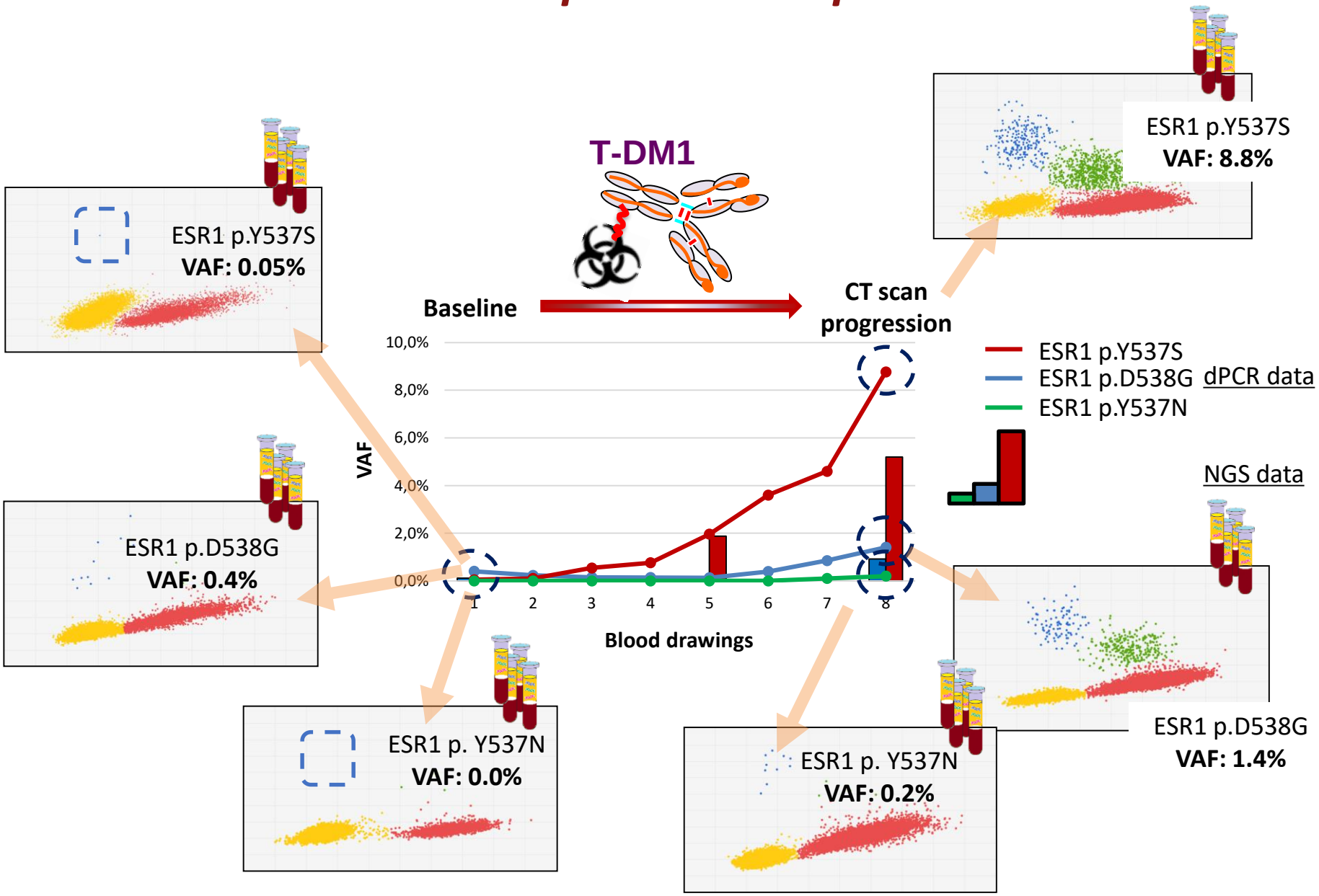
TWO CASE REPORTS

Clinical Protocol LiqBreasTrack pt#17



Alessandra Fabi and Patrizio Giacomini

LiqBreastTrack pt#17

OncoKB Levels of Evidence Actionable Genes Cancer Genes Data Access About Team News Terms — Memorial Sloan Kettering Cancer Center

1 **FDA-recognized** biomarker predictive of response to an **FDA-approved** drug **in this indication**

2A **Standard care** biomarker predictive of response to an **FDA-approved** drug **in this indication***

2B **Standard care** biomarker predictive of response to an **FDA-approved** drug **in another indication**, but not standard care in this indication

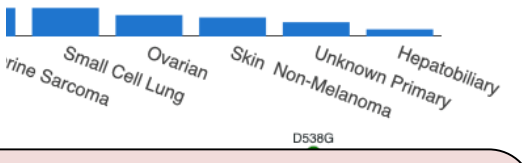
3A **Compelling clinical evidence** supports the biomarker as being predictive of response to a drug **in this indication**

3B **Compelling clinical evidence** supports the biomarker as being predictive of response to a drug **in another indication**

Standard Therapeutic Implications
*Includes biomarkers that are recommended as standard care by the NCCN or other expert panels but not necessarily FDA-recognized for a particular indication

Investigati… Therapeu… Implicatio… possibly dire… to clinical tri…

requency 8.3% advanced BrCa

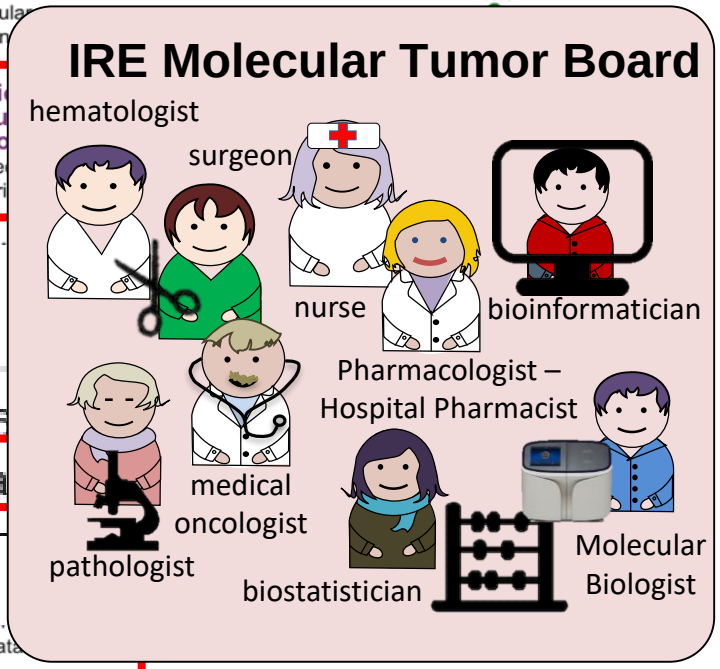


D538G

▲ Alteration	Cancer Type	Drug(s)
Oncogenic Mutations	Breast Cancer	AZD9496 Fulvestra…

clinical data

result in a constitutively active receptor, which is shown to confer acquired resistance to estrogen deprivation therapies.



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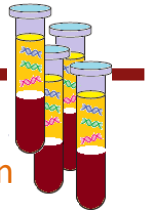
www.oncokb.org

Pt#17: response to NON-SOC therapy w/Fulvestrant

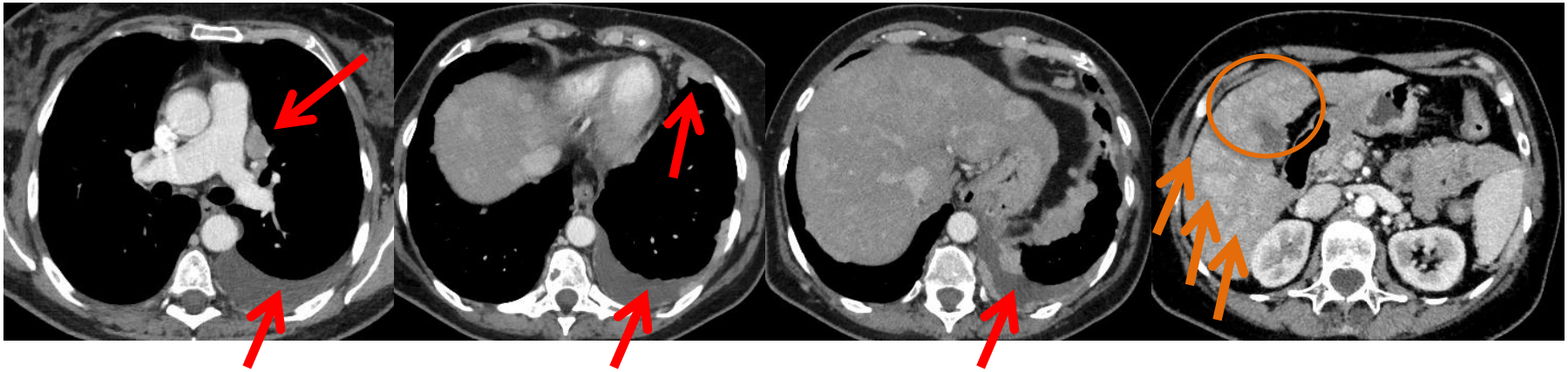


June 2019

costophrenic parietal mass

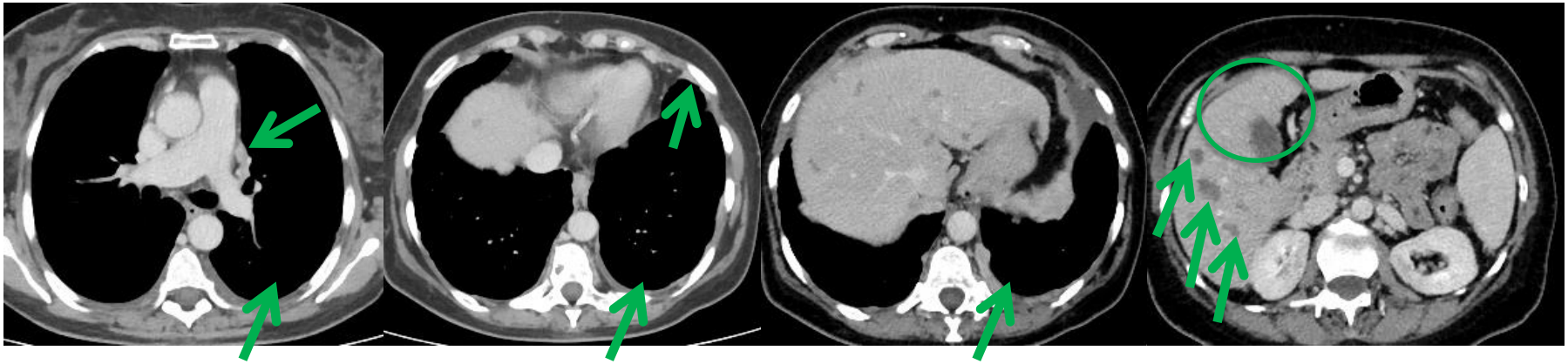
lung: major hilar lesion(s)

liver: diffuse nodular subversion



pleural effusion

October 2019



Normalization of elevated liver enzymes

Alessandra Fabi and Patrizio Giacomini

Case 2

- **April 2018**: **Diagnosis of high grade fibroblastic osteosarcoma of the right maxilla**
- July-August 2018: **Neoadjuvant chemotherapy** with cisplatin, adriamicin, and high dose methotrexate (MAP regimen) for two courses.
- **September 2018**: **Sub-total right maxillectomy with reconstruction using fibula free flap** with **post-chemotherapy necrosis of about 90%** (***good responder***).
- October 2018: Start of **adjuvant chemotherapy** with the same citotoxic drugs.

- **March 2019: Evidence of local inoperable relapse** during adjuvant chemotherapy and crossover to ifosfamide.
- **August 2019: Proton-therapy on maxillary relapse at CNAO in Pavia**

- **November 2019: Disease progression at lung and bone levels**
- November 2019-Juanuary 2020: **second-line chemotherapy for advanced disease with continous infusion high-dose ifosfamide with lung progression.**
- February-July 2020: **third-line chemotherapy with taxotere and gemcitabile** with stable disease as best response and subsequent maxillary and lung progression.
- July-September 2020: **fourth-line of treatment with pazopanib** with only a short-lived improvement of maxillary lesion.

- **September 2020: Massive lung and maxillary disease progression with pain and difficulty in swallowing.**
- September 2020: **MTB assessment recommendation for FoundationOne Heme test . Result: HGF amplification.**
- **September 18, 2020: Start of treatment with off-label Cabozantinib.**

Case 2

18.09.2020

Start of cabozantinib 60 mg/die

27.10.2020

Dramatic reduction in size of right maxillary lesion after one month of treatment with pain relief and improved chewing.

Good tolerability apart from the increase of blood pressure successfully treated with a temporary one-week discontinuation of the drug and onset of beta-blockers and angiotensin antagonists.

The patient is going on with cabozantinib.

4thNov2020

Virginia Ferraresi

Foster the creation of a network of MTBs in Italy

- Collaboration with La Sapienza University of Rome (Prof. P. Marchetti)
- Written guidelines for the institution and the operation of Molecular Tumor Boards of ACC institutes. Ciliberto et al.
- Approved by ACC Board: September 2020. In press

ALLEANZA CONTRO IL CANCRO

4thNov2020

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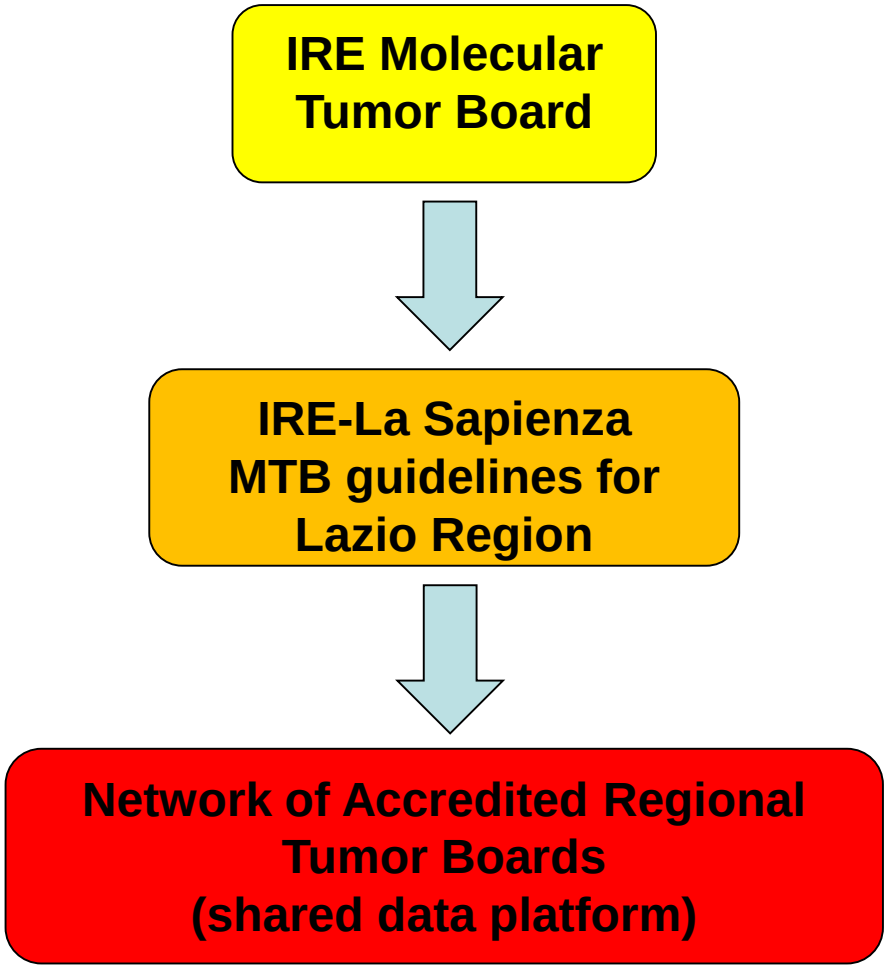
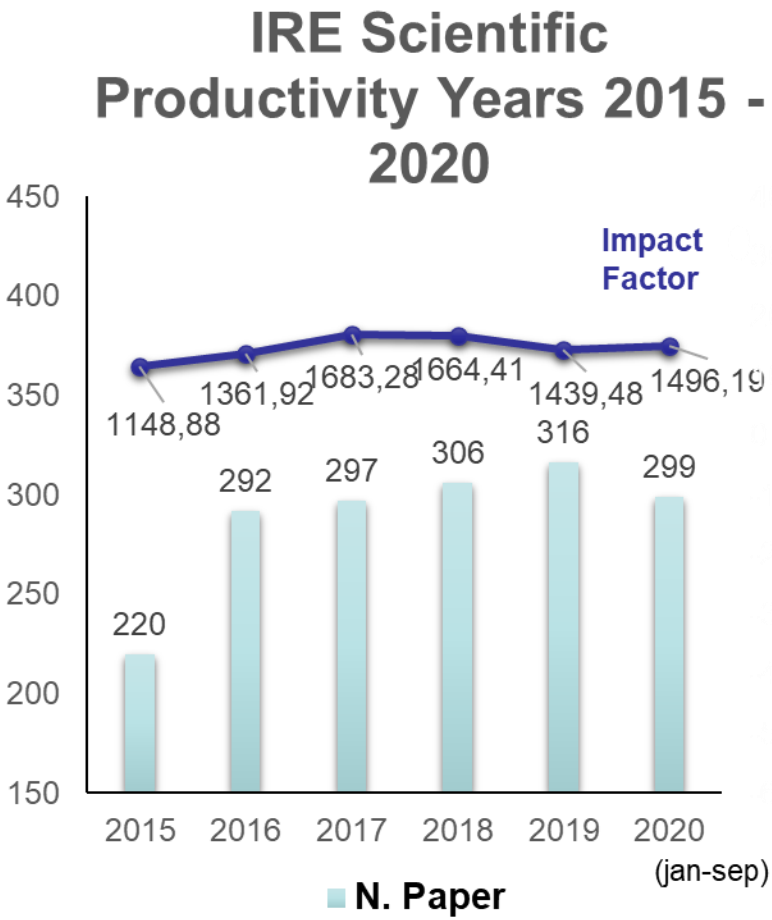
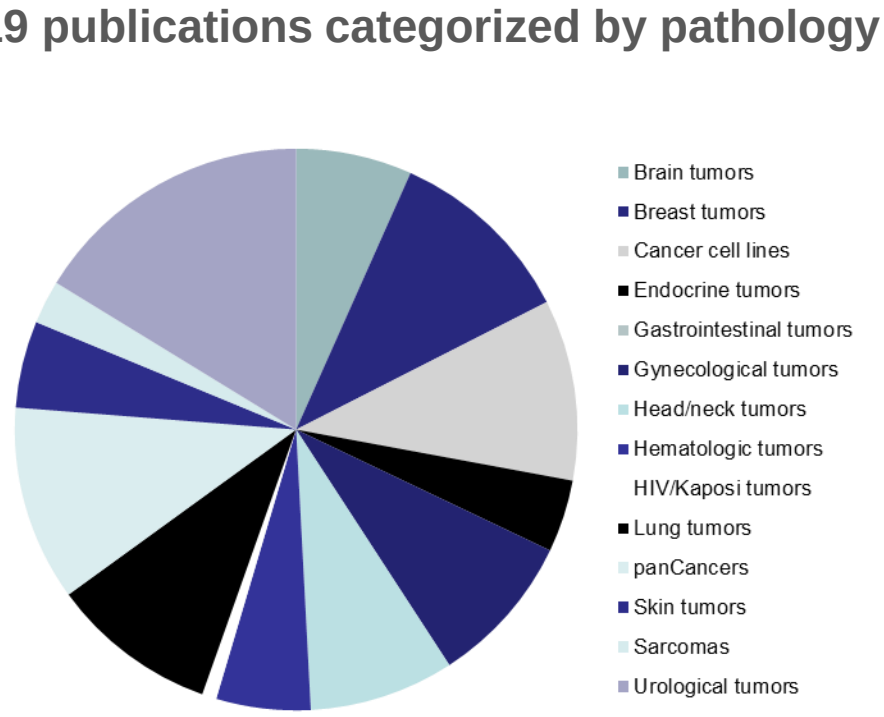
Future Developments



RECENT DATA ON PERFORMANCE

4thNov2020





4thNov2020

Giulia Piaggio in collaboration with the Library Staff

Selected 2019-2020 best IRE papers

In yellow boxes IRE researchers

Open access — Short report

Journal for ImmunoTherapy of Cancer

Efficacy of immunotherapy in lung cancer with co-occurring mutations in NOTCH and homologous repair genes

Marco Mazzotta,[1] Marco Filetti,[2] Mario Occhipinti,[3] Daniele Marinelli,[2] Stefano Scalera,[4] Irene Terrenato,[5] Francesca Sperati,[5] Matteo Pallocca,[4] Francesco Rizzo,[2] Alain Gelibter,[3] Andrea Botticelli,[3] Giorgia Scafetta,[7] Arianna Di Napoli,[7] Eriseld Krasniqi,[1] Laura Pizzuti,[1] Maddalena Barba,[1] Silvia Carpano,[1] Patrizia Vici,[1] Maurizio Fanciulli,[4] Francesca De Nicola,[4] Ludovica Ciuffreda,[4] Frauke Goeman,[4] Ruggero De Maria,[9,10] Andrea Vecchione,[7] Raffaele Giusti,[11] Gennaro Ciliberto,[12] Paolo Marchetti,[2,3] Marcello Maugeri-Saccà

JOURNAL of the NATIONAL CANCER INSTITUTE (JNCI)

ACCEPTED MANUSCRIPT

p16/ki67 and E6/E7 mRNA accuracy and prognostic value in triaging HPV DNA–positive women

Paolo Giorgi Rossi, PhD, Francesca Carozzi, MSc, Guglielmo Ronco, MD, Elena Allia, MSc, Simonetta Bisanzi, MSc, Anna Gillio-Tos, PhD, Laura De Marco, MSc, Raffaella Rizzolo, BSc, Daniela Gustinucci, MSc, Annarosa Del Mistro, MD, Helena Frayle, MSc, Massimo Confortini, MSc, Anna Iossa, MD, Elena Cesarini, MSc, Simonetta Bulletti, MSc, Basilio Passamonti, MSc, Silvia Gori, MSc, Laura Toniolo, BSc, Alessandra Barca, MSc, Laura Bonvicini, BSc, Pamela Mancuso, BSc, Francesco Venturelli, MD, Maria Benevolo, MSc, the NTCC2 Working Group

JNCI: Journal of the National Cancer Institute, djaa105,

Open access — Original research

Journal for ImmunoTherapy of Cancer

Melanoma-specific bcl-2 promotes a protumoral M2-like phenotype by tumor-associated macrophages

Marta Di Martile,[1] Valentina Farini,[1] Francesca Maria Consonni,[2] Daniela Trisciuoglio,[1,3] Marianna Desideri,[1] Elisabetta Valentini,[1] Simona D'Aguanno,[1] Maria Grazia Tupone,[1,4] Simonetta Buglioni,[5] Cristiana Ercolani,[5] Enzo Gallo,[5] Bruno Amadio,[6] Irene Terrenato,[7] Maria Laura Foddai,[8] Antonio Sica,[2] Donatella Del Bufalo

CLINICAL CANCER RESEARCH

Translational Cancer Mechanisms and Therapy

PI3K Inhibitors Curtail MYC-Dependent Mutant p53 Gain-of-Function in Head and Neck Squamous Cell Carcinoma

DOI: 10.1158/1078-0432.CCR-19-2485 Published June 2020

ESMO — ANNALS OF ONCOLOGY

ORIGINAL ARTICLE

KEAP1-driven co-mutations in lung adenocarcinoma unresponsive to immunotherapy despite high tumor mutational burden

D. Marinelli, M. Mazzotta, S. Scalera, I. Terrenato, F. Sperati, L. D'Ambrosio, M. Pallocca, G. Corleone, E. Krasniqi, L. Pizzuti, M. Barba, S. Carpano, P. Vici, M. Filetti, R. Giusti, A. Vecchione, M. Occhipinti, A. Gelibter, A. Botticelli, F. De Nicola, L. Ciuffreda, F. Goeman, E. Gallo, P. Visca, E. Pescarmona, M. Fanciulli, R. De Maria, P. Marchetti, G. Ciliberto & M. Maugeri-Saccà

Journal of Clinical Oncology — An American Society of Clinical Oncology Journal

ORIGINAL REPORTS | Gastrointestinal Cancer

Multicenter International Society for Immunotherapy of Cancer Study of the Consensus Immunoscore for the Prediction of Survival and Response to Chemotherapy in Stage III Colon Cancer

Journal of Clinical Oncology — An American Society of Clinical Oncology Journal

ORIGINAL REPORTS | Sarcoma

Neoadjuvant Chemotherapy in High-Risk Soft Tissue Sarcomas: Final Results of a Randomized Trial From Italian (ISG), Spanish (GEIS), French (FSG), and Polish (PSG) Sarcoma Groups

CANCER RESEARCH | METABOLISM AND CHEMICAL BIOLOGY

Pyrvinium Pamoate Induces Death of Triple-Negative Breast Cancer Stem–Like Cells and Reduces Metastases through Effects on Lipid Anabolism

Rosanna Dattilo[1], Carla Mottini[1], Emanuela Camera[2], Alessia Lamolinara[3], Noam Auslander[4], Ginevra Doglioni[5,6], Michela Muscolini[7], Wei Tang[8], Melanie Planque[5,6], Cristiana Ercolani[9], Simonetta Buglioni[9], Isabella Manni[9], Daniela Trisciuoglio[10], Alessandra Boe[11], Sveva Grande[12,13], Anna Maria Luciani[12,13], Manuela Iezzi[3], Gennaro Ciliberto[14], Stefan Ambs[8], Ruggero De Maria[15,16], Sarah-Maria Fendt[5,6], Eytan Ruppin[4], and Luca Cardone[17]

Published online 18 May 2020 — Nucleic Acids Research, 2020, Vol. 48, No. 11 5891–5906 doi: 10.1093/nar/gkaa344

Che-1/AATF binds to RNA polymerase I machinery and sustains ribosomal RNA gene transcription

Cristina Sorino[1,2,†], Valeria Catena[1,†], Tiziana Bruno[1], Francesca De Nicola[1], Stefano Scalera[1], Gianluca Bossi[3], Francesca Fabretti[4,5], Miguel Mano[6], Enrico De Smaele[7], Maurizio Fanciulli[1,*] and Simona Iezzi[1,*]

Journal of Thoracic Oncology — IASLC

ORIGINAL ARTICLE

Mutations in the KEAP1-NFE2L2 Pathway Define a Molecular Subset of Rapidly Progressing Lung Adenocarcinoma

Frauke Goeman, PhD, Francesca De Nicola, PhD, Stefano Scalera, MSc, Francesca Sperati, PhD, Enzo Gallo, MSc, Ludovica Ciuffreda, PhD, Matteo Pallocca, MSc, Laura Pizzuti, MD, Eriseld Krasniqi, MD, Giacomo Barchiesi, MD, Patrizia Vici, MD, Maddalena Barba, MD, PhD, Simonetta Buglioni, MD, Beatrice Casini, MSc, Paola Visca, MD, Edoardo Pescarmona, MD, Marco Mazzotta, MD, Ruggero De Maria, MD, PhD, Maurizio Fanciulli, PhD, Gennaro Ciliberto, MD, Marcello Maugeri-Saccà, MD, PhD

Seminars in Cancer Biology xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Seminars in Cancer Biology

journal homepage: www.elsevier.com/locate/semcancer

ELSEVIER

Computer-aided drug repurposing for cancer therapy: Approaches and opportunities to challenge anticancer targets

Carla Mottini[a,1], Francesco Napolitano[b,1], Zhongxiao Li[b], Xin Gao[b,*], Luca Cardone[a,*]

AAAS — Science

Cross-reactivity between tumor MHC class I–restricted antigens and an enterococcal bacteriophage

ESMO — ANNALS OF ONCOLOGY

SPECIAL ARTICLE

Cancer-related fatigue: ESMO Clinical Practice Guidelines for diagnosis and treatment

A. Fabi[1], R. Bhargava[2], S. Fatigoni[3], M. Guglielmo[4], M. Horneber[5], F. Roila[3], J. Weis[6], K. Jordan[7] & C. I. Ripamonti[4], on behalf of the ESMO Guidelines Committee

Krasniqi et al. Journal of Hematology & Oncology (2019) 12:111 https://doi.org/10.1186/s13045-019-0798-2

Journal of Hematology & Oncology

REVIEW — Open Access

Immunotherapy in HER2-positive breast cancer: state of the art and future perspectives

E. Krasniqi[1], G. Barchiesi[1], L. Pizzuti[1], M. Mazzotta[1], A. Venuti[1], M. Maugeri-Saccà[1], G. Sanguineti[1], G. Massimiani[1], D. Sergi[1], S. Carpano[1], P. Marchetti, S. Tomao, T. Gamucci, R. De Maria, F. Tomao, C. Natoli, N. Tinari, G. Ciliberto[12], M. Barba and P. Vici[1]

Published online 30 January 2019 — Nucleic Acids Research, 2019, Vol. 47, No. 7 3365–3382 doi: 10.1093/nar/gkz041

TRF2 positively regulates SULF2 expression increasing VEGF-A release and activity in tumor microenvironment

Pasquale Zizza[1,†], Roberto Dinami[1,†], Manuela Porru[2,†], Chiara Cingolani[1], Erica Salvati[1], Angela Rizzo[1], Carmen D'Angelo[1], Eleonora Petti[1], Carla Azzurra Amoreo[3], Marcella Mottolese[3], Isabella Sperduti[4], Angela Chambery[5], Rosita Russo[5], Paola Ostano[6], Giovanna Chiorino[6], Giovanni Blandino[1], Andrea Sacconi[1], Julien Cherfils-Vicini[7], Carlo Leonetti[2], Eric Gilson[7,8,*] and Annamaria Biroccio[1,*]

4thNov2020

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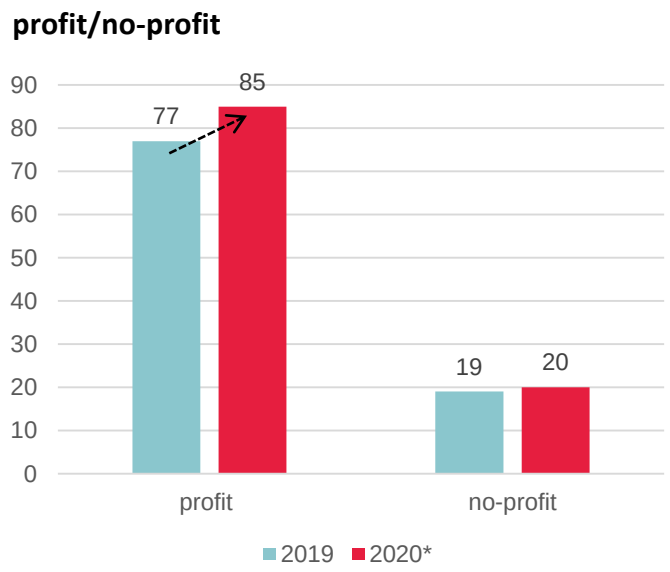
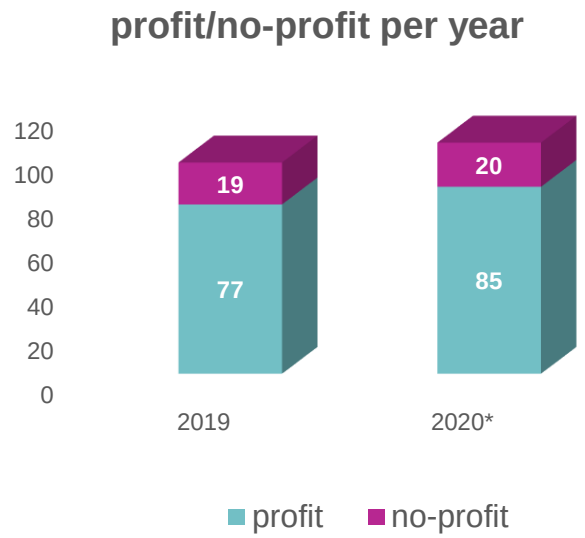
CLINICAL PROTOCOLS APPROVED BY ETHICAL COMMITTEE

January-October (years2019/2020)

profit/no-profit

ANNO	profit	no-profit	TOT
2019	77	19	96
2020*	85	20	105

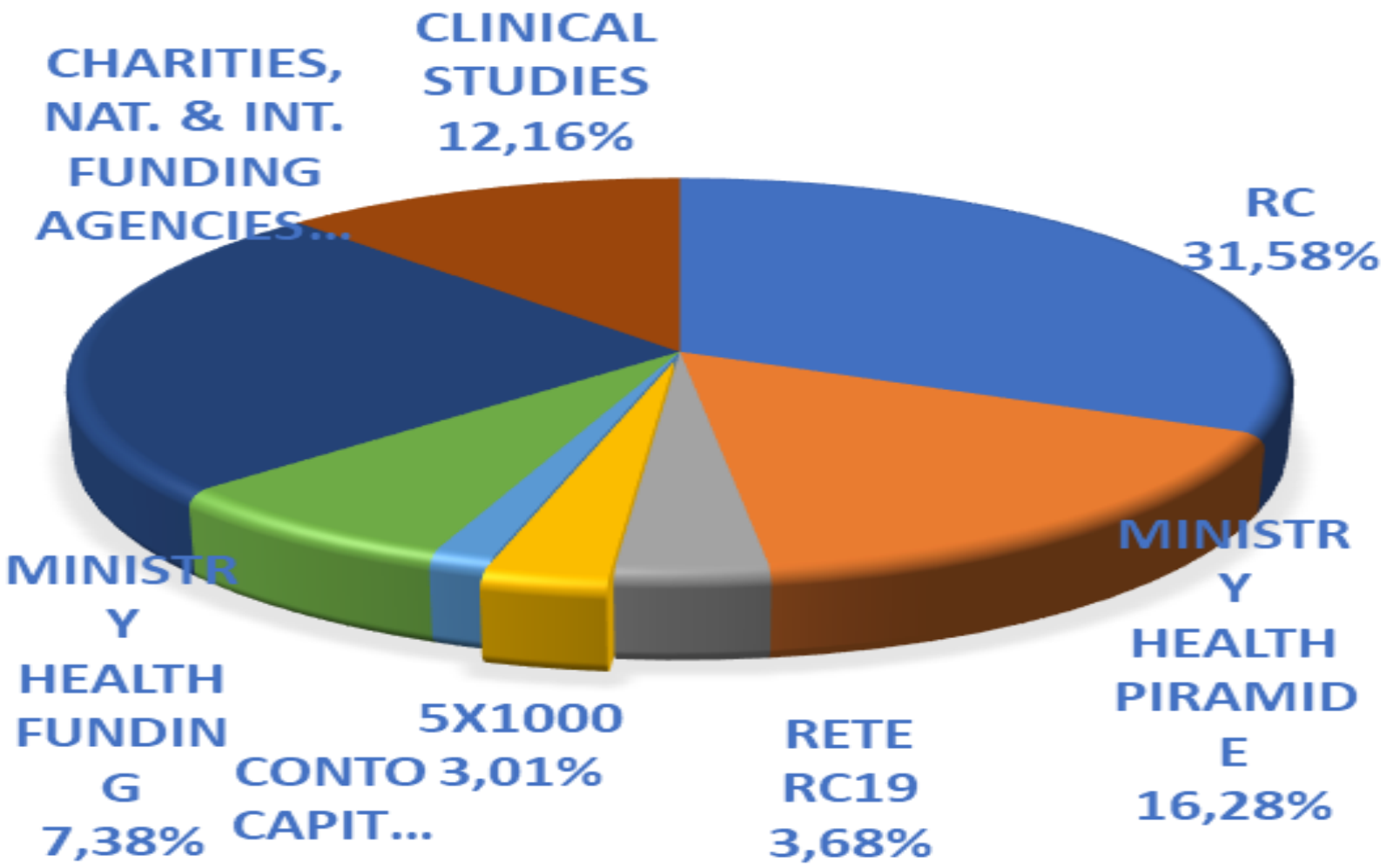




4thNov2020

Federica Falcioni

Total Research Funding Year 2019
Euro 11.853.835,00



Journal of Experimental & Clinical Cancer Research

JECCR is an **online open access peer-reviewed** journal that provides a high quality forum for all aspects of basic, clinical and translational studies in oncology.

Association Promotion Study International Tumor (APSIT) is the owner of JECCR

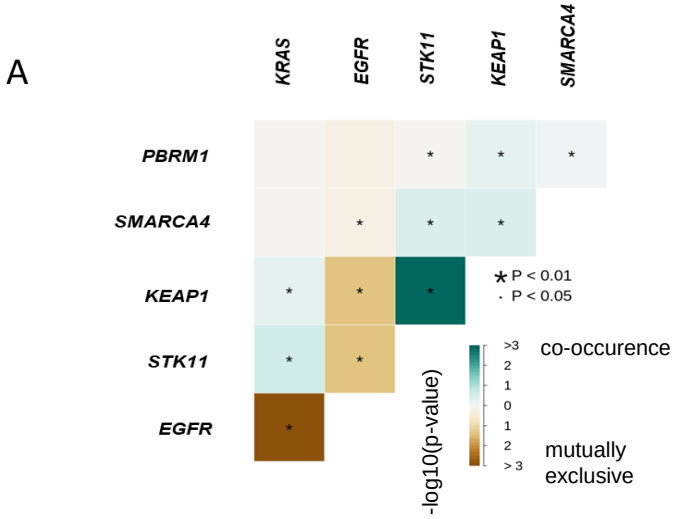
WEB SITE > https://jeccr.biomedcentral.com/

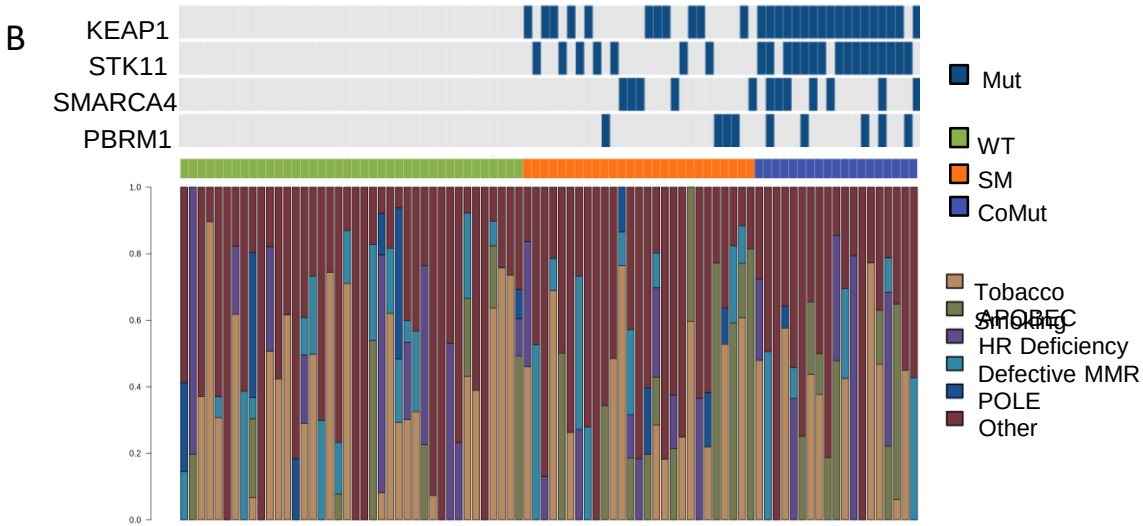
Next Goals

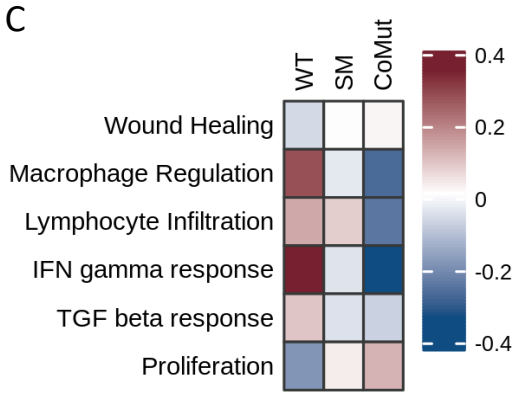
- Complete Institute's Digital Transition, Electronic medical Record and establish a Data Warehouse for Extraction of Real World Data
- Improve Performance on International Grant Applications
- Complete Construction of Animal Facility
- Expand lab Space
- Hiring new talents

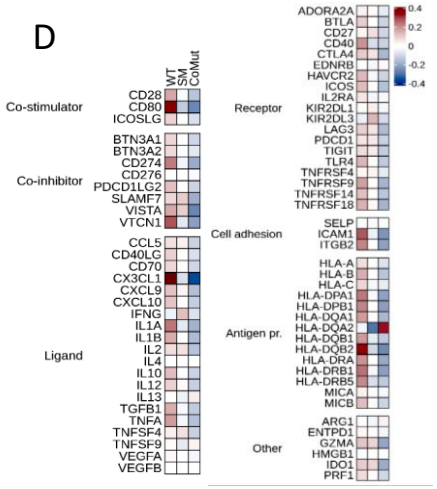
The Power of real world data extraction and analysis

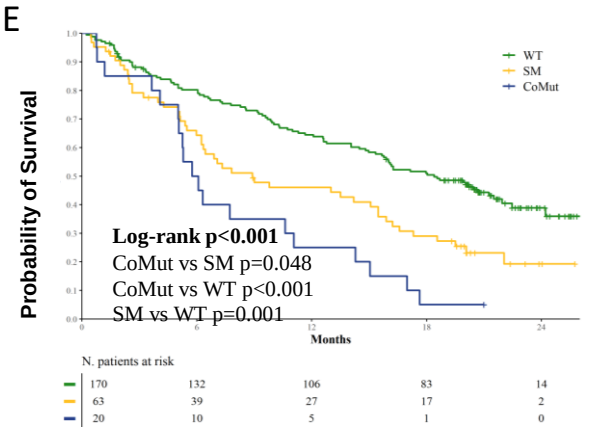
Integration of somatic mutations, mutational signatures, immunological features and survival outcomes in lung adenocarcinoma receiving immunotherapy











Marinelli D et al. Annals of Oncology 2020

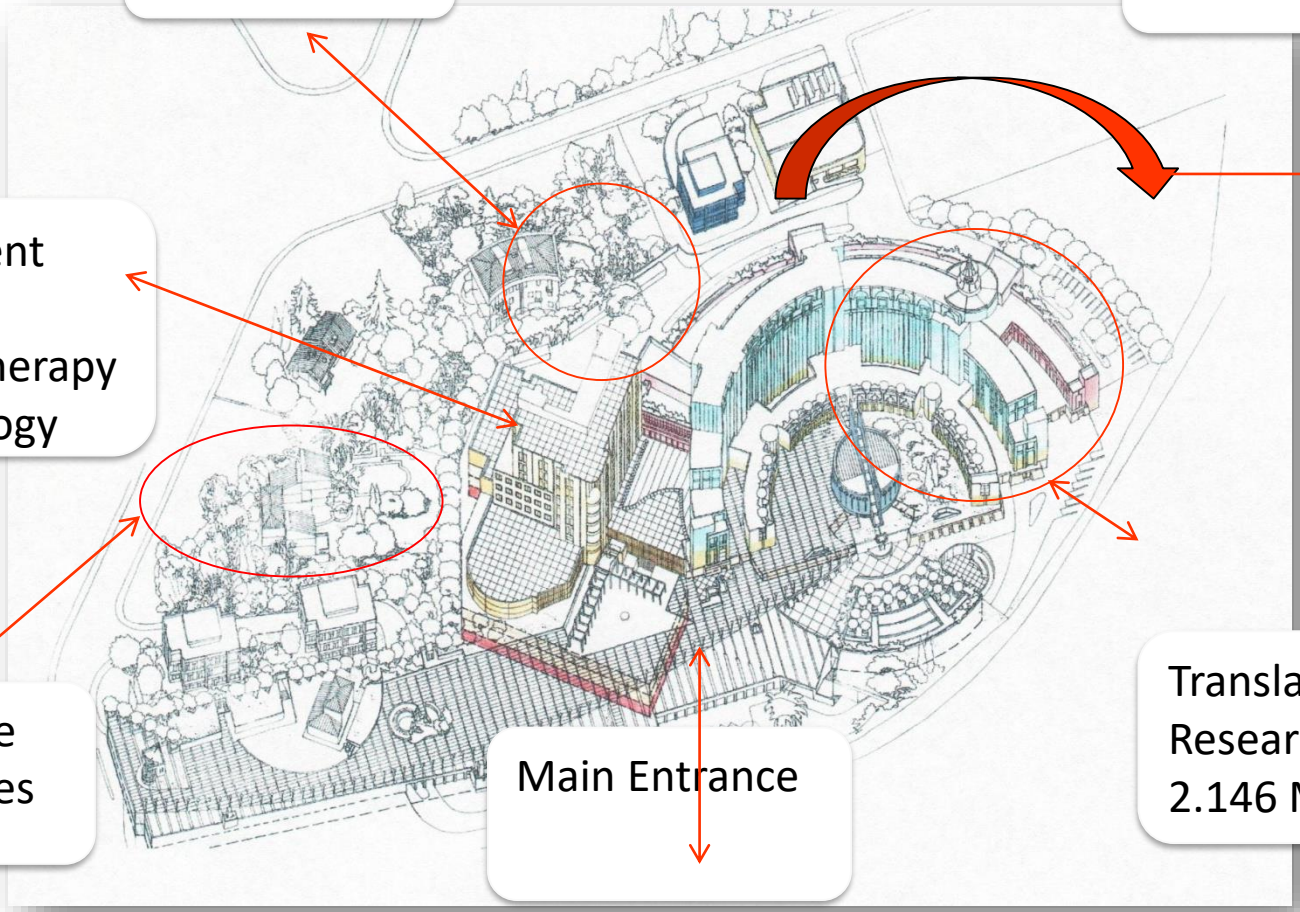
BACK UP SLIDES

Surgical Area

Congress Centre

Hospital Wards & Outpatient Clinics

p. 0 Outpatient clinics
p. – 1Radiotherapy
p. – 2 Radiology



Administrative Support Offices

Main Entrance

Translational Research Labs 2.146 Mq

4thNov2020

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Tumor Tissue Biobank IRE

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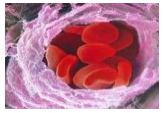
DEPARTMENT	PATHOLOGY	PATIENTS	SAMPLE PRESERVATION MODE						
			TUMOR TISSUE CRYOPRESERVATION	NOT TUMOR TISSUE CRYOPRESERVATION	TUMOR TISSUE OCT	NOT TUMOR TISSUE OCT	NGS	FFPE	TOTAL
ORTHOPEDIC SURGERY	Sarcoma	141	1312	698	44	8	36	68	2166
THORACIC SURGERY	Thymoma	34	309	63	11	4		34	421
	Lung tumors	207	1092	899	78	44	110	163	2386
	Mesothelioma	2	8	0	1	0		1	10
	Lymphoma	9	38	4	1	0		9	52
	Pleural effusion	41	0	0	0	0	21	0	21
	Peripheral blood (pleural effusion)	22	0	0	0	0		0	0
SURGERY A/PLASTIC SURGERY	Breast cancer	93	476	384	25	15		87	961
GYNECOLOGICAL SURGERY	Uterine cancer	107	775	216	27	3		80	1101
	Ovarian cancer	46	803	26	13	3		36	881
	Ovarian cancer + peritoneal washing	41	494	95	19	3		34	645
	Peritoneal washing	21	0	0	0	0		0	0
	Uterine carcinosarcoma	6	77	17	7	0		6	107
UROLOGY SURGERY	Renal Cancer	97	845	348	38	12		86	1329
	Bladder Cancer	55	468	234	22	13		49	786
NEURO SURGERY	Brain cancer	27	124	5	2	1	9	25	166
HEPATOBILIARY SURGERY	Colon cancer	80	398	291	24	16	20	72	821
	Colon cancer/hepatic metastasis	5	62	49	0	0		5	116
	Hepatic metastasis	29	167	110	4	2		15	298
	Stomach cancer	14	55	33	7	5		12	112
	Liver cancer	19	152	76	12	0		15	255
	Pancreas cancer	32	153	64	10	4		25	256
	Gist	1	8	0	1	0		1	10
	Retroperitoneal sarcoma	5	108	22	2	1		4	137
	Cholangiocarcinoma	8	73	44	1	1		9	128
	Biliary tract cancer	3	7	0	1	1		3	12
	Melanoma	1	8	4	0	0	1	1	14
OTOLARYNGOLOGY SURGERY	Head and neck cancer	10	42	8	4	0		2	56
OTHERS	Metastasis (melanoma)	17	89	0	6	0	17	16	128
Total		1173	8143	3690	360	136	214	858	13401



Body Fluids Biobank IRE

Sample Collection (March 2015 - October 2020)

IRE

DEPARTMENT	PATHOLOGY	PATIENTS	WITHDRAWALS	SAMPLE ALIQUOT (~500µL)				2mL*	1mL	
				Whole Blood	Plasma EDTA	Plasma Citrate	Serum	Plasma EDTA	PBMC	TOTAL
ORTHOPEDIC SURGERY	Sarcoma	718	1908	3798	8156	998	7857	4082	-	24891
THORACIC SURGERY	Thymoma Lung cancer Lymphoma	26 205 4	26 205 4	52 410 8	195 970 26	13 - -	102 803 16	20 426 6	-	382 2609 56
MEDICAL ONCOLOGY 2	Breast cancer	83	91	182	340	260	564	55	-	1401
GYNECOLOGICAL SURGERY/ BTO (Ovarian Tissue Biobank)	Uterine cancer Ovarian cancer Various	428 89	442 89	882 178	518 487	1466 264	1850 410	1302 182	-	6018 1521
RADIOTHERAPY	Prostate/ Oropharynx/ Breast cancer	190	649	1298	2951	-	2910	1641	-	8800
MEDICAL ONC 1/2	Lung cancer (ACC LUNG)	39	89	260	-	-	46	614	97	1017
NEURONCOLOGY/ NEURO SURGERY	Brain cancer	91 116	110 121	218 242	310 568	312 -	456 494	279 283	-	1575 1587
ENDOCRINOLOGY	Medullary thyroid cancer	18	18	36	4	-	-	34	-	74
MED. ONCOLOGY/ PLASTIC SURGERY	Melanoma	143	322	641	959	6	1368	1450	-	4424
GASTROENTEROLOGY	Hereditary colon cancer	238	238	476	127	-	-	467	-	1070
HEPATOBILIARY SURGERY	Colon/Stomach /Liver cancer	78	79	158	45	231	311	238	-	983
MTB	Various	34	46	92	42	9	89	187	5	424
HEMATOLOGY	Lymphoma	18	40	80	44	-	20	250	10	404
TRANSFUSION M.	Healthy donor	69	259	518	128	761	1105	514	-	3026
TOTAL		**2587**	**4736**	**9529**	**15870**	**4320**	**18401**	**12030**	**112**	**60262**