

WM8 Bioinformatik

INFO: <http://icbi.at/wm8>

TIME: 11.1.2027-27.1.2027

LECTURER: Zlatko Trajanoski, Anne Krogsdam,
Dietmar Rieder, Hubert Hackl

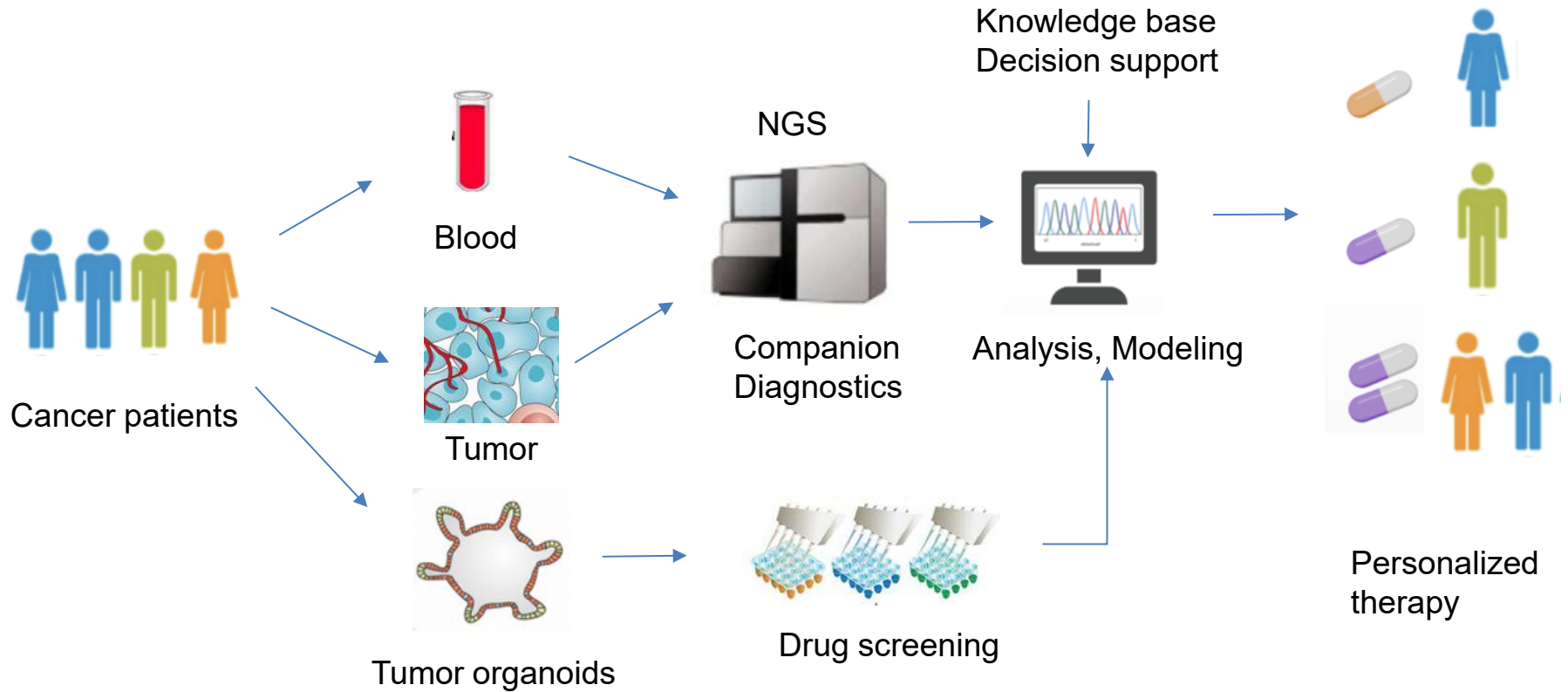


Institute of Bioinformatics

Topics

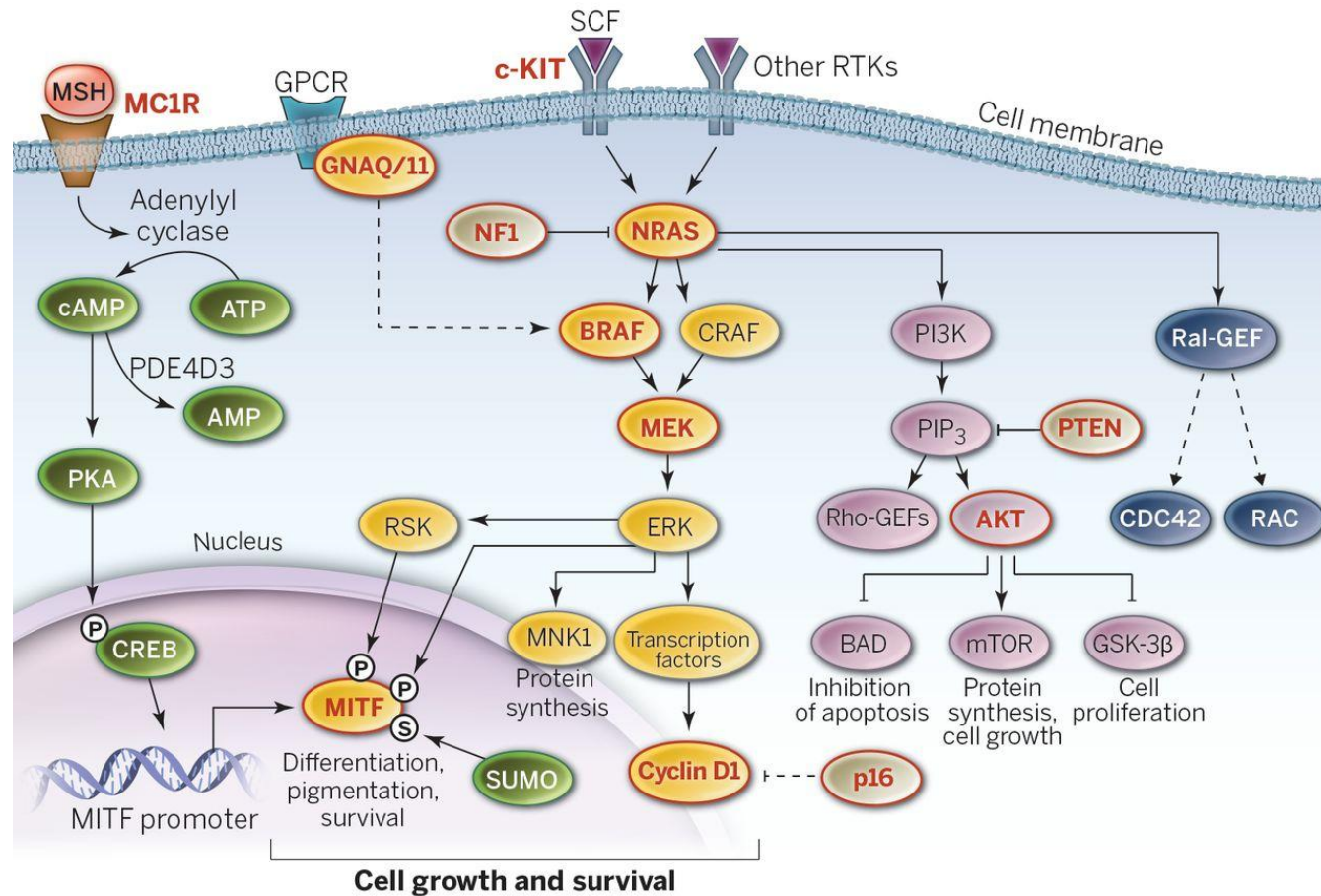
- Bioinformatics for precision oncology
- Cancer genomics
- Cancer immunology and immunotherapy
- Exome/targeted sequencing
- Analysis/interpretation of somatic variants

Precision oncology



Targeted cancer therapy

MAPK signaling promotes cell growth and survival and is constitutively active in most melanomas



Targeted cancer therapy: Targeting mutated BRAF in melanoma



Before therapy

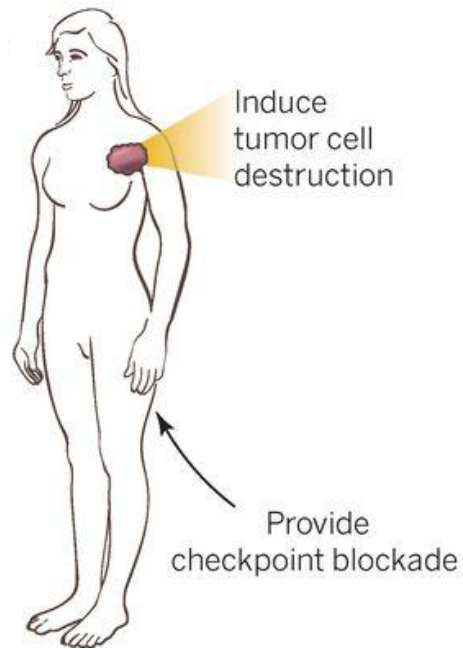


15 weeks after
onset of therapy

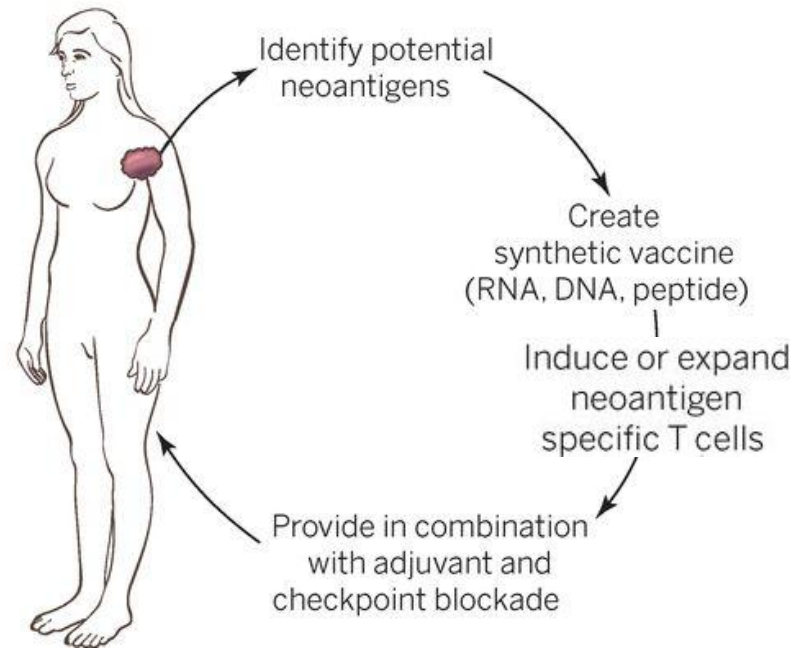


23 weeks after
onset of therapy

Immunotherapy



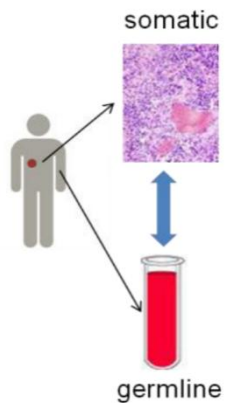
Predictive biomarker



Identification of neoantigens

Somatic variant detection in tumor samples

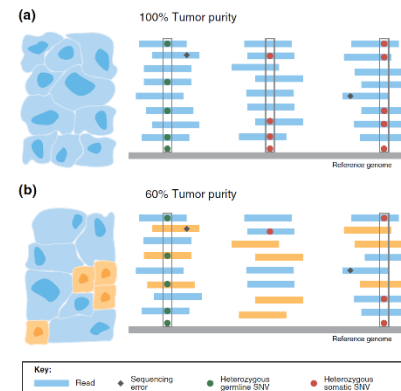
Patient samples



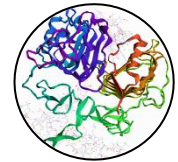
Exome/targeted sequencing



Bioinformatics analyses



Variant impact



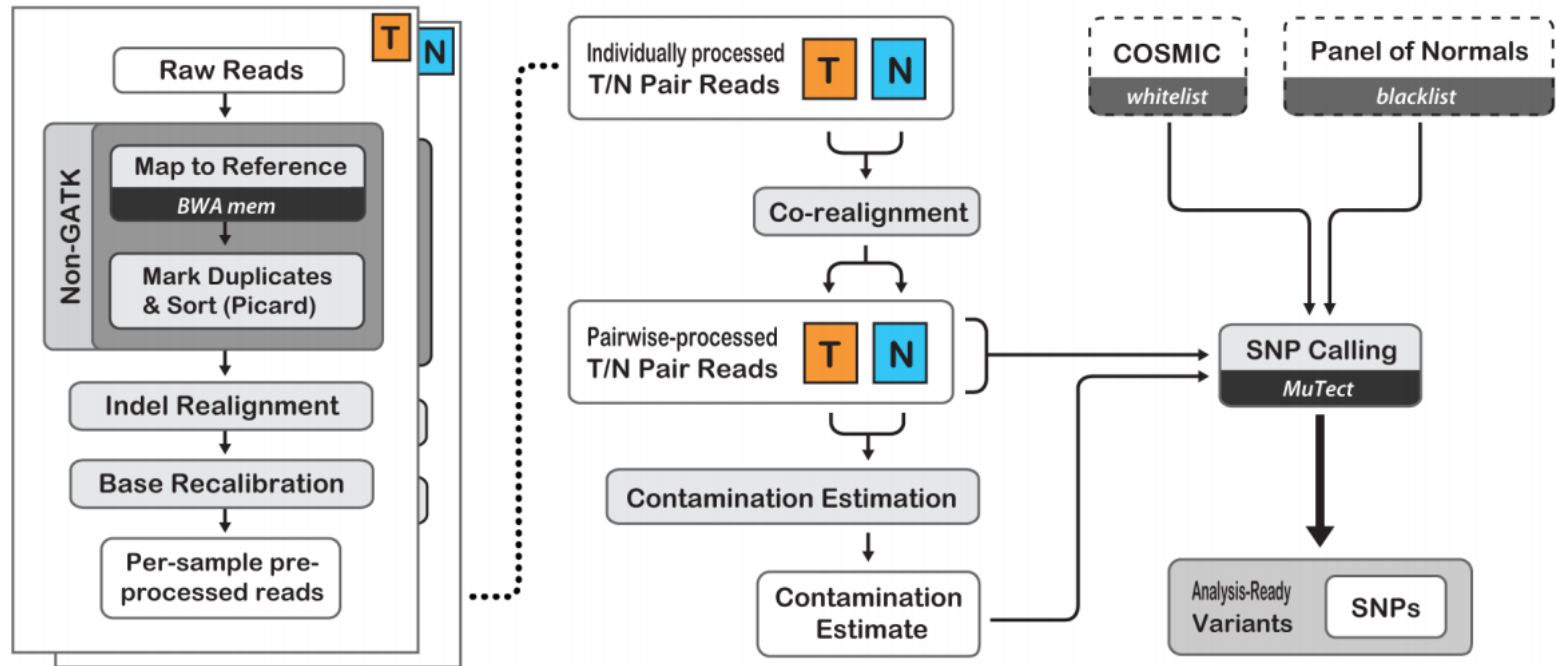
Diagnosis and
therapy
suggestions

Bioinformatics workflow (MuTest2)

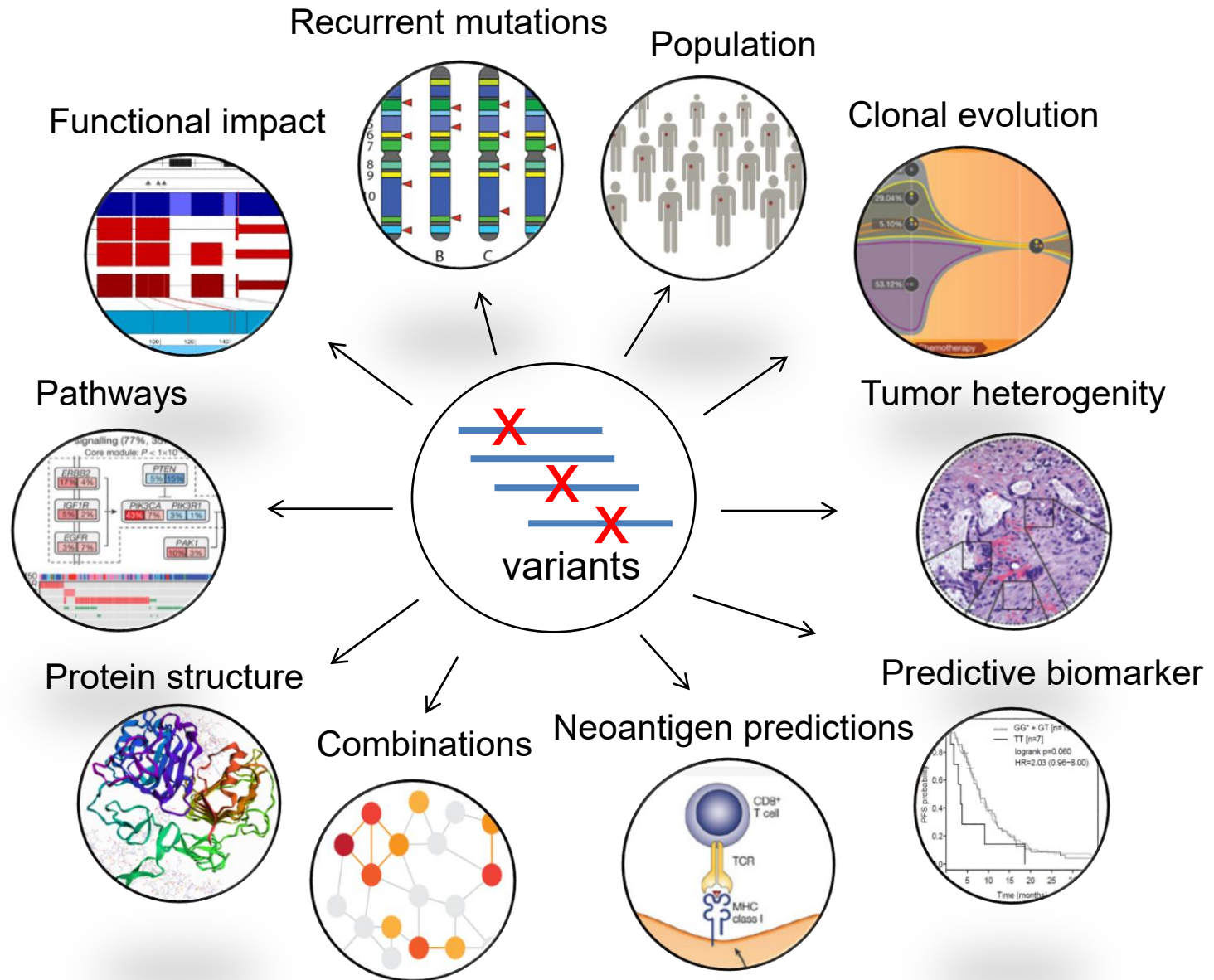
Data Pre-processing

>> Cancer-specific processing

>> Somatic variant discovery



Analyses and interpretation of DNA variants



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DATE	ROOM	TOPIC	LECTURER
11.1 (9-16)	M.01.392	VO Precision medicine VO Cancer genomics VO Bioinformatics for cancer immunol.	Zlatko Trajanoski
12.1 (9-16)	M.01.392	VO/PR High throughput sequencing	Anne Krogsdam
13.1 (9-17)	SEQ PR	PR Targeted exome sequencing of tumor cells	
14.1 (9-17)			
15.1 (9-17)			
18.1 (9-17)	FP3 C3	VO/PR Primary data analyses, Mapping, Variant calling	Dietmar Rieder
19.1 (9-17)			
20.1 (9-17)			
21.1 (9-17)	FP3 C3	VO/PR Secondary data analyses, Databases, Interpretation	Hubert Hackl
22.1 (9-17)			
25.1 (9-17)			
26.1 (9-15)	M.01.392	JC Discussion of relevant publications	ZT,AK,DR,HH
27.1 (9-15)	M.01.392	SE Seminar, Presentation of results*	ZT,AK,DR,HH

*Results should be provided also in publication style