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PARIS
DESCARTES



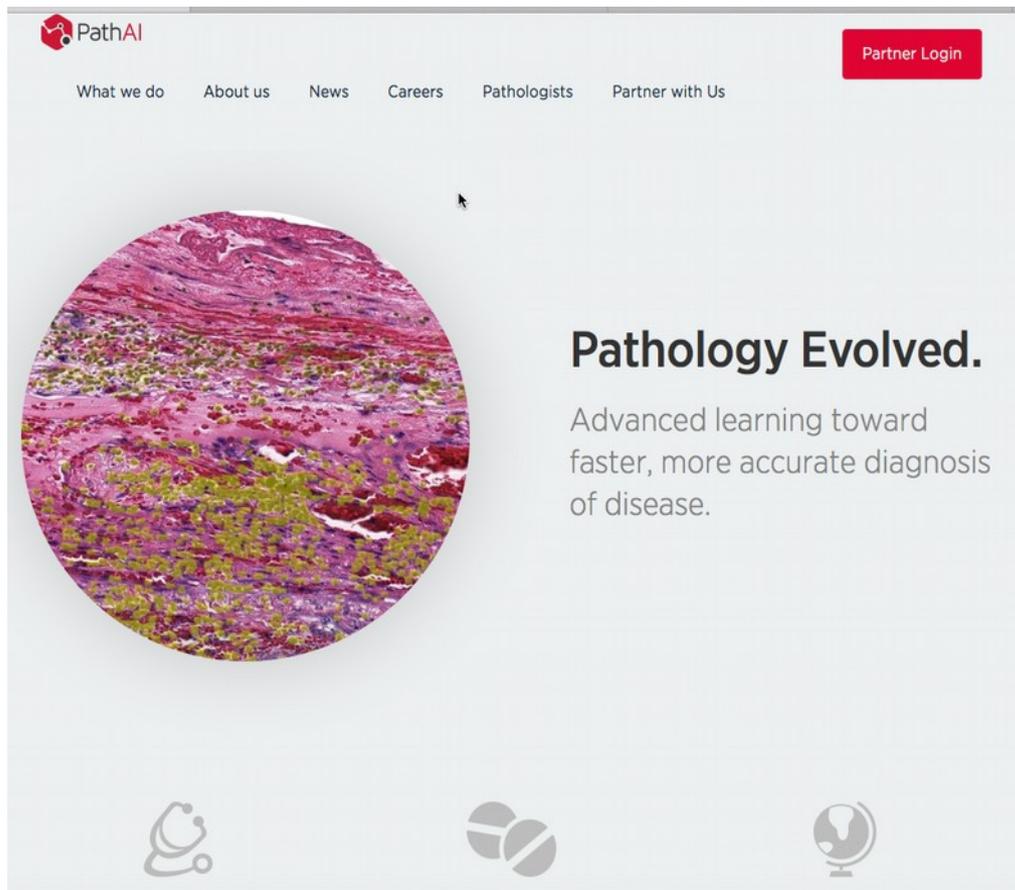
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My two cents on a revolution to come : digital histopathology The XXIst century microscope

Nicolas Loménie
Associate Professor
Université de Paris



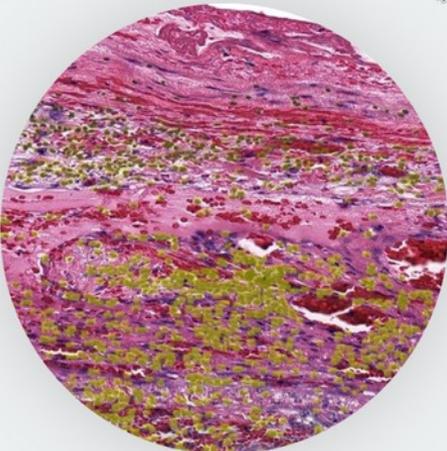
The big players



PathAI

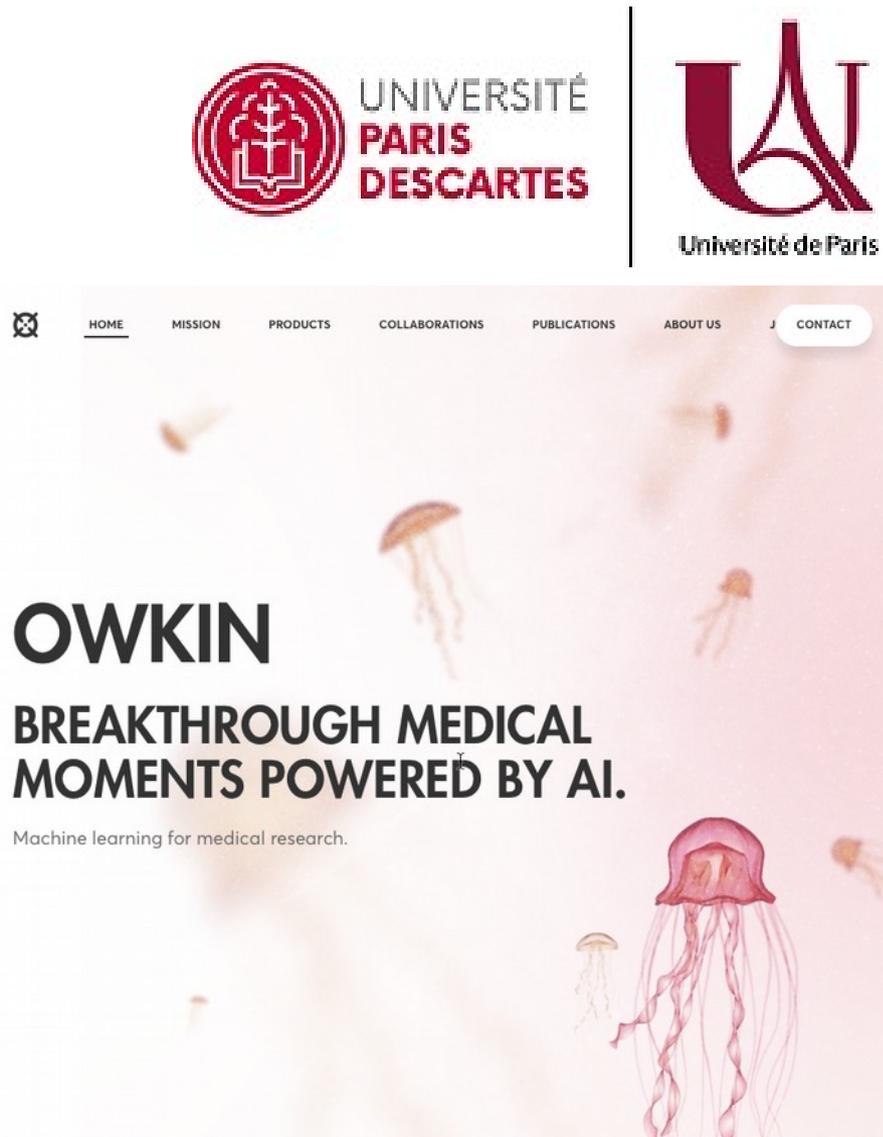
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Pathology Evolved.

Advanced learning toward faster, more accurate diagnosis of disease.



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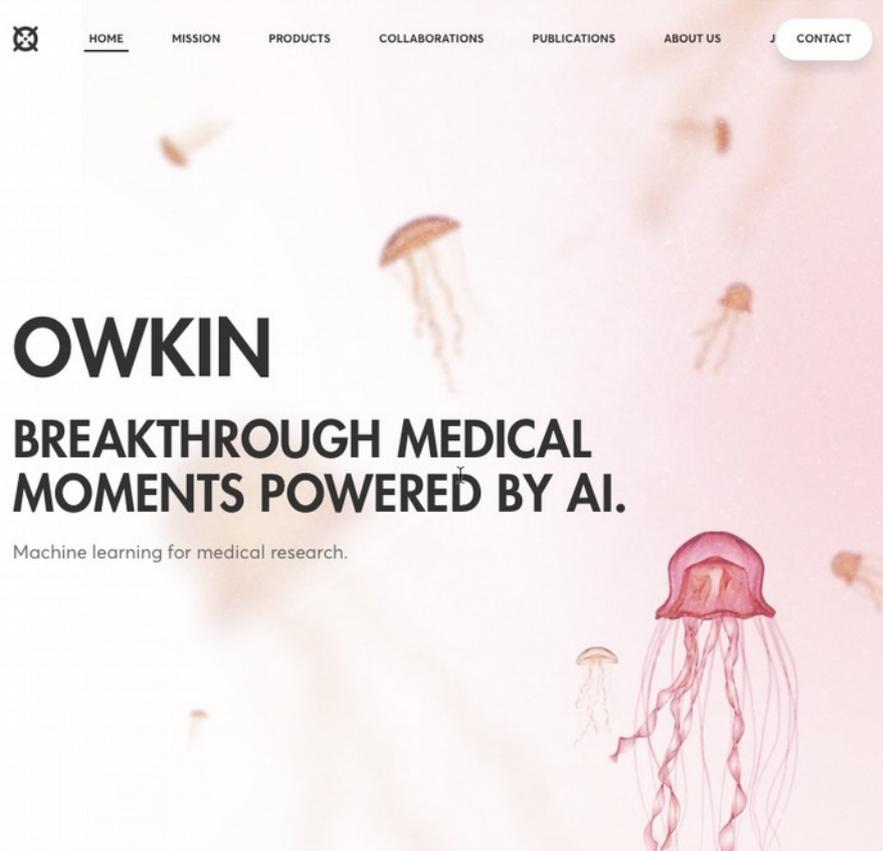
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OWKIN

BREAKTHROUGH MEDICAL MOMENTS POWERED BY AI.

Machine learning for medical research.



My current story

STATION F

CAMPUS * EVENTS * PROGRAMMES START-UP * DEVENIR MEMBRE

REJOIGNEZ LE PLUS GRAND CAMPUS DE START-UP AU MONDE

STATION F est le seul campus de start-up qui réunit tout un écosystème entrepreneurial sous un seul et même toit.

REJOINDRE LE CAMPUS

STATION FELLOW



Founders Program

Notre programme est ouvert aux start-up early-stage et ambitieuses. Il comprend un bureau à temps plein sur notre campus, au sein de notre communauté d'entrepreneurs triés sur le volet. Le Founders Program est dédié aux entrepreneurs et fournit uniquement des ressources validées par les entrepreneurs.

EN SAVOIR PLUS →



Fighters Program

Le Fighters Program est un accès gratuit au Founders Program pour les entrepreneurs qui ne sont pas partis avec les mêmes chances. Nous aidons celles et ceux qui en ont le plus besoin : issu(e)s de milieux sociaux moins privilégiés, immigration avec difficulté à s'intégrer, réfugié(e)s, etc) à faire croître leur business et leur donnons de la visibilité pour inspirer les générations futures.

EN SAVOIR PLUS →



Entrepreneur First Entrepreneur First

Entrepreneur First is the world's leading talent investor. EF invests time and money in the world's most talented and ambitious individuals, helping them to find a co-founder, develop an idea, and start a company. So far, EF has helped 1,200+ people create 200+ companies, worth a combined \$1.5bn. In Paris, EF runs 2 programmes a year, starting in April and October at Station F.

[Learn more](#)



iPEPS-ICM Incubateur

L'iPEPS, incubateur de l'Institut du cerveau et de la moelle épinière (ICM), est le premier accélérateur d'innovations dédié aux maladies du cerveau en France. Avec un réseau de plus de 700 cliniciens-chercheurs, un centre d'investigation clinique et 17 plateformes technologiques, L'iPEPS a été créé pour faire émerger des outils thérapeutiques au service du patient, en fournissant un cadre idéal pour l'épanouissement de projets de rupture en medtech, biotech et e-sante.

facebook

Startup Garage from Facebook Programme

Startup Garage from Facebook encourage les entreprises françaises innovantes et guidées par les données à développer leurs activités.

[Postuler ici](#)



De l'invention à l'innovation

- IDF Innov
- Chercheurs
- Entreprises
- Nos offres et services
- Actualités & Événements
- Nos partenaires
- Communication

CATALOGUE DE TECHNOLOGIES

Consultez nos offres de technologies selon leur domaine et secteur d'activités

LIRE



BASE BREVETS > Accueil

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Historique : Notice (0) | Recherche (0)

FR | EN

n°FR185513, intitulée « PROCÉDÉ DE DÉTERMINATION DE L'INFILTRATION DE CELLULES BIOLOGIQUES DANS UN OBJET BIOLOGIQUE D'INTÉRÊT » a été déposée le 21 juin 2018.

RECHERCHER

Plus d'infos

FR EP WO CCP Plus d'infos

Recherche avancée

Informations

IMPORTANT : MISE A JOUR PARTIELLE DE LA BASE BREVETS

2019-01-31

En raison d'une modification de notre système informatique, la mise à jour de certaines...

Dernières mises à jour le 2019-04-12

FR : 2019-04-12 ; dernier N° publié : FR3072241

EP : 2019-04-10 ; dernier N° publié : EP3468332

WO : 2019-04-04 ; dernier N° publié : WO2019068114

CCP : 2019-04-05 ; dernier N° publié : FR19C1011



VOUS ÊTES UN CHERCHEUR ?

Accédez à votre espace dédié

[En savoir plus](#)



VOUS ÊTES UN INVESTISSEUR ?

Accédez à votre espace dédié

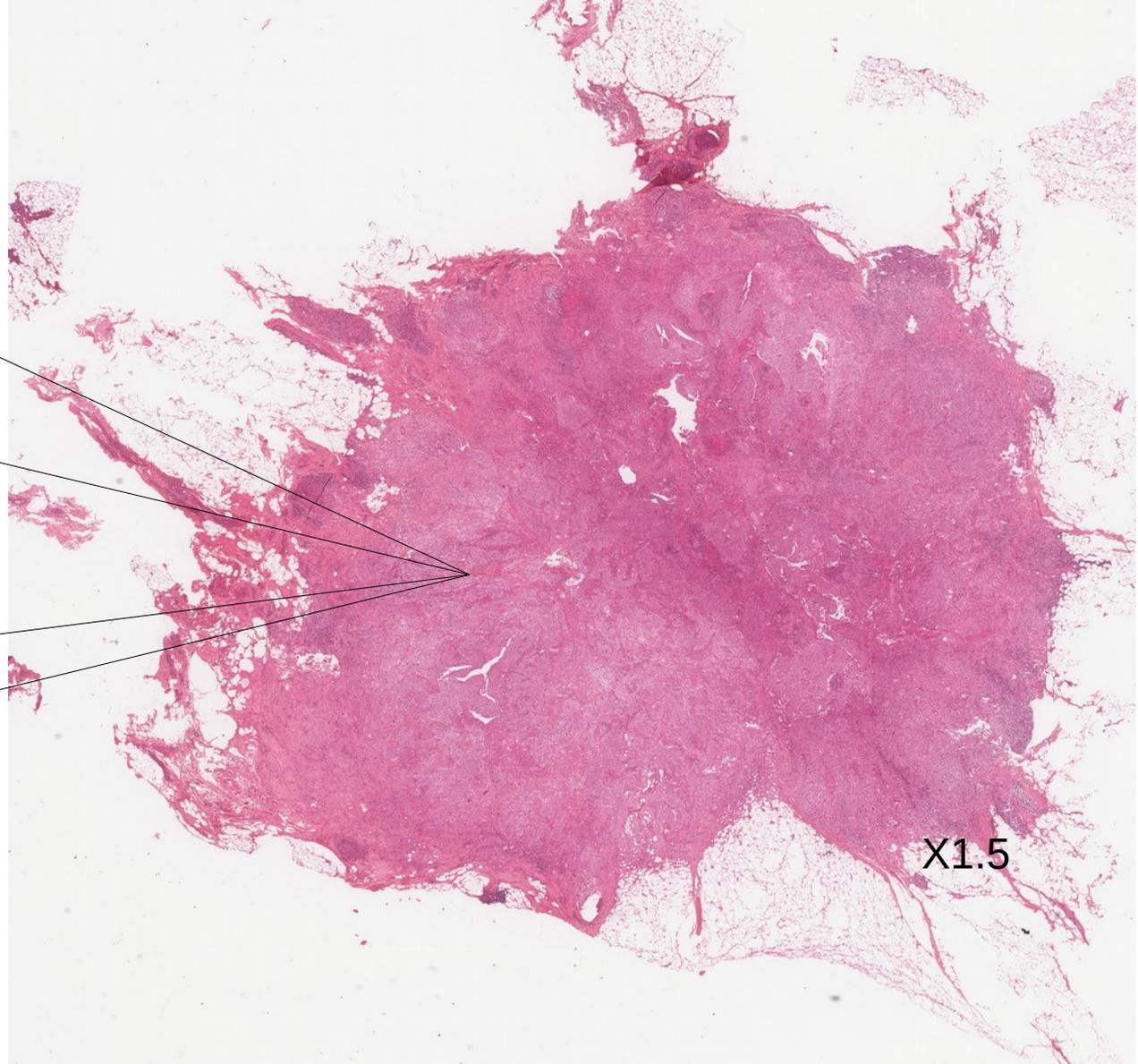
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And as Associate Professor University of Paris

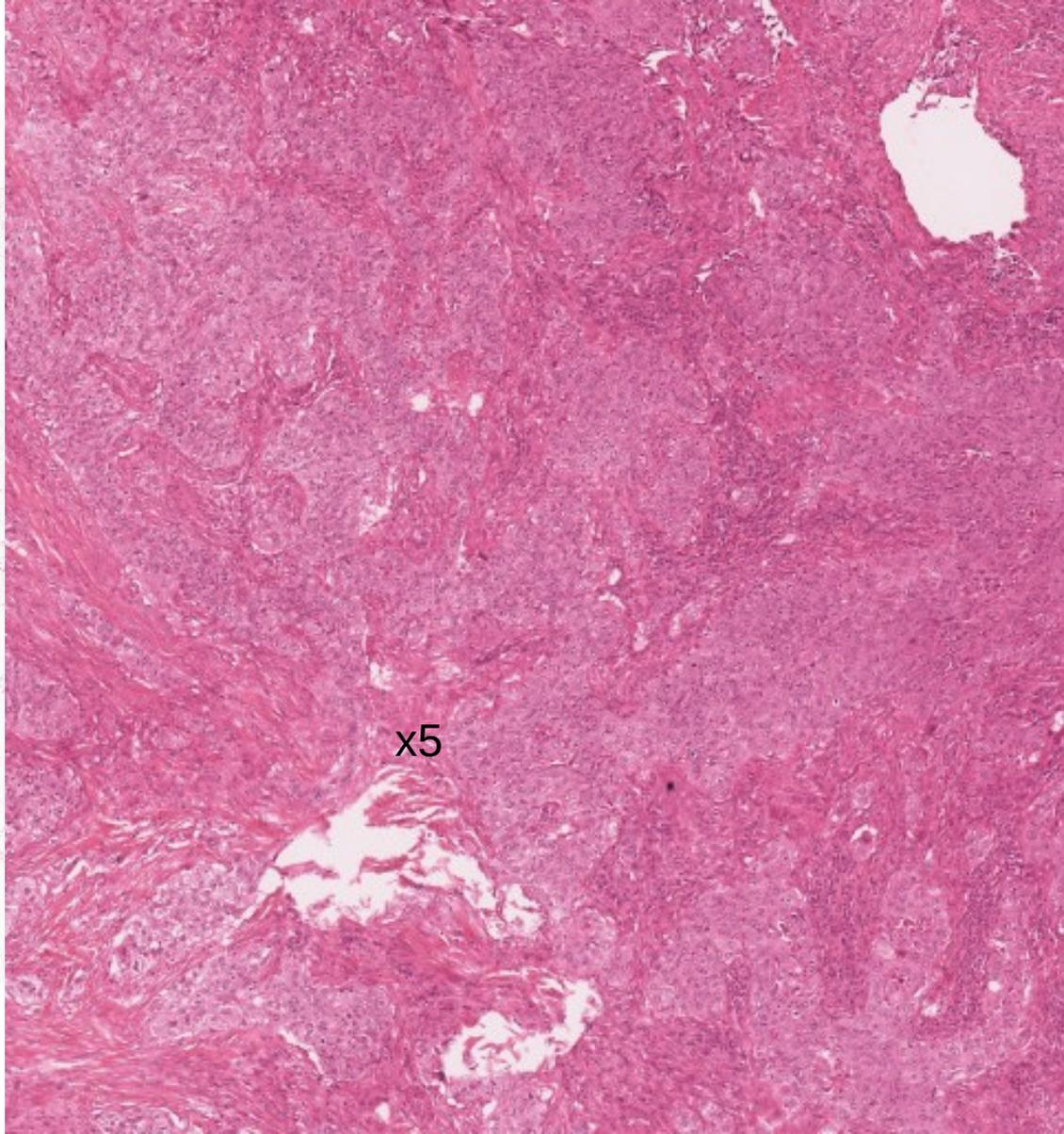
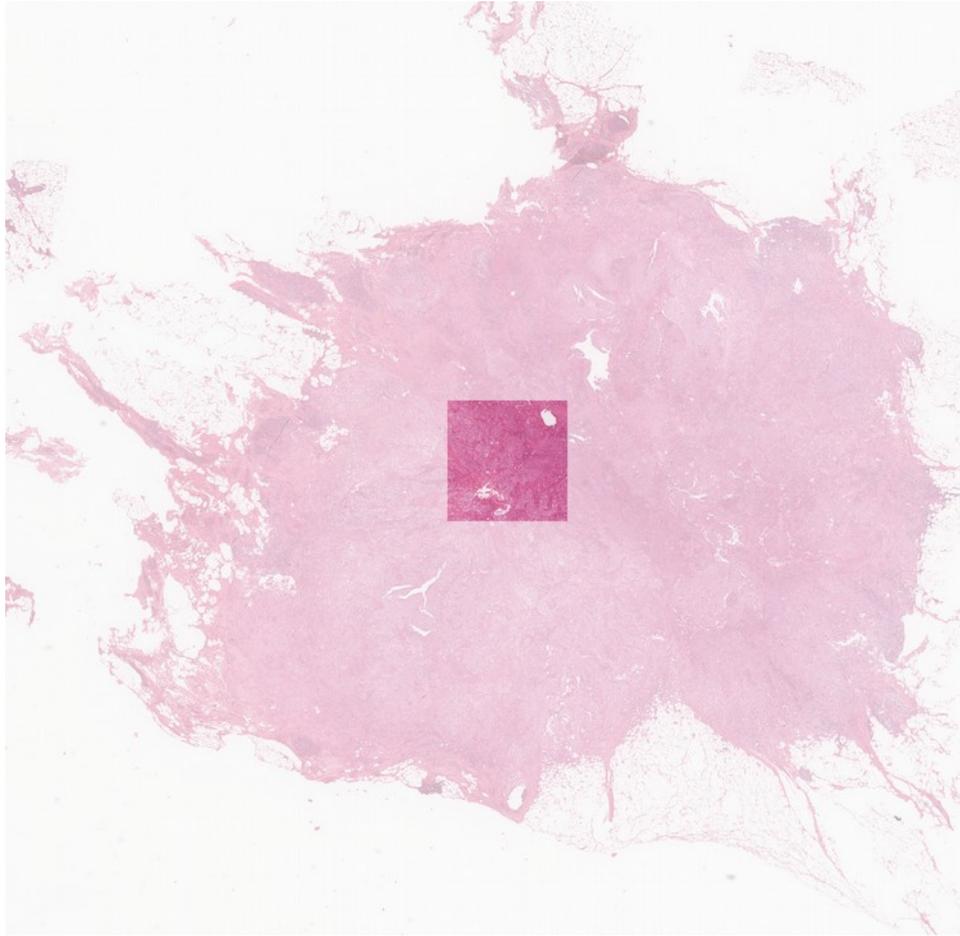


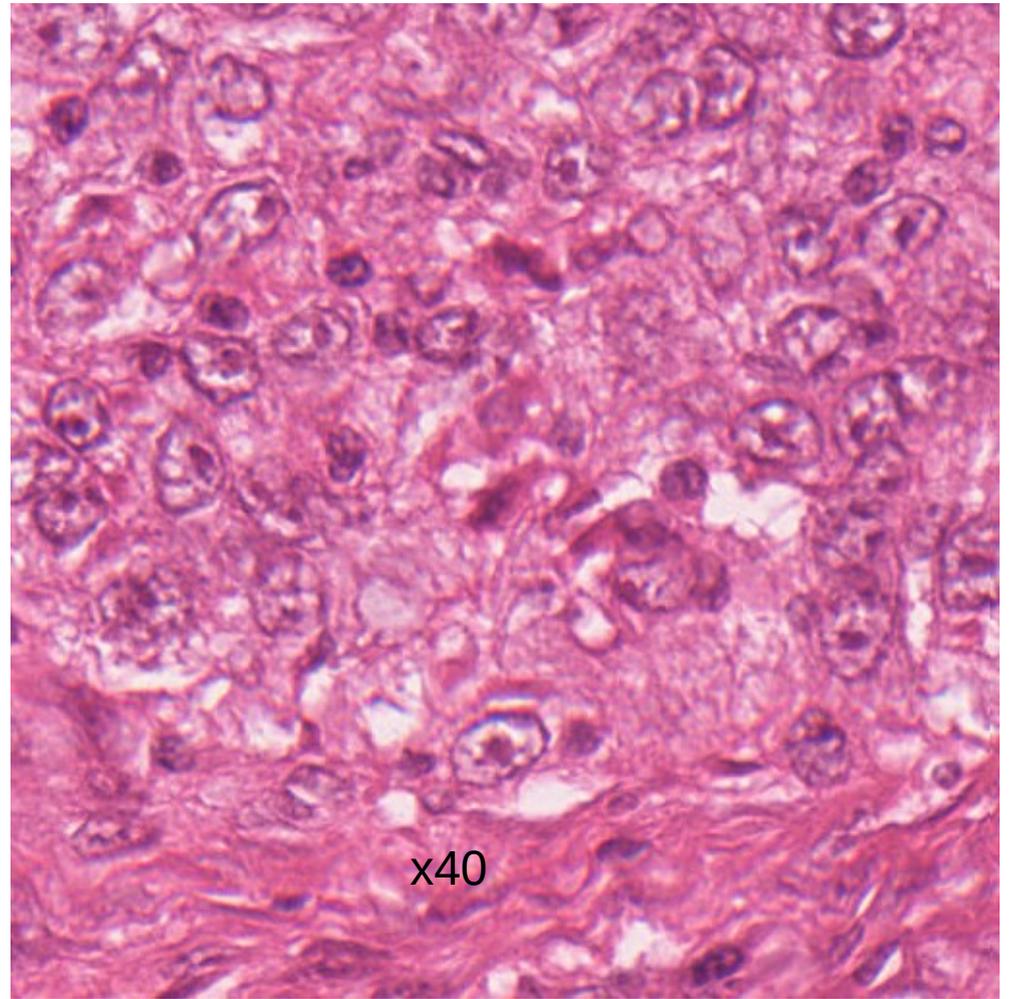
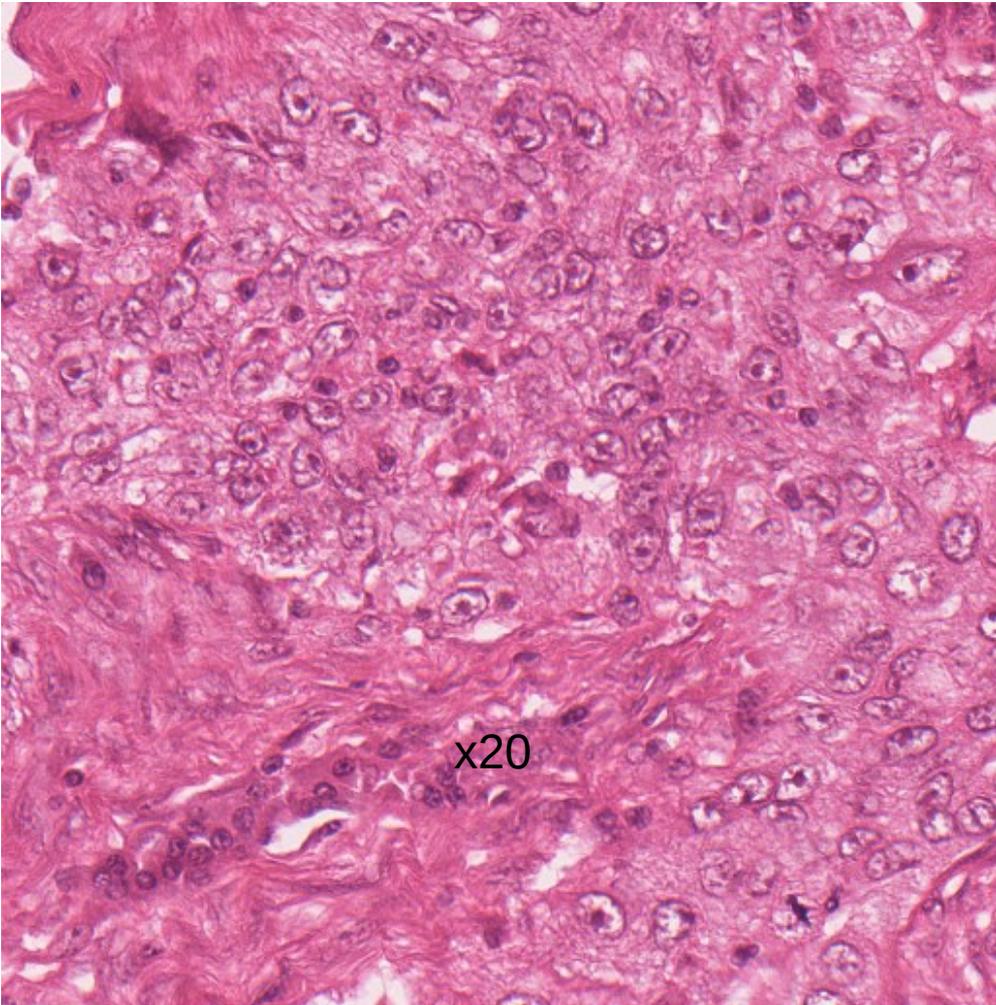
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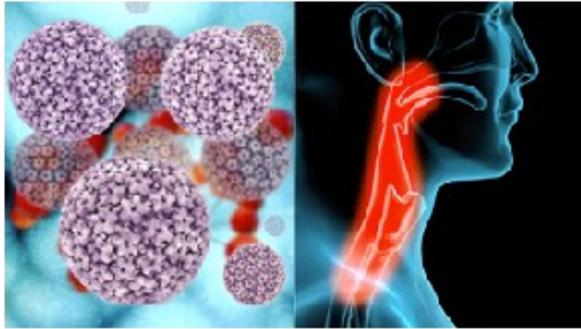
X1.5



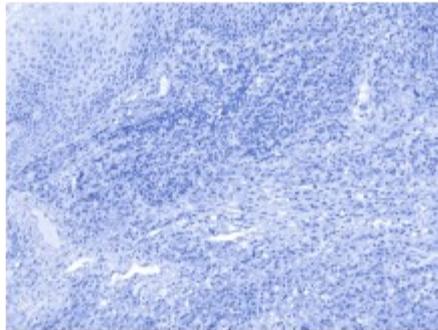


Projet 1 : HPV related Head and Neck cancer – HEGP – collaboration avec Prof. Cécile Badoual

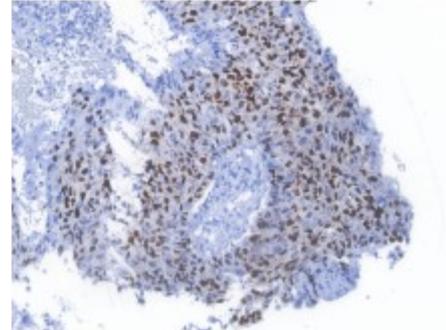
Alcohol and tobacco



Incident of head and neck cancer
World: 500 000/year
US: 38 500/year
France: 16 000/year
Mostly, squamous cell carcinoma



Higher risk diseases from
human papilloma virus
(HPV)



Less risk diseases from
human papilloma virus (HPV)

Projet 1 : HPV related Head and Neck cancer – HEGP – collaboration avec Prof. Cécile Badoual

RNAscope + Hematoxylin + Vectra

mRNA as
brownish

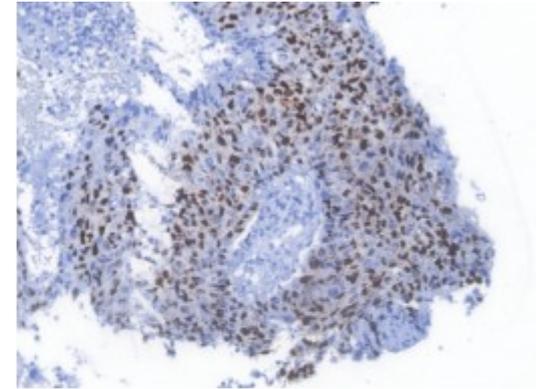
Nuclei as bluish



Staining technique



Digital slides



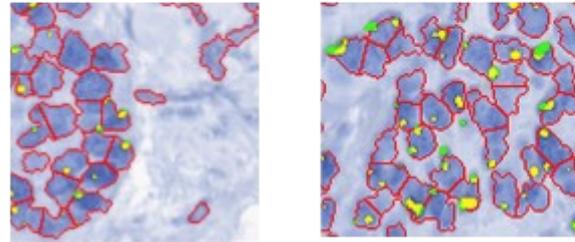
Sample of mucosa in range of 200 patients

Projet 1 : HPV related Head and Neck cancer – HEGP – collaboration avec Prof. Cécile Badoual



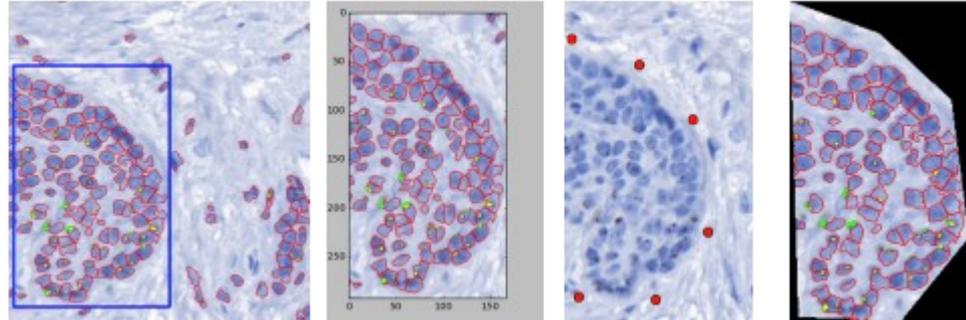
a). Fusion of nuclei and mRNA

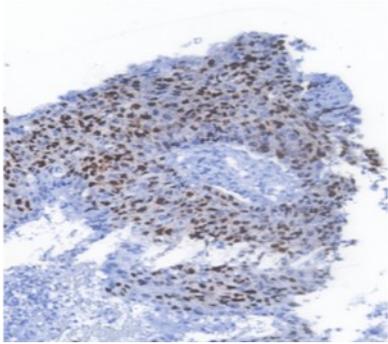
*(red: boundaries between nuclei,
yellow: mRNA inside nuclei
green: mRNA inside cytoplasm)*



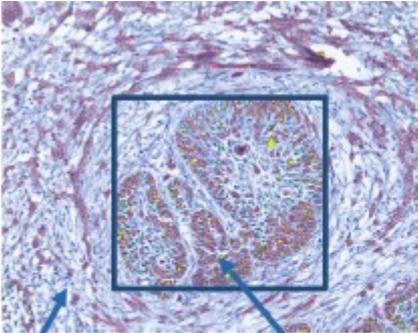
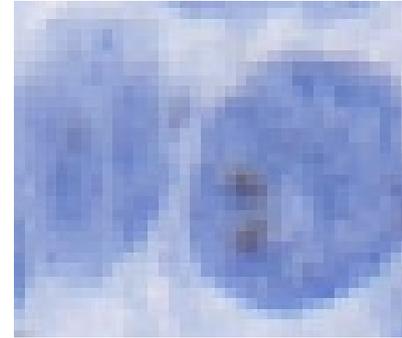
b). Selection of region of interest

1. by rectangle
2. by polygon





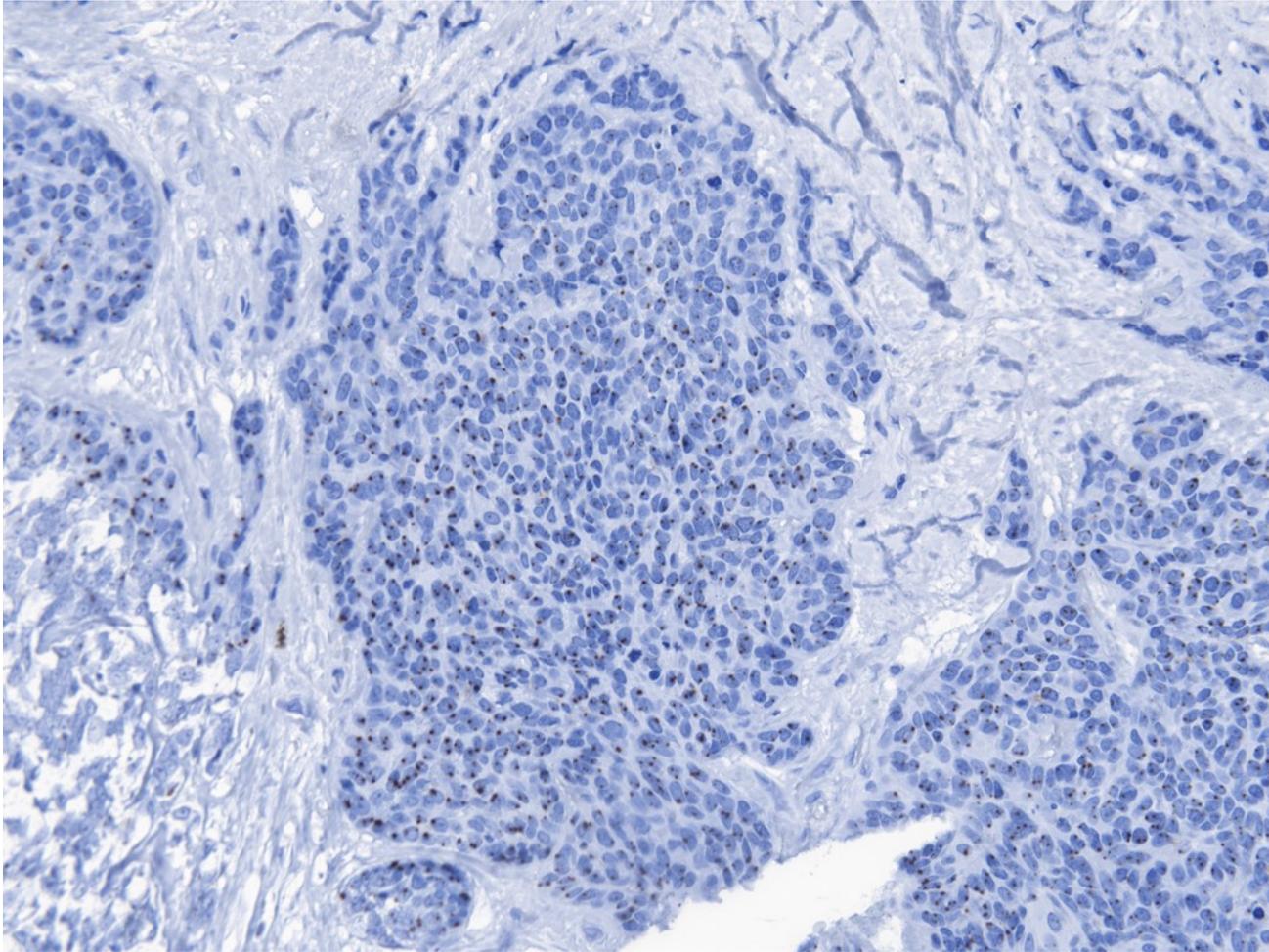
X40

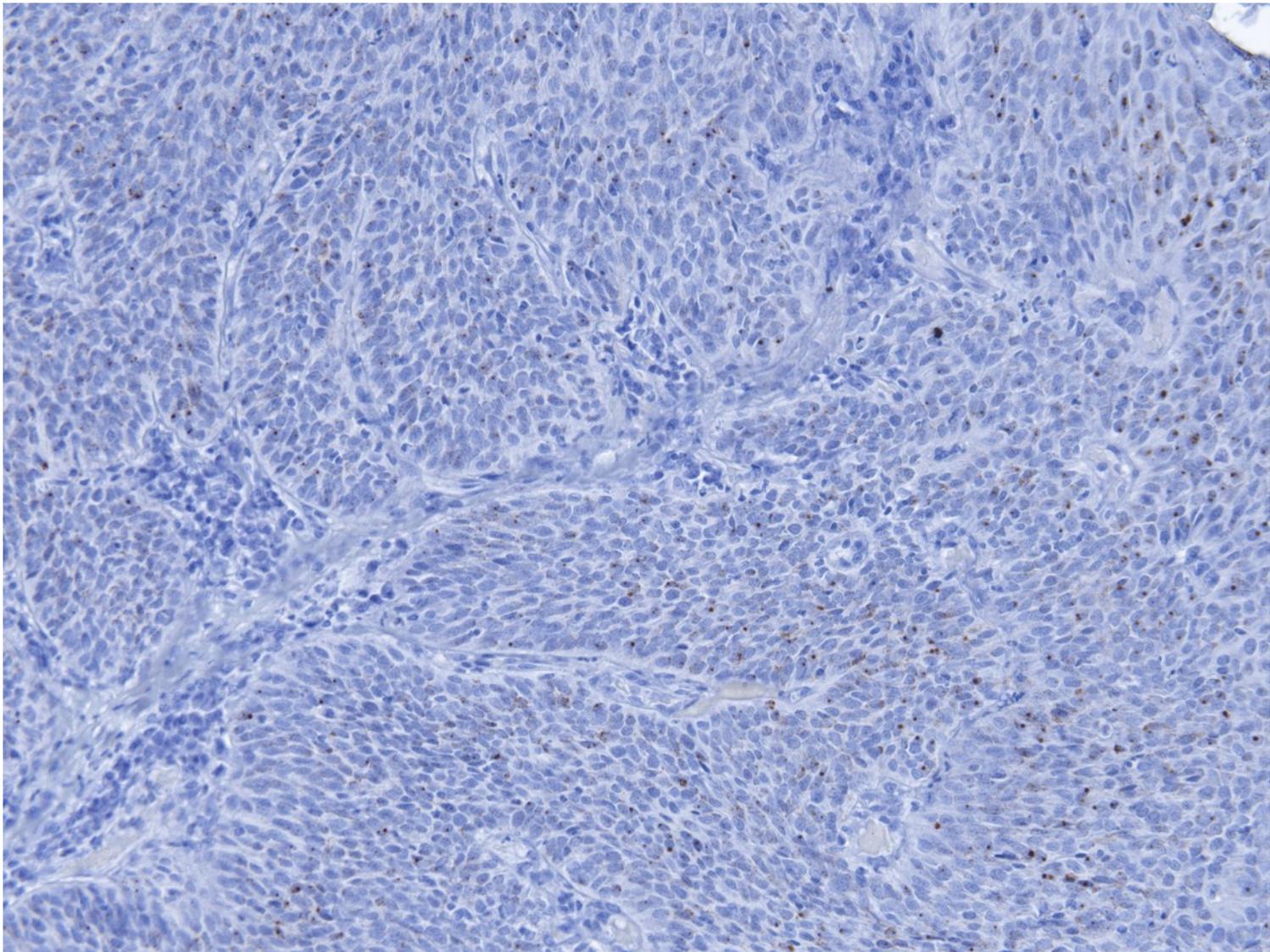


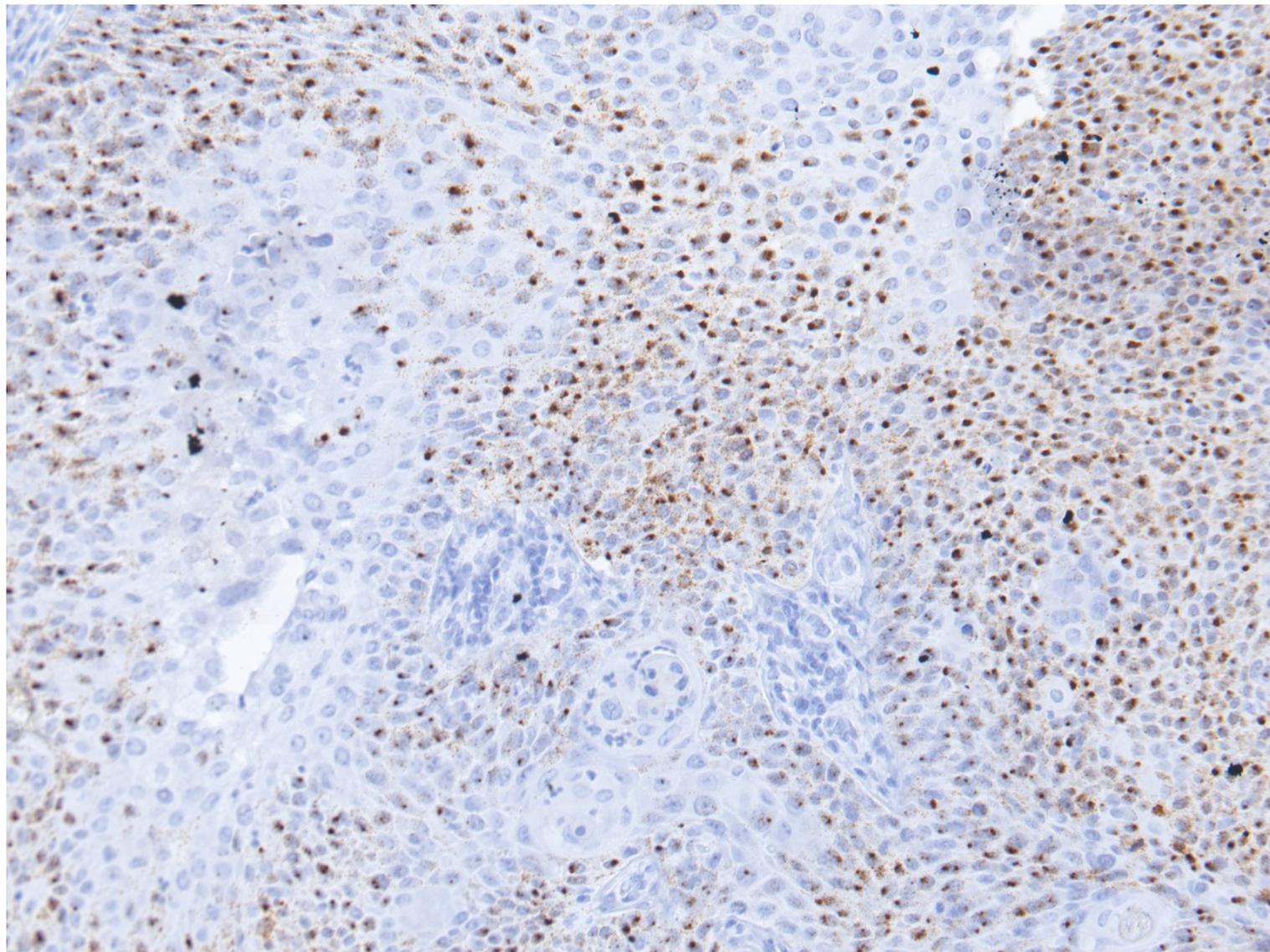
Stroma

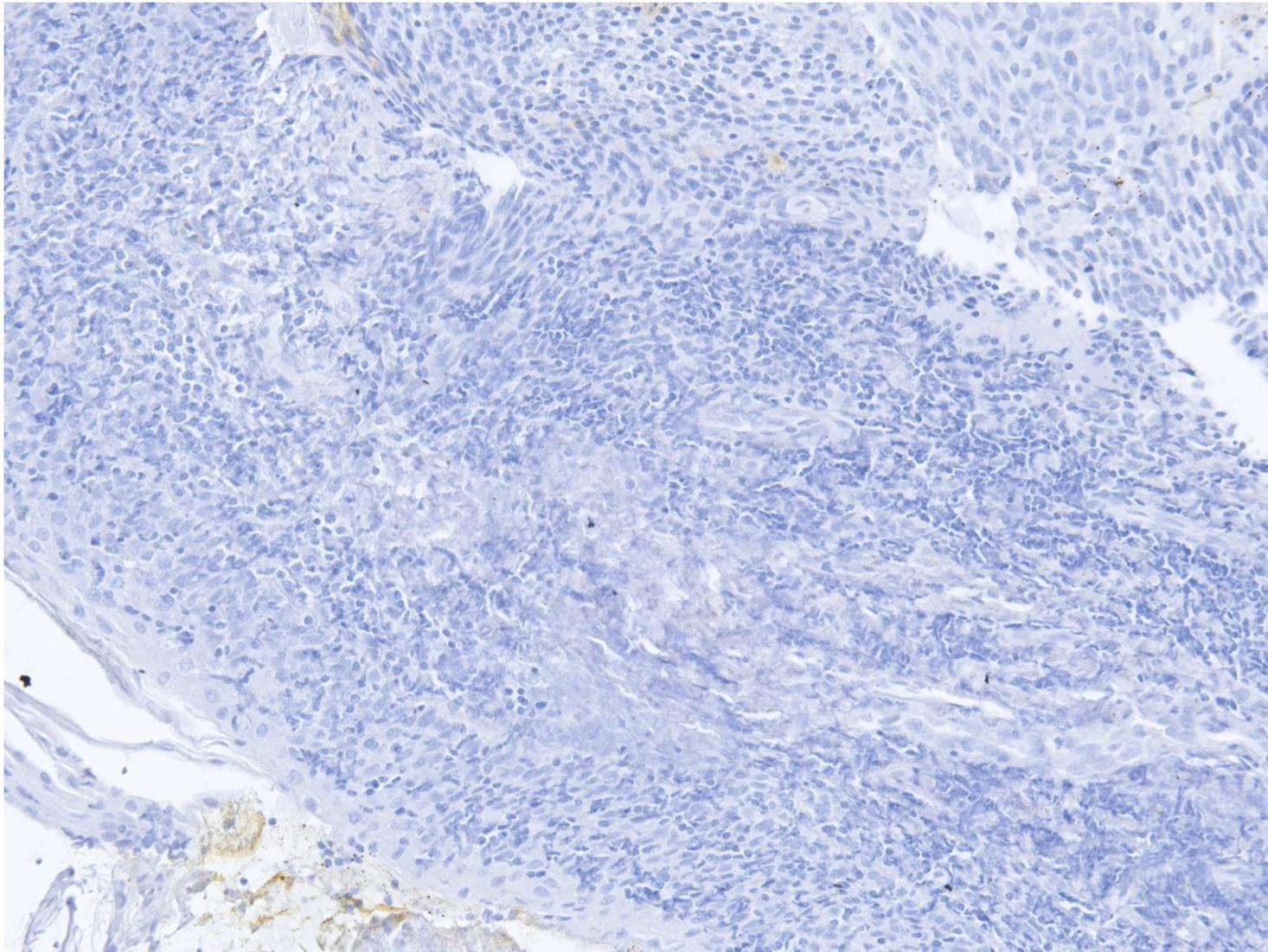
Cancer cells

	In the whole image	In the ROI
Nuclei with mRNA (percentage)	25.90%	67.06%
Ground truth (positivity strength)	++	

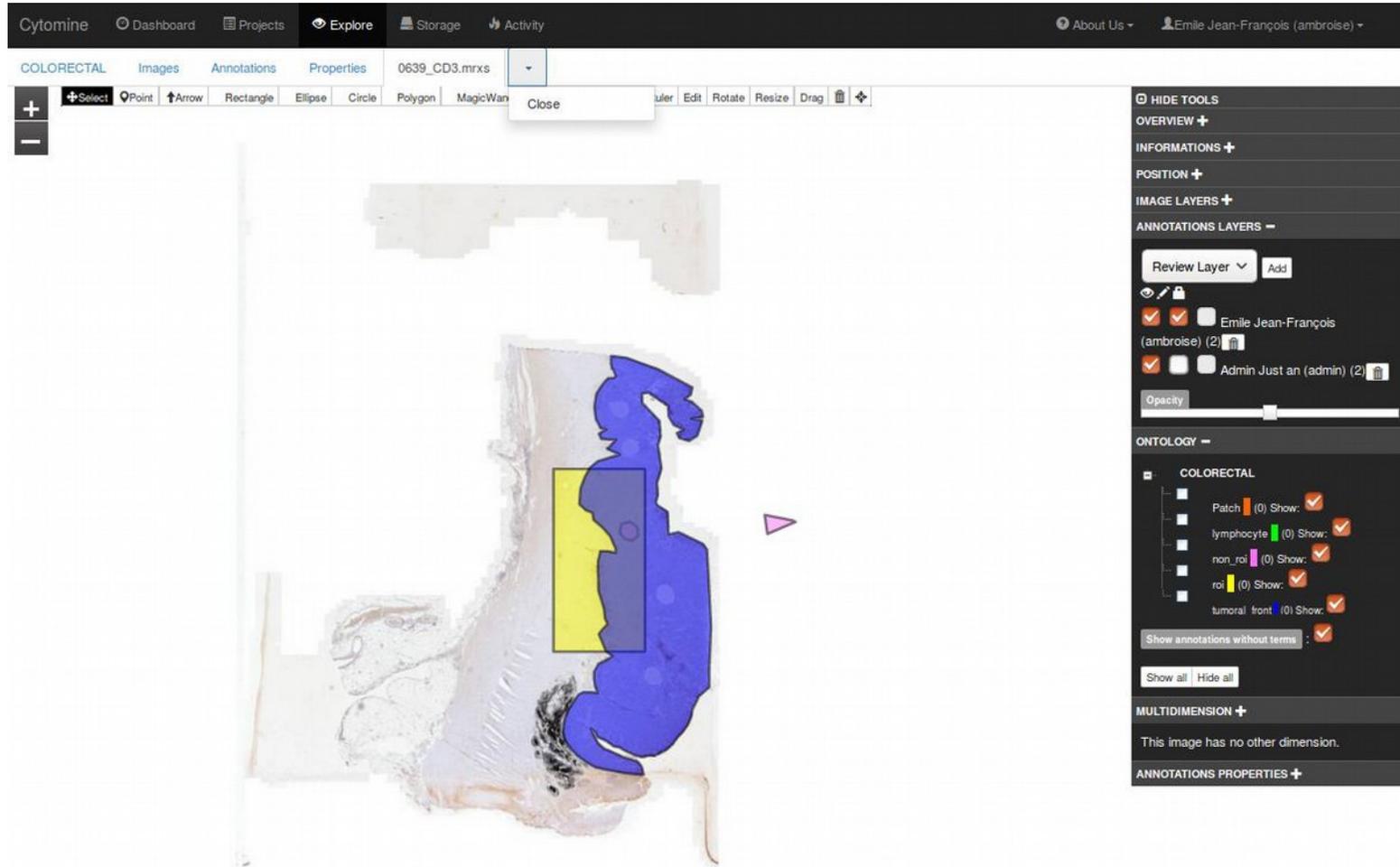




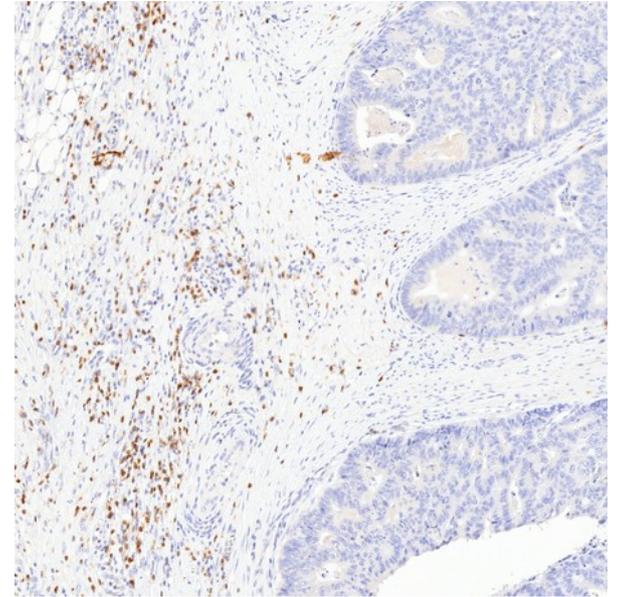
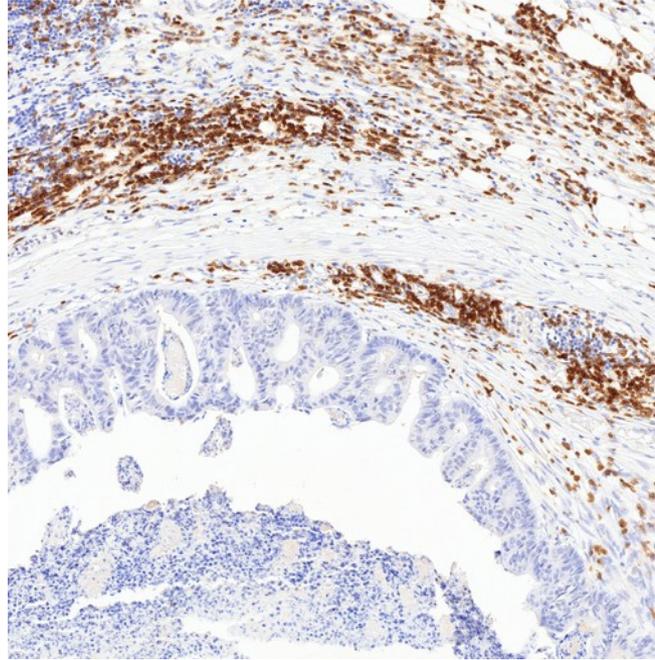
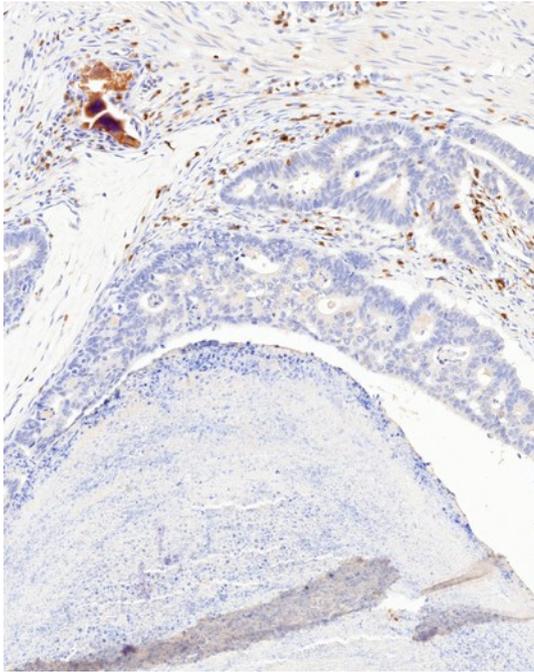




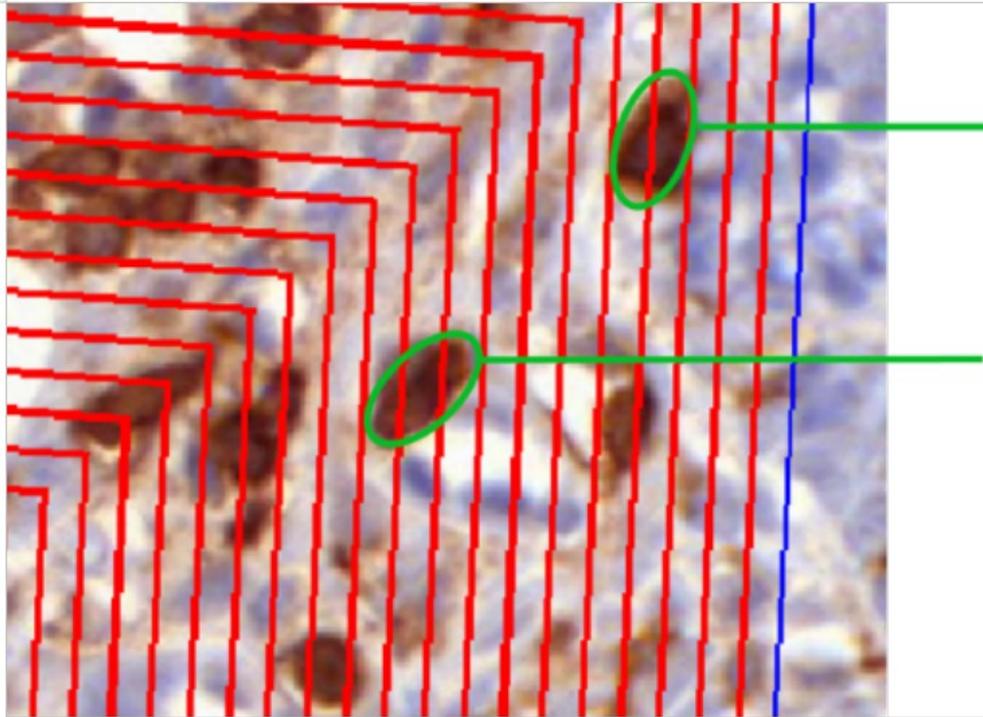
Project 2 : Colorectal Cancer - Collaboration with PUPH JF. Emile – Hôpital Ambroise Paré.



Project 2 : Colorectal Cancer - Collaboration with PUPH JF. Emile – Hôpital Ambroise Paré.

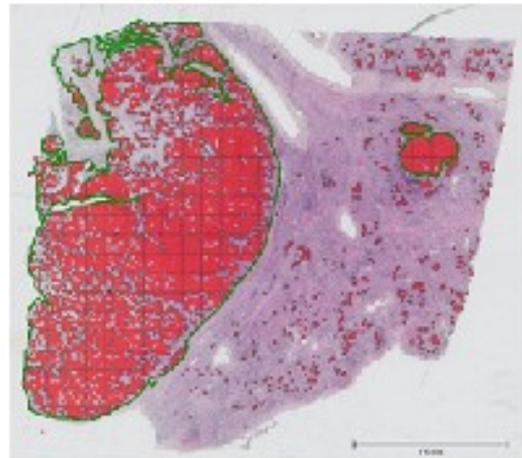
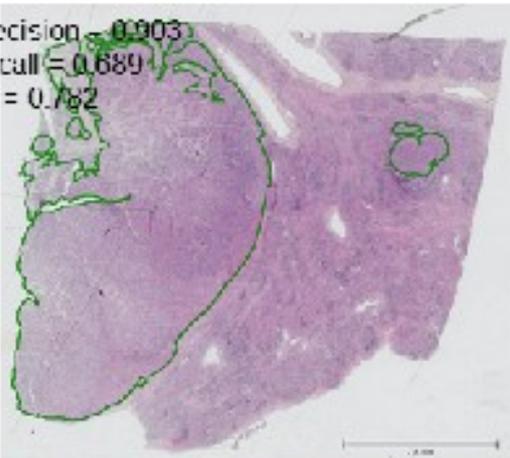


Project 2 : Colorectal Cancer - Collaboration with PUPH JF. Emile – Hôpital Ambroise Paré.

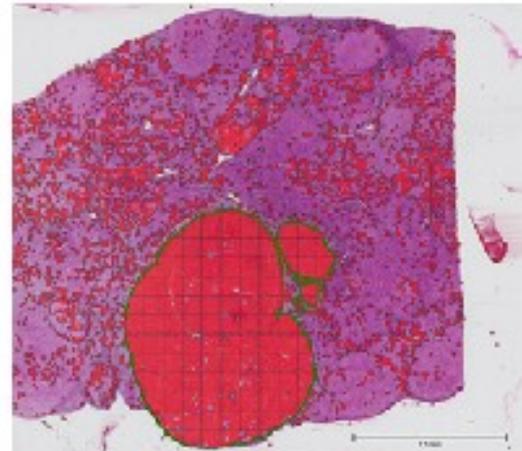
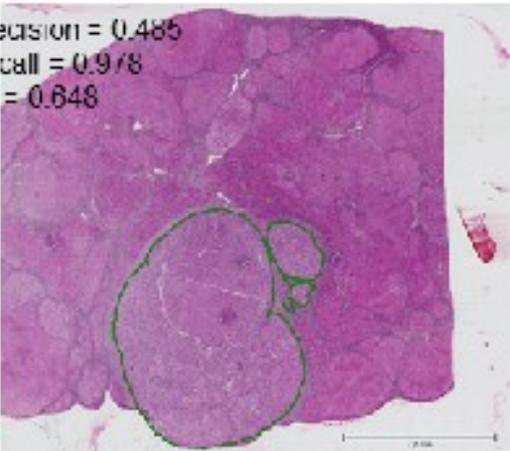


Projet 3 : cancer hépatique – Collaboration avec Julien Calderaro et Christophe Klein –
Hôpital Henri Mondor et Platerforme d'imagerie des Cordeliers (P5-P6-P7)

Precision = 0.903
Recall = 0.689
F1 = 0.782



Precision = 0.485
Recall = 0.978
F1 = 0.648



We need to scale up to propose a SaaS for specific needs in digital histopathology (or other image based procedure) potentially aimed at immuno-therapy assistant to the diagnostic in vitro possibly leveraging high-computing power for machine learning, Whole Slide Image-based analysis

ANEO and ALDWIN partners

HIPE
HIERARCHIC IMAGE
PROCESSING ENGINE

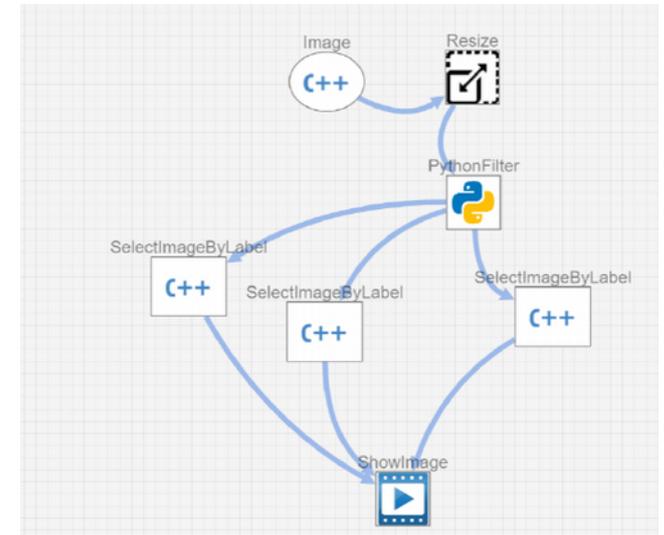
C'EST QUOI HIPE ? TÉLÉCHARGER UTILISER ACCOMPAGNEMENT CONTACTEZ L'ÉQUIPE aneo the other solution

STRUCTURER ET RÉDUIRE LE TEMPS DE DÉVELOPPEMENT EN VISION ARTIFICIELLE

HIPE est une application SaaS pensée pour faciliter la conception et le design de briques d'analyse temps-réels visuelle et de simulation numérique intensive.

Cet outil est à destination des développeurs, chercheurs et administrateurs, et permet de une meilleure compréhension entre tous les membres de l'équipe.

A digital pathology toolbox
aaS



The blockchain galaxy



The digital histopathology galaxy

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Featured Articles

Early Bird Discount ENDS FRIDAY APRIL 12 – PI Summit 2019

There's still time to REGISTER for the 2019 PI-Summit! EARLY BIRD DISCOUNTS ENDS FRIDAY, APRIL 12! PATHOLOGY INFORMATICS SUMMIT MAY 6-9, 2019 PITTSBURGH, PA Top Leaders + Inspiration + Education designed for beginners to advanced practitioners *CME + SAM CREDITS AVAILABLE The 2019 Pathology Informatics Summit takes on the challenge of fully covering the topics of Primary Diagnosis by whole slide imaging and the use [...]

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OptraScan presents Immunofluorescence Automated WSI System

Recent Articles

NanoString and Leica Biosystems to Co-Market GeoMx Digital Spatial Profiling and Leica's BOND RX Platforms for High Throughput Spatial Analysis

Dr. Keith J. Kaplan | April 8, 2019 | 0 Comments

SEATTLE and NEWCASTLE UPON TYNE — NanoString Technologies, Inc. (NASDAQ:NSTG), a provider of life science tools for translational research and molecular diagnostic products, today announced a comarketing agreement to promote and provide technical support for a research workflow combining Leica Biosystem's BOND RX™ autostainer with NanoString's proprietary GeoMx™ Digital Spatial Profiling (DSP) instrument and assays. The integration of Leica [...]

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Federal Judge Wants to Hold Hearing Over CVS-Aetna Merger in May

Dr. Keith J. Kaplan | April 8, 2019 | 0 Comments

Reuters (4/5, Bartz) reported that Judge Richard Leon of the U.S. District Court for the District of Columbia, who is "reviewing an agreement between the government and CVS Health Corp allowing the pharmacy chain to buy health insurer Aetna," on Friday signaled "that he wanted to hold a hearing in May to hear from critics of [...]"

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Webinar | Integration of Artificial Intelligence with Digital Pathology: Deployment Considerations & Cases Studies in Pharma

Dr. Keith J. Kaplan | April 5, 2019 | 0 Comments

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BIOSYSTEMS

VISIOPHARM
AUGMENTED PATHOLOGY

DEFINIENS
the tissue phenomics company

OLYMPUS

HURON
Digital Pathology

XIFIN

GRUNDIUM

Crista

PROSCIA

Glencoe
SOFTWARE

nucleai

OptraScan
The Advanced Digital Pathology

indica labs
informed pathology

voicebrook
The leader in Pathology Speech Recognition

TDRVN

And a community of practitioner that is ready (at least) in France

GdR ISIS "Analyse de tissu biologique et histopathologie numerique", June 23rd 2015, Paris
<http://www.gdr-isis.fr/index.php?page=reunion&idreunion=276>

Invited talk at Pathologie digitale: enjeux et opportunités, 13th March 2019,
Institut d'Études Avancées de Paris (Hôtel de Lauzun), France.

<https://www.paris-iea.fr/fr/evenements/pathologie-digitale-enjeux-et-opportunités-formation-d-un-groupe-de-travail>

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