






DICHIARAZIONE DI INSUSSISTENZA DI INCOMPATIBILITÀ

(artt. 51 e 52 del Codice di procedura civile e artt. 35 e 35bis D.Lgs. n. 165/2001)

I sottoscritti, in qualità di Presidente, di Componenti e Segretario della Commissione dell'avviso pubblico per titoli e colloquio di cui al verbale in atti, in conformità a quanto previsto dall'articolo 9, comma 2, del D.P.R. 483/97, dichiarano sotto la propria responsabilità che non sussistono situazioni di incompatibilità tra essi e i concorrenti come da Allegato "Elenco candidati", ai sensi degli articoli 51 e 52 del codice di procedura civile.

I sottoscritti dichiarano altresì di non trovarsi in situazioni di incompatibilità di cui agli artt. 35 e 35bis del D.Lgs. n. 165/2001.

Milano, 31 gennaio 2022

- dott. Pierangelo Spada – Presidente

- d.ssa Carla Riva – Componente

- d.ssa Giuseppina Ballabio – Componente


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Il sottoscritto, in qualità di Segretario della Commissione esaminatrice dell'avviso in parola, dichiara di non trovarsi in situazioni di incompatibilità di cui all'art. 35bis del D.Lgs. n. 165/2001.

Milano, 31 gennaio 2022

- sig.ra Antonietta Aiello – Segretario


**CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE
PROFESSIONALE SANITARIO TECNICO SANITARIO**

prova espletata: 31 gennaio 2022

N	COGNOME	NOME	DATA E LUOGO DI NASCITA
1	ANELI	ROBERTA	25/06/1998 VITTORIA (RG)
2	ARDORE	ALICE	17/07/1991 GELA (CL)
3	BARBETTA	FRANCESCA	17/08/1996 PESCARA (PE)
4	BIANCUCCI	GEMMA	28/08/1998 AGRIGENTO (AG)
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8	DI LEVA	MARIA	17/06/1997 NAPOLI (NA)
9	DI PRIMA	ALESSIA	22/10/1994 PALERMO (PA)
10	FERRARA	VALERIA	15/10/1998 FOGGIA (FG)
11	FIORINI	CHIARA	18/03/1992 BRESCIA (BS)
12	GAVAZZI	SARA	05/10/1990 CHIARI (BS)
13	LENARDUZZI	SABRINA	12/11/1999 MILANO
14	MAZZA	SARAH	21/06/1973 MILANO (MI)
15	MERCURIO	NICOLO'	14/11/1994 MILANO (MI)
16	MISSUD	MARTINA	28/09/1998 VITTORIA (RG)
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22	SCOTTI	GLORIA	18/10/1999 TREVIGLIO (BG)
23	SERAFINI	GAIA	30/01/1993 LUINO (VA)
24	TURIACE	SILVIA	16/01/1998 VERBANIA (VB)
25	VIETTI	ILARIA	30/01/1999 BORGOMANERO (NO)

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**CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE
PROFESSIONALE SANITARIO TECNICO SANITARIO
DI LABORATORIO BIOMEDICO Cat. D**

COGNOME	NOME	TITOLI DI CARRIERA (Max 12 punti)	TITOLI ACC., E STUDIO (Max 3 punti)	TITOLI SCIENTIFICI E PUBBLICAZIONI (Max 5 punti)	CURRICULUM FORMATIVO E PROF.LE (Max 10 punti)	TOTALE TITOLI (Max 30 punti)
ABBATE	NOEMI	2,400	0,000	0,000	0,000	2,400
ACERRA	ORNELLA	4,350	0,000	0,000	0,260	4,610
ANDREONI	NICCOLO'	9,600	0,500	0,000	0,000	10,100
ANELI	ROBERTA	0,750	0,000	0,000	0,000	0,750
ARDORE	ALICE	3,450	0,000	0,000	0,150	3,600
BALOSSINO	PAOLO	5,400	0,000	0,000	0,315	5,715
BARAZZETTA	FRANCESCA MARIA	12,000	0,000	0,200	0,520	12,720
BARBETTA	FRANCESCA	2,250	0,000	0,000	0,345	2,595
BASTIA	RAFFAELLA	4,500	0,000	1,360	1,805	7,665
BIANCUCCI	GEMMA	0,000	0,000	0,000	0,000	0,000
CESARO	MARIA PIA	0,000	0,000	0,000	0,000	0,000
CHERUBINI	GIOVANNI	12,000	0,500	0,000	0,090	12,590
CORMACI	VALENTINA	0,000	0,000	0,000	0,000	0,000
DAPRA'	PAOLA	3,563	0,500	0,000	0,040	4,103
DE MARTINO	ANTONELLA	0,000	0,000	0,000	0,015	0,015
DI LEVA	MARIA	0,000	0,000	0,000	0,000	0,000
DI PRIMA	ALESSIA	7,800	0,500	0,000	0,440	8,740
FERRARA	VALERIA	1,200	0,000	0,000	0,010	1,210
FIORINI	CHIARA	1,500	0,000	0,330	0,105	1,935
GAVAZZI	SARA	1,688	1,000	0,000	0,280	2,968
GUARDABASSI	ANDREA	0,000	0,000	0,000	0,000	0,000
LAMENDOLA	GIANLUCA	9,960	0,000	0,000	0,655	10,615

Carlo...



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LENARDUZZI	SABRINA	0,000	0,000	0,000	0,000	0,000
LORUSSO	SAVIANA	0,450	0,000	0,000	0,120	0,570
MARINO	EMANUELA	0,000	0,000	0,000	0,075	0,075
MAZZA	SARAH	12,000	0,000	0,000	0,645	12,645
MERCURIO	NICOLO'	4,088	0,500	0,000	0,000	4,588
MISSUD	MARTINA	0,000	0,000	0,000	0,000	0,000
MONTELEONE	LUCA	0,000	0,000	0,000	0,000	0,000
MYSLIMI	EGLANTINA	3,038	0,000	0,000	0,000	3,038
OLIVELLI	CINZIA	2,550	0,000	0,000	1,110	3,660
OLTRAMARI	RITA	1,050	0,000	0,000	0,000	1,050
PARDO	CARLOTTA	1,800	0,000	0,000	0,540	2,340
PEDO'	MARYLU'	7,200	0,000	0,000	0,290	7,490
PISCITELLI	MARIA LUIGIA	0,000	0,000	0,000	0,000	0,000
POLITO	FEDERICA	0,000	0,000	0,000	0,000	0,000
POLLI	ELENA	12,000	0,000	0,000	0,120	12,120
PRESTIERI	SALVATORE	0,000	0,000	0,000	0,135	0,135
PROVENZANO	SUSANNA NINA	0,000	0,000	0,000	0,000	0,000
ROTONDI	FABIOLA	12,000	0,000	0,000	0,385	12,385
SALAMONE	VIVIANA	0,000	1,000	0,000	0,000	1,000
SAVINO	ALESSIA MARIA	0,000	0,000	0,000	0,000	0,000
SCODES	MARIANGELA LAURA	12,000	0,000	0,000	0,945	12,945
SCOTTI	GLORIA	0,000	0,000	0,000	0,000	0,000

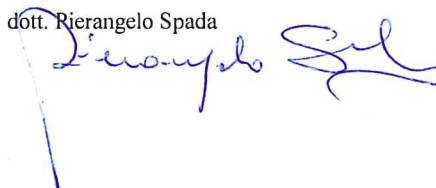


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PROFESSIONALE SANITARIO TECNICO SANITARIO
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SERAFINI	GAIA	4,350	0,000	0,000	0,250	4,600
TORRIANI	CHIARA	0,000	0,000	0,000	0,000	0,000
TURCHIARO	ANTONIO	1,125	0,000	0,000	0,030	1,155
TURIACE	SILVIA	0,000	0,000	0,000	0,000	0,000
VIETTI	ILARIA	0,000	0,000	0,000	0,000	0,000

IL PRESIDENTE DELLA COMMISSIONE

dot. Rierangelo Spada




CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE PROFESSIONALE SANITARIO TECNICO SANITARIO
DI LABORATORIO BIOMEDICO Cat. D

prova espletata: 31 gennaio 2022

N	COGNOME	NOME	DATA E LUOGO DI NASCITA	ESTREMI DOCUMENTO	FIRMA
1	ANELI	ROBERTA	25/06/1998 VITTORIA (RG)	CI AY5523680	Roberta Aneli
2	ARDORE x2101	ALICE	17/07/1991 GELA (CL)	CI CA99976 GM	Alice Ardores
3	BARBETTA	FRANCESCA	17/08/1996 PESCARA (PE)	CI CA66303CH	Francesca Barbetta
4	BIANCUCCI	GEMMA	28/08/1998 AGRIGENTO (AG)	CI AX8336814	Bianca Gemma
5	CHERUBINI	GIOVANNI	27/02/1989 DESENZANO DEL GARDA (BS)	PAT 0476073609	Giovanni Cherubini
6	CORMACI	VALENTINA	12/12/1989 MILANO (MI)	CI AV6617639	Valentina Cormaci
7	DE MARTINO	ANTONELLA	02/12/1985 NAPOLI (NA)	CI CA26669CC	Antonella De Martino
8	DI LEVA	MARIA	17/06/1997 NAPOLI (NA)	ASSEUTE	Maria Di Leva
9	DI PRIMA	ALESSIA	22/10/1994 PALERMO (PA)	CI AT9578267	Alessia Di Prima
10	FERRARA	VALERIA	15/10/1998 FOGGIA (FG)	CI CA77235AC	Valeria Ferrara
11	FIORINI	CHIARA	18/03/1992 BRESCIA (BS)	CI AX8988676	Chiara Fiorini
12	GAVAZZI	SARA	05/10/1990 CHIARI (BS)	CI AS8001734	Sara Gavazzi
13	LENARDUZZI	SABRINA	12/11/1999 MILANO	CI CA72703KV	Sabrina Lenarduzzi
14	MAZZA	SARAH	21/06/1973 MILANO (MI)	CI AU6637868	Sarah Mazza
15	MERCURIO	NICOLO'	14/11/1994 MILANO (MI)	CI A79620076	Nicola Mercurio
16	MISSUD	MARTINA	28/09/1998 VITTORIA (RG)	CI AY3293680	Martina Missud
17	OLTRAMARI	RITA	15/07/1998 VERONA (VR)	CI CA893288E	Rita Oltramari
18	PARDO	CARLOTTA	20/09/1994 ORTONA (CH)	PAT PE524708PP	Carlotta Pardo
19	PEDO'	MARYLU'	29/01/1988 AGRIGENTO (AG)	CI AV0239835	Marylu' Pedro'
20	PISCITELLI	MARIA LUIGIA	30/10/1990 MADDALONI (CE)	CI AX580687Z	Maria Luigia Piscitelli

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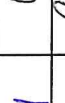
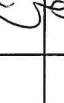


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Piscitelli

Pardo

CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE PROFESSIONALE SANITARIO TECNICO SANITARIO
DI LABORATORIO BIOMEDICO Cat. D

prova espletata: 31 gennaio 2022

N	COGNOME	NOME	DATA E LUOGO DI NASCITA	ESTREMI DOCUMENTO	FIRMA
21	PRESTIERI	SALVATORE	25/09/1990 NAPOLI (NA)	CI CA 891064U	
22	SCOTTI	GLORIA	18/10/1999 TREVIGLIO (BG)	CI CA 4591KH	
23	SERAFINI	GAIA	30/01/1993 LUINO (VA)	CI CA 23769HC	
24	TURIACE	SILVIA	16/01/1998 VERBANIA (VB)	CI CA 69118AY	
25	VIETTI	ILARIA	30/01/1999 BORGOMANERO (NO)	PAT NO 5250380X	

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Concorso pubblico per titoli ed esami per la copertura a tempo pieno e indeterminato
di numero 4 posti di Collaboratore professionale sanitario
PROVA ORALE 31 GENNAIO 2022

Domande

	Descriva cosa rappresenta il pittogramma n. 1
1	Cos'è un esame estemporaneo?
	Descriva cosa rappresenta il pittogramma n. 2
2	Qual è la colorazione di elezione per i campioni istologici?
	Cosa sono le Schede di sicurezza?
3	Qual è la colorazione di elezione per i campioni citologici?
	Illustri il principio dei test rapidi (tipo antigenici per Sars-Cov2 o Gravindex)
4	Cos'è la FISH (Fluorescence In Situ Hybridization)?
	VEQ: Valutazione esterna di qualità. Descriva in cosa consiste
5	Cos'è una sonda molecolare?
	Descriva perché all'arrivo dei campioni in laboratorio viene eseguito il Check-in
6	A cosa serve la fissazione dei campioni biologici?
	Descriva perché vengono eseguiti i Controlli di Qualità Interni
7	Cos'è il microtomo?
	Perché i campioni ematici vengono prelevati in provette con tappi di colore differente
8	Cos'è il criostato?
	La TAT (Turn Around Time), descriva perché è considerato un Indicatore di processo
9	Dopo il frazionamento di una sacca di sangue, quali sono gli emoderivati che si ricavano?
	Descriva cosa si intende per NON CONFORMITA'?
10	Cos'è un primer e che funzione ha?
	Qual è la differenza tra i DPI (Dispositivi di Protezione Individuale) e i DPC (Dispositivi di protezione Collettivi)?
11	Cos'è uno zigote?
	A cosa serve il Laboratory Information System LIS o gestionale di laboratorio?
12	Cos'è l'immunoistochimica e su quale principio si basa?

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13	Descriva il principio base su cui si fondano le tecniche Immunoenzimatiche tipo Elisa (Enzyme-Linked Immunosorbent Assay)
	Cosa si intende per near miss?
14	Cosa sono le Pipette e quando vengono utilizzate in laboratorio
	Da cosa è costituito il DNA?
15	Descriva perché è importante una Gestione del Magazzino in Laboratorio
	A quale spessore vengono tagliate le sezioni tissutali, in routine, al microtomo?
	Cosa si intende per "Indici del Siero" (Serum Index)?
16	Nella processazione di campioni istologici per l'inclusione in paraffina, qual è l'agente chimico che disidrata completamente il campione?
	Qual è la corretta esecuzione di raccolta urine per urinocoltura?
17	Cosa si intende per correlazione cito-istologica?
	Descriva a cosa serve il grafico di Levey-Jennings?
18	Nella colorazione di Ematossilina Eosina qual è il colorante che colora il nucleo? E quale il citoplasma?
19	Il tracciato elettroforetico delle sieroproteine mostrato immagine 1, è un tracciato patologico. Saprebbe spiegare perché?
	La colorazione di Papanicolaou quali coloranti utilizza?
20	Cosa si intende per Emocoltura.
	Cos'è la citogenetica?
21	Quale è la differenza tra accuratezza e precisione
	A cosa serve la tecnica del bandeggio cromosomico?
22	Per eseguire una emogas analisi è necessario aver fatto formazione?
	Cosa si intende per indicatore di qualità?
23	Qual è la differenza siero e plasma?
	Cosa significa ECM e cosa sono i crediti ECM?
24	Cosa si intende per Reflex test
	Cosa si intende per audit del sistema qualità?
25	Cosa si intende per tracciabilità di un processo?
	Motivi perché non è corretto eseguire il dosaggio del Ca plasmatico in provette per Emocromo
26	Motivi perché non è corretto eseguire il dosaggio del K in campioni emolizzati
	Qual è la differenza tra esame citologico ed esame istologico?
27	Descriva la colorazione Gram
	Cosa si intende per VEQ?

28	Descriva quali sono i principali passaggi della fase preanalitica
	Cos'è la citoassistenza e a cosa serve?
29	Cos'è una coltura cellulare?
	Descriva le fasi di un processo analitico
30	Moda, Media e Mediana: cosa rappresentano?
	Quali sono i passaggi basilari per l'allestimento di un preparato istologico?

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Fondazione IRCCS
Istituto Nazionale dei Tumori

Sistema Socio Sanitario



Regione
Lombardia

Concorso pubblico per titoli ed esami per la copertura a tempo pieno e
indeterminato

di numero 4 posti di Collaboratore professionale sanitario

PROVA ORALE 31 GENNAIO 2022

Pittogramma 1.



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Fondazione IRCCS
Istituto Nazionale dei Tumori

Sistema Socio Sanitario



Regione
Lombardia

Concorso pubblico per titoli ed esami per la copertura a tempo pieno e
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PROVA ORALE 31 GENNAIO 2022

Pittogramma 2



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Pelle
Pelle



Fondazione IRCCS
Istituto Nazionale dei Tumori

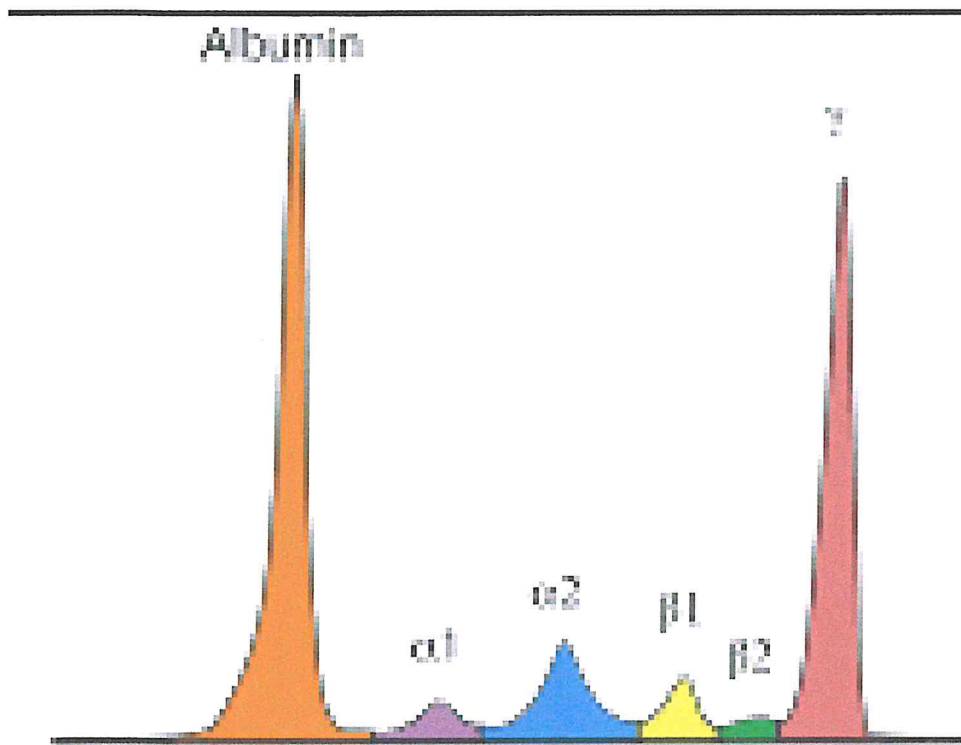
Sistema Socio Sanitario



Regione
Lombardia

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indeterminato
di numero 4 posti di Collaboratore professionale sanitario
PROVA ORALE 31 GENNAIO 2022

Immagine 1



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Article

COVID-19 Pandemic: Huge Stress Test for Health System Could Be a Great Opportunity to Update the Workflow in a Modern Surgical Pathology

Antonino Belfiore ^{1,†}, Giovanni Centonze ^{2,†}, Patrick Maisonneuve ³, Carla Riva ², Daniele Morelli ⁴, Alessandro Mangogna ⁵, Giovanna Sabella ², Giancarlo Pruneri ^{1,*} and Massimo Milione ^{2,*}

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- ² First Pathology Unit, Department of Pathology and Laboratory Medicine, Fondazione IRCCS Istituto Nazionale dei Tumori Milano, 20133 Milan, Italy; giovanni.centonze@istitutotumori.mi.it (G.C.); carla.riva@istitutotumori.mi.it (C.R.); giovanna.sabella@istitutotumori.mi.it (G.S.)
- ³ Division of Epidemiology and Biostatistics, European Institute of Oncology IRCCS, IEO, 20141 Milan, Italy; patrick.maisonneuve@ieo.it
- ⁴ Unit of Laboratory Medicine, Department of Pathology and Laboratory Medicine, Fondazione IRCCS Istituto Nazionale dei Tumori Milano, 20133 Milan, Italy; daniele.morelli@istitutotumori.mi.it
- ⁵ Institute for Maternal and Child Health, IRCCS Burlo Garofalo, 34137 Trieste, Italy; alessandro.mangogna@burlo.trieste.it
- * Correspondence: giancarlo.pruneri@istitutotumori.mi.it (G.P.); massimo.milione@istitutotumori.mi.it (M.M.); Tel.: +39-0223903460 (M.M.)
- † A.B. and G.C. contributed equally to this article.



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Simple Summary: The COVID-19 pandemic has hit Northern Italy’s regions hard in terms of deaths since February 2020. Containment measures have been applied to avoid contagion and reduce the patient infection rate. In this manuscript, we report the experience of the Pathology Department of the Fondazione IRCCS Istituto Nazionale Tumori in Milan, during the period of the first lockdown that occurred in Lombardy from March to May 2020, focusing on the variation in terms of exams between the pre-COVID-19 and COVID-19 periods and describing the measures applied to guarantee the safeguarding of workers. Moreover, we calculated if changes introduced within the workflow affected the average diagnosis time using Turn-Around-Time (TAT) metrics released by the Lombardy Region. We showed a sharp slowdown in exams during the first wave of COVID-19 and that the measures applied for the safeguarding of the personnel turned out to be feasible and did not affect the overall performance of the Pathology Department.

Abstract: **Background:** On December 2019, an outbreak of atypical pneumonia, known as COVID-19, was identified in Wuhan, China. This disease, characterized by the rapid human-to-human transmission of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has spread rapidly in more than 200 countries. Northern Italy’s regions have been hit hard in terms of deaths. Here, we report the experience of the Pathology Department of the Fondazione IRCCS Istituto Nazionale Tumori (INT) in Milan, the first Italian public cancer center, in the period of the lockdown that took place in Lombardy from March to May 2020. **Method:** The variation in terms of exams was calculated in two different timeframes: December 2019–February 2020 (pre-COVID-19) and March–May 2020 (COVID-19). During these periods, Turn-Around-Time (TAT) metrics released by the Lombardy Region were calculated to assess if changes applied to guarantee the safeguarding of workers affected the average diagnosis time. **Results:** In the COVID-19 period, there was a decrease for all the performed exams. The most considerable decrease was observed for PAP tests (−81.6%), followed by biopsies (−48.8%), second opinions (−41.7%), and surgical (−31.5%), molecular (−29.4%) and cytological (−18.1%) tests. Measures applied within the Pathology Department, such as digital pathology, remote working, rotations and changes in operating procedures, improved the diagnostic performance as required by the guidelines of the Lombardy Region in terms of TAT. At the same time, the measures applied for the safeguarding of the personnel turned out to be feasible and did

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not affect the overall performance of the Pathology Department. Conclusions: The sharp slowdown in cancer screening during the first wave of COVID-19 could seriously endanger cancer prevention in the near future.

Keywords: SARS-CoV-2; preventive measures; cancer screening; health management

1. Introduction

5 With over 165 million cases reported and 2 million new cases per day [1], the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic [2,3] has hit Italy particularly hard since March 2020 [4], yielding more than 125,000 deaths in three separate waves, the third of which is currently raging. 6 Since the beginning of the SARS-CoV-2 outbreak, intensive care hospitalization in Lombardy has been very high, urging a profound reorganization of healthcare facilities through the creation of specific COVID-19 hospitals able to guarantee patient isolation and intensive care support, as well as the centralization of treatment for other life-threatening diseases such as cancer in COVID-19-low specialized hubs. 7 In this scenario, Fondazione IRCCS Istituto Nazionale Tumori (INT) in Milan, an Institute of Scientific Hospitalization and Care (IRCCS), was addressed as a hub hospital by the Lombardy Region. INT is the first Italian public cancer center and is one of the main national and international referral centers for cancer treatment. It has 482 beds and is located in a metropolitan area that includes 133 different municipalities and serves more than 3 million people. Considering all these features, INT is in a privileged position to conduct patient care, and preclinical and translational research in oncology. The Department of Pathology has 82 members and is provided with fully equipped labs for routine histopathological assessment and molecular testing. 8 The approach to cancer diagnosis has recently been revolutionized by the introduction of the mutational paradigm, which leverages the comprehensive molecular characterization of tumors for personalized care. Accordingly, we recently applied an innovative organizational model to the INT Department of Pathology, by creating two independent and highly integrated units of surgical and molecular pathology. This structure allowed us to efficiently diagnose and comprehensively profile the case-mix of roughly 50,000 exams per year, either internal or referred by community hospitals, which traditionally represent the core business of our Institution. In this manuscript, we describe the changes in the number of exams and in the workflow of the department units after the first peak of the COVID-19 epidemic in Lombardy, also focusing on the management of biological tissues and procedures to preserve the health of workers.

2. Materials and Methods

2.1. Study Design

9 The main objective of this study was to quantify the negative impact of the first SARS-CoV-2 outbreak on cancer patients of our Institution by focusing on the number of exams performed by the INT Department of Pathology. For this reason, we evaluated the number of exams in two different timeframes, i.e., December 2019–February 2020 (pre-COVID-19 period) and March–May 2020 (COVID-19 period). The exams were grouped into different classes—“surgical”, “biopsy”, “second opinion”, “molecular”, “cytology” and “PAP test”—and differentiated by the origins of the exams, namely, (i) day hospital, (ii) inpatients and (iii) outpatients. 10 During the lockdown period, several to-hospital and within-hospital filters were applied to protect our Institution, as described by Valenza et al. [5]. Accordingly, procedures concerning fresh material handling (fresh sample reduction and processing) and the access of external personnel were modified in both the units of the Department of Pathology, in order to preserve the health of workers [6]. As a secondary aim, we measured the performance of the Pathology Department in diagnosis production, taking advantage of

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the Turn-Around-Time (TAT) metrics released by the Lombardy Region for the pathology laboratories accredited with the national health system: this procedure establishes that at least 90% of the diagnoses must be carried out within a timeframe pre-specified for each category of exams. To this end, the internal Pathox workflow management (Tesi Elettronica e Sistemi Informativi, Milan, Italy) software was retrospectively interrogated for TAT by comparing both the pre-COVID-19 period and COVID-19 period. Finally, the changes in the operating procedures, applied for the safeguarding of workers, were described as a model for the other Pathology Laboratories.

2.2. Operating Procedures and Reorganization of the Working Environment

The main modifications to the operating procedures and working environment are listed below. Table 1 summarizes the changes to each procedure with respect to the pre-COVID situation.

Table 1. Summary of the pre- and post-COVID-19 operating procedures modified within the Department of Pathology.

Area Involved	Pre-COVID-19 Period	COVID-19 Period	Maintenance Post COVID-19 Period
Department access	INT personnel admitted	Authorized operators only	Yes
Personnel	100% onsite	50% clinicians onsite	To be considered
		50% biologists onsite	
		85% technicians onsite	
Gross Reduction Lab	Standard PPE for operators	Advanced PPE for operators	To be considered
	Fresh sampling	24–72 h fixation before sampling	No
	Daily intra-operative instrument decontamination	Decontamination after every intra-operative exam	Yes
Cytology Lab	Standard PPE for operators	Advanced PPE for operators	To be considered
	Instruments on bench	Instruments under class I biocabinet	Yes
Flow Cytometry Lab	Standard PPE for operators	Advanced PPE for operators	To be considered
	Daily instrument decontamination	Instrument decontamination between samples	Yes
Cytogenetics Lab	Standard PPE for operators	Advanced PPE for operators	To be considered
	Sample processed under laminal hood	Sample processed under laminal hood	Yes
Molecular Lab	Standard PPE for operators	Advanced PPE for operators	To be considered
	Automatization of nucleic acid extraction	Automatization of nucleic acid extraction under a laminal hood	To be considered
Digital Pathology	For research use only	For diagnostic use	To be considered

(a) Gross examination

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All the samples were already treated in a safe environment using personal protective equipment. Before the SARS-CoV-2 outbreak, sampling procedures were performed on fresh surgery tissues. The first measure adopted was to submit all the specimens to a 24–72 h fixation with 10% buffered formalin. All the fresh surgical materials referred to our department were properly handled by a pathologist, wearing a FFP2 safety mask and single-use sterile gown under a chemical fume cabinet, to improve formalin penetration, and then fixed for 24 h before routine sampling. All the intraoperative examinations were performed wearing FFP2 safe masks and single-use sterile gowns. The cryostat was decontaminated after every procedure using a 95% alcoholic solution.

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(b) Cytology

13 All the instruments dedicated to cytology were secured under a class I biosafety cabinet. Fresh samples, such as bronchoalveolar washes, urine and expectorates were processed by operators wearing FFP2 safe masks and disposable gowns. Fluids (expectorates, Bronchoalveolar lavages and bronchial aspirates) posing a risk of aerosol generation were processed under a laminar flow hood using additional disposables such as FFP2/FFP3 masks. Steps outside the flow hood were always carried out wearing an FFP2/FFP3 mask, glasses or visors, using sealed tubes. As during the pre-COVID-19 period, alcoholic or different fixatives were avoided in order to preserve the integrity of samples and prevent coarctation or flocculation.

(c) Flow cytometry

14 Sample processing and immunofluorescence labeling were carried out under a laminar flow hood using individual disposables. For the steps performed outside the hood, such as centrifugation, tubes were hermetically sealed. All the instruments were properly sanitized (pipettes and hoods with bleach and common areas with hydroalcoholic solution).

(d) Cytogenetics

Cell cultures from peripheral blood and bone marrow, cell cultures for the analysis of B lymphocyte aspirates, and chromosomal preparations from blood and/or bone marrow aspirates were handled under a sterile laminar flow hood. The operators always wore double gloves, protective glasses or visors and appropriate clothing with additional disposable gowns. Surfaces and centrifuges were sanitized using hydroalcoholic solution.

(e) DNA extraction

DNA extraction from blood samples was always performed using an automated Maxwell extractor (Promega, Milan, Italy). Cartridges were loaded under a laminar flow hood with closed glass. According to the regulations published by the Center for Disease Control and Prevention CDC [7], the operators wore individual protection disposables (surgical masks, a double pair of gloves, protective glasses or visors and a gown). The instruments were sanitized according to the operating instructions. The Maxwell extractor was sanitized internally with UV rays.

(f) Digital Pathology

Slides were digitalized for diagnostic use. Images were acquired on an Aperio ScanscopeXT[®] (Leica Biosystems Aperio, Wetzlar, Germany) at 40× and 400× magnifications and loaded on a Network Attached Storage (NAS) server in order for them to be accessible and viewable by remotely working pathologists. Software for digital slide viewing and analysis (ImageScope, Aperio, Leica Biosystem) was installed on the pathologist's personal computer, as well as them being provided with access to the institutional virtual private network (VPN) to work remotely.

2.3. Safety of Working Environment

15 In order to prevent the possible transmission of COVID-19 within the Laboratory Department, several security measures were undertaken. On 8 March 2020, a presidential decree (Law no. 34/2020) established that up to 50% of the staff personnel could be placed in remote working. The decree was then implemented during the second peak of SARS-CoV-2 infections in October 2020, in order to further balance the need to face the pandemic and the continuity of services through flexibility in working hours. We prioritized remote working for the personnel who were actually able to work from home. In particular, pathologists who shared offices with other colleagues were equipped with software for digital slide viewing and VPN access. Accordingly, biologists were also connected to the VPN in order to enable them to use the lab software remotely. These procedures allowed obtaining a 50% reduction in onsite pathologists and biologists, respectively. By contrast, only 15% of the laboratory technician staff were able to carry out remote working, due to the need to

16 manually perform working procedures on site. Rotations were established to guarantee a safe alternation between onsite and remote working. The access of personnel external to the pathology department was restricted to operators carrying samples from surgical rooms and the day hospital. 17 All the offices of the department were already equipped with sensors unlocked through electronic badges, a measure further helping to reduce contacts among inter- and intra-department operators. The reception of patients for pathology report collection or consultation sample delivery was restricted to offices equipped by glass separators, and the opening time was reduced.

2.4. Statistical Methods

All the statistical analyses were performed using the R environment for statistical computing and graphics (R Foundation, Vienna, Austria, Version 3.6.2). Comparisons of exams among groups were performed by Fisher’s exact test or the Chi square test for categorical variables. All the tests were two-sided, and *p*-values < 0.05 were considered statistically significant.

3. Results

3.1. Exam Volume

18 The number and distribution of the exams carried out in the department in the pre-COVID-19 and COVID-19 periods are outlined in Figures 1 and 2 and Table 2. Overall, we performed 17,178 exams, distributed as follows: 4476 (26.1%) surgical, 3163 (18.4%) biopsies, 1205 (7.0%) second opinions, 3561 (20.7%) molecular tests, 1004 (5.8%) cytological tests and 3769 (21.9%) PAP tests (Figure 1). 19 Upon the COVID-19 outbreak, there was a decrease for all the performed exams (Figure 2 and Table 2). The most important decrease was observed for PAP tests (–2599 exams, corresponding to a reduction of 81.6%), followed by biopsies (–1021 exams or –48.8%), surgical exams (–838 or –31.5%), molecular tests (–613 or –29.4%), second opinion exams (–317 or –41.7%) and cytological exams (–100 or –18.1%) (Figure 2, Table 2).

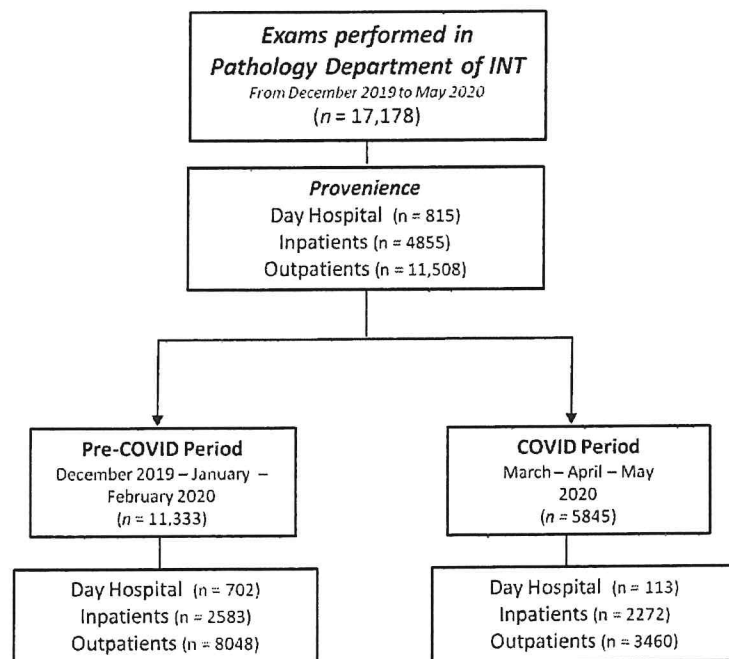


Figure 1. Flowchart of exams performed in pathology department. Abbreviations: INT, Fondazione IRCCS Istituto Nazionale Tumori of Milan (INT).

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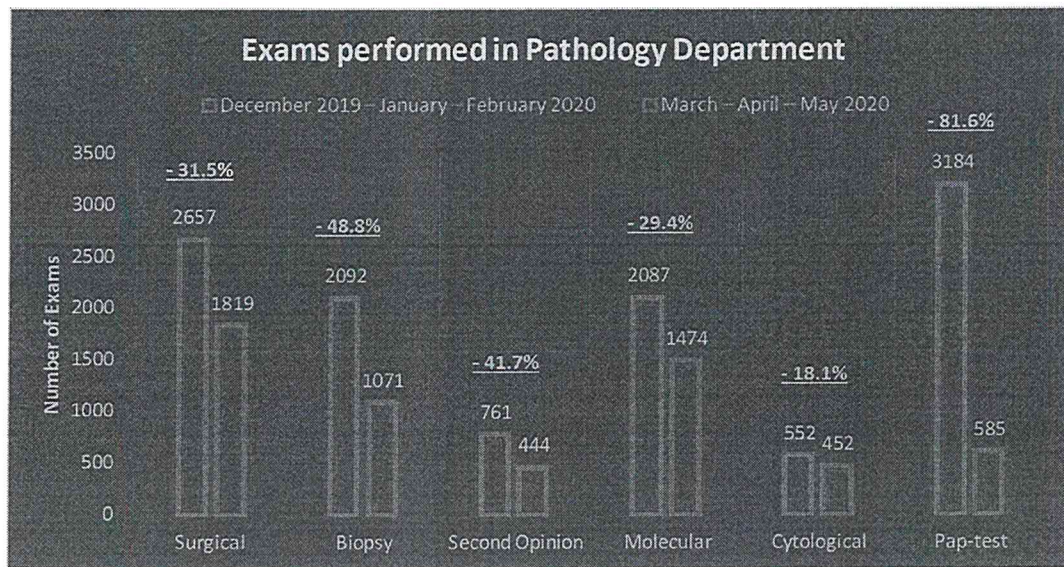


Figure 2. Number of exams performed between the pre-COVID-19 and the COVID-19 period.

Table 2. Exams performed in pre-COVID-19 and in COVID-19 quarters.

Exams	Pre-COVID-19 Period (Dec 2019–Feb 2020) N (%)	COVID-19 Period (Mar–Apr 2020) N (%)	Absolute Change (Relative Change)
All exams	11,333 (100)	5845 (100)	−5488 (−48.4%)
All except pap test	8149 (71.9)	5260 (90.0)	−2889 (−35.5%)
Inpatients	2583 (31.7)	2272 (43.2)	−311 (−12.0%)
Day hospital	702 (8.6)	113 (2.1)	−589 (−83.9%)
Outpatients	4864 (59.7)	2875 (54.7)	−1989 (−40.9%)
Surgical	2657 (23.4)	1819 (31.1)	−838 (−31.5%)
Inpatients	1214 (45.7)	1169 (64.3)	−45 (−3.7%)
Day hospital	511 (19.2)	63 (3.5)	−448 (−88.7%)
Outpatients	932 (35.1)	587 (32.3)	−345 (−37.0%)
Biopsy	2092 (18.5)	1071 (18.3)	−1021 (−48.8%)
Inpatients	268 (12.8)	188 (17.6)	−80 (−29.9%)
Day hospital	143 (6.8)	18 (1.7)	−125 (−87.4%)
Outpatients	1681 (80.4)	865 (80.8)	−816 (−48.5%)
Second opinion	761 (6.7)	444 (7.6)	−317 (−41.7%)
Inpatients	289 (38.0)	198 (44.6)	−91 (−31.5%)
Day hospital	2 (0.3)	0 (0.0)	−2 (−100%)
Outpatients	470 (61.7)	246 (55.4)	−224 (−47.7%)
Molecular	2087 (18.4)	1474 (25.2)	−613 (−29.4%)
Inpatients	543 (26.0)	443 (30.0)	−100 (−18.4%)
Day hospital	20 (1.0)	16 (1.1)	−4 (−20.0%)
Outpatients	1524 (73.0)	1015 (68.9)	−509 (−33.4%)
Cytological	552 (4.9)	452 (7.7)	−100 (−18.1%)
Inpatients	269 (48.7)	274 (60.6)	+5 (+1.9%)
Day hospital	26 (4.7)	16 (3.5)	−10 (−38.5%)
Outpatients	257 (46.6)	162 (35.9)	−95 (−37.0%)
Pap test	3184 (28.1)	585 (10.1)	−2599 (−81.6%)

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3.2. Exam Source

20 During the COVID-19 period, the distribution of the exam sources was modified. Overall, the most important reduction was observed for outpatient exams (−1989 or −40.9%), followed by day hospital exams (−589 or −83.9%) and inpatient exams (−311 or −12.0%). Specifically, the relative frequency of surgical samples and biopsies from the day hospital dropped (19.2% vs. 3.5% and 6.8% vs. 1.7% in the pre-COVID-19 and COVID-19 periods, respectively). Cytological exams also decreased, though to a lesser extent (4.7% vs. 3.5%), while molecular analyses and second opinions were unaltered (1.0% vs. 1.1% and 0.3% vs. 0%, respectively). A similar trend was observed for the outpatients: the surgical (35.1% vs. 32.3%), cytological (46.6% vs. 35.9%), molecular (73.0% vs. 68.9%) and second opinion (61.7% vs. 55.4%) workloads decreased during the COVID-19 period, while biopsies were unchanged (80.8% vs. 80.4%). Finally, we registered an increase in relative frequency in all the exams within the inpatient subgroup during the COVID-19 period.

3.3. Turn-Around-Time

22 The pre-specified TAT was matched for all the test typologies, in both the pre-COVID-19 and COVID-19 quarters under evaluation (Table 3). In particular, a significant increase in TAT exams was observed for surgical (98.2% vs. 95.9%, $p < 0.0001$) and molecular analyses (95.8% vs. 91.8%, $p < 0.0001$) and second opinions (93.5% vs. 85.4%, $p < 0.0001$) in the COVID-19 period compared to the pre-COVID-19 period. On the other hand, no significant TAT changes were observed for biopsies (95.9% vs. 96.2%, $p = 0.69$), cytological exams (97.6% vs. 98.0%, $p = 0.66$) or pap-test exams (100% vs. 100%, $p = 1.00$).

Table 3. Turn Around Time of exams performed in Pathology Department.

Exams	Pre-COVID-19 Period (Dec 2019–Feb 2020) N (%) in Time	COVID-19 Period (Mar–Apr 2020) N (%) in Time	p-Value *
Surgical	2549 (95.9)	1786 (98.2)	<0.0001
Biopsies	2013 (96.2)	1027 (95.9)	0.69
Second Opinion	650 (85.4)	415 (93.5)	<0.0001
Molecular	1916 (91.8)	1412 (95.8)	<0.0001
Cytological	541 (98.0)	441 (97.6)	0.66
PAP Test	3184 (100)	585 (100)	1.00

* p-Value based on the Fisher exact test; TAT imposed by the INT for 20 working days; Abbreviations: TAT—Turn Around Time.

4. Discussion

23 The COVID-19 pandemic keeps challenging health systems worldwide, with repeated infection peaks urging deeply modifying approaches and procedures for safeguarding patients and personnel. During the first lockdown in Lombardy, lasting from March to May 2020, several structures were converted into COVID-19-hospitals, and cancer patients were centralized to a few hubs, including INT Milan. Cancer screening programs including gynecology and mammographic exams were suspended, first and follow-up visits were often postponed, and surgery was delayed except for cases defined as urgent according to specific guidelines released by the regional department of health. In this scenario, cancer centers had the twofold goal of maintaining their proficiency within a COVID-19-low environment through careful screening for COVID-19 infections and new procedures for patient triage as well as internal reorganization [5].

25 Here, we describe the impact of COVID-19-related procedures (the formalin fixation of fresh tissues, remote working with digital pathology and remote reporting tools) applied upon the first peak of the SARS-CoV-2 outbreak in Lombardy on the TAT of the exams carried out at the units of surgical and molecular pathology in INT Milan. The TAT measures the proficiency of a pathology lab in providing timely diagnoses, a prerequisite for properly applying personalized treatments, especially in cancer patients. We found that the TAT of all the diagnostic procedures evaluated during the COVID-19 period was

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26 always >90%; specifically, 93.5–100% of the exams were completed within the prespecified timeframe. This result in spite of a 50% reduction in onsite personnel (mainly pathologists and biologists) and the implementation of time-consuming procedures including 24–72 h formalin fixation for all the samples admitted to the department likely stems from a generalized decrease in the overall workload due to lockdown restrictions. Actually, the volume of histological, cytological and molecular procedures showed a 14.1–36% reduction during the COVID-19 period. The reduction was particularly evident for day-hospital histological and cytological exams, while samples from inpatients subjected to surgery slightly increased, a trend attributable to social confinement with the centralization of cancer patients from general hospitals. PAP tests showed the greatest decrease (−81.6%), further confirming that cancer screening had an abrupt slowdown during the first wave of COVID-19, a trend endangering cancer prevention in the near future. These data are in keeping with a recent report of London J.W. et al. [8], who compared January–April 2019 and 2020 patient data from a network of 20 US institutions accounting for more than 28 million patients, showing a substantial decrease in breast cancer (−89.2%) and colorectal cancer (−84.5%) screenings. Along this line, Maringe et al. [9] predicted a substantial increase in the number of avoidable breast, colorectal, lung and esophageal cancer deaths in England as a result of diagnostic delays due to pandemic lockdown measures in the UK.

27 We used digital pathology to conjugate personnel safeguarding with diagnostic performance: among the procedural changes made upon the COVID-19 crisis, telemedicine is likely to be maintained and further implemented in the future. Digital pathology allows effectively making diagnoses remotely based on cytological, histological, immunohistochemical and in situ hybridization slides. When properly integrated with the institutional software and the electronic clinical record, this model permits handling all the diagnostic steps following macroscopic examination, eventually enhancing the flexibility of the personnel work schedule.

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5. Conclusions

30 Collectively, our data provide evidence that implementing measures for the safeguarding of the personnel is feasible and does not affect the overall performance of the pathology laboratory. Although the model was implemented upon the first lockdown, when a significant reduction in the overall workload was observed, its efficacy was maintained in the second wave of the infection, is likely to be maintained beyond, and may be useful for other pathology laboratories included in a hub and spoke model. Finally, confirming the principle that every crisis represents an opportunity for progress, our data demonstrate that digital pathology should be implemented for a new and more efficient diagnostic approach.

Author Contributions: Study conception and design: A.B., G.C., M.M. and G.P.; data acquisition: C.R.; analysis and interpretation of data: A.B., G.C., D.M., G.S., A.M. and M.M.; drafting of manuscript: A.B. and G.C.; critical revision of the manuscript for important intellectual content: M.M., P.M. and G.P.; statistical analysis: G.C. and P.M.; study supervision: M.M. and G.P. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: All patients referring to Fondazione IRCCS Istituto Nazionale Tumori in Milan gave their written consent to donating the tissue remaining after diagnostic procedures. This study is based only on the number of exams extrapolated periodically and anonymously for Lombardy Region reports according to the d.g.d of 11 February 2019 n. 1606 and the d.g.r n. XI/772.

Informed Consent Statement: The patient’s consent was withdrawn because only the number of exams performed, divided by categories, was used in this study without sensitive data.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest: The authors have no relevant conflicts of interest pertaining to this article.

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Fondazione IRCCS
Istituto Nazionale dei Tumori

Sistema Socio Sanitario



Regione
Lombardia

Concorso pubblico per titoli ed esami per la copertura a tempo pieno e
indeterminato
di numero 4 posti di Collaboratore professionale sanitario
PROVA ORALE_ Informatica 31 GENNAIO 2022

1. Cos'è l'hard-disk ?
2. Cosa significa "inoltrare un messaggio di posta elettronica" ?
3. Quale estensione identifica un file compresso?
4. Cos'è il Backup ?
5. Come si chiama il sistema di salvaguardia dei dati per garantirne il recupero in caso di guasto al computer ?
6. Il suffisso ".doc" quale file identifica ?
7. Il suffisso ".pptx", quale file identifica ?
8. Il suffisso ".xlsx", quale file identifica ?
9. Cos'è un indirizzo IP - Internet Protocol address ?
10. Un computer connesso in rete è potenzialmente soggetto a possibili intrusioni esterne e tentativi di furto delle informazioni in esso contenute. Come si chiama la protezione offerta ?
11. Cosa identifica il suffisso ".zip" ?
12. Cos'è una chiavetta USB ?
13. Cosa significa in internet, fare un download ?
14. Come si definisce l'unità minima di visualizzazione su uno schermo di computer ?
15. Cos'è la firma digitale ?
16. Cos'è un connettore USB ?
17. Cos'è un browser ?
18. Come si chiama l'apparecchiatura che consente la lettura ottica di testi e immagini ?
19. Cos'è la firma digitale ?
20. Cos'è il programma Excel ?
21. Quale formato si utilizza per la compressione delle immagini ?
22. Cos'è il "Firewall" ?
23. È possibile denominare due file con lo stesso nome ?
24. Cos'è un Gigabyte ?
25. Che differenza c'è tra hardware e software ?
26. Quale operazione è necessaria per scaricare un file da internet sul PC ?
27. A cosa può servire una pendrive ?
28. Nel linguaggio informatico, cos'è un Virus ?
29. Cos'è una Password ?
30. Cos'è un Database ?

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CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE PROFESSIONALE SANITARIO TECNICO SANITARIO DI LABORATORIO BIOMEDICO Cat. D		
ESITO PROVA ORALE		
COGNOME	NOME	ESITO PROVA ORALE (MAX. 20 PUNTI)
ANELI	ROBERTA	19,000
ARDORE	ALICE	16,000
BARBETTA	FRANCESCA	19,000
BIANCUCCI	GEMMA	15,000
CHERUBINI	GIOVANNI	20,000
CORMACI	VALENTINA	19,000
DE MARTINO	ANTONELLA	18,000
DI PRIMA	ALESSIA	20,000
FERRARA	VALERIA	15,000
FIORINI	CHIARA	19,000
GAVAZZI	SARA	19,000
LENARDUZZI	SABRINA	15,000
MAZZA	SARAH	17,000
MERCURIO	NICOLO'	17,000
MISSUD	MARTINA	18,000
OLTRAMARI	RITA	16,000
PARDO	CARLOTTA	20,000
PEDO'	MARYLU'	18,000
PISCITELLI	MARIA LUIGIA	20,000
PRESTIERI	SALVATORE	15,000
SCOTTI	GLORIA	19,000
SERAFINI	GAIA	17,000
TURIACE	SILVIA	19,000
VIETTI	ILARIA	18,000

Il Presidente della Commissione
dott. Pierangelo Spada

Pierangelo Spada

Alle
Alto

Milano, 31 gennaio 2022

CONCORSO PUBBLICO PER TITOLI E COLLOQUIO PER N. 4 POSTI DI COLLABORATORE PROFESSIONALE SANITARIO TECNICO SANITARIO DI LABORATORIO BIOMEDICO Cat. D

Espletato: Prova Scritta: 21 gennaio 2022
Prova pratica: 21 gennaio 2022
Prova orale: 31 gennaio 2022

GRADUATORIA

COGNOME	NOME	TITOLI DI CARRIERA (Max 12 punti)	TITOLI ACC. E STUDIO (Max 3 punti)	TITOLI SCIENTIFICI E PUBBLICAZIONI (Max 5 punti)	CURRICULUM FORMATIVO E PROF.LE (Max 10 punti)	TOTALE TITOLI (Max 30 punti)	PROVA SCRITTA (Max 30 punti)	PROVA PRATICA (Max 20 punti)	PROVA ORALE (Max 20 punti)	TOTALE GENERALE (Max 100 punti)	GRADUATORIA	DATA NASCITA
CHERUBINI	GIOVANNI	12,000	0,500	0,000	0,090	12,590	30,000	20,000	20,000	82,590	1°	
DI PRIMA	ALESSIA	7,800	0,500	0,000	0,440	8,740	26,000	18,000	20,000	72,740	2°	
MAZZA	SARAH	12,000	0,000	0,000	0,645	12,645	25,000	18,000	17,000	72,645	3°	
BARBETTA	FRANCESCA	2,250	0,000	0,000	0,345	2,595	27,000	20,000	19,000	68,595	4°	
PEDO'	MARYLU'	7,200	0,000	0,000	0,290	7,490	24,000	18,000	18,000	67,490	5°	
MERCURIO	NICOLO'	4,088	0,500	0,000	0,000	4,588	25,000	20,000	17,000	66,588	6°	
GAVAZZI	SARA	1,688	1,000	0,000	0,280	2,968	24,000	20,000	19,000	65,968	7°	
FIORINI	CHIARA	1,500	0,000	0,330	0,105	1,935	27,000	18,000	19,000	65,935	8°	
TURIACE	SILVIA	0,000	0,000	0,000	0,000	0,000	28,000	18,000	19,000	65,000	9°	
SERAFINI	GAIA	4,350	0,000	0,000	0,250	4,600	24,000	16,000	17,000	61,600	10°	
ARDORE	ALICE	3,450	0,000	0,000	0,150	3,600	27,000	14,000	16,000	60,600	11°	
PARDO	CARLOTTA	1,800	0,000	0,000	0,540	2,340	24,000	14,000	20,000	60,340	12°	
OLTRAMARI	RITA	1,050	0,000	0,000	0,000	1,050	27,000	16,000	16,000	60,050	13°	
PISCITELLI	MARIA LUIGIA	0,000	0,000	0,000	0,000	0,000	24,000	16,000	20,000	60,000	14°	
ANELI	ROBERTA	0,750	0,000	0,000	0,000	0,750	24,000	16,000	19,000	59,750	15°	
SCOTTI	GLORIA	0,000	0,000	0,000	0,000	0,000	24,000	16,000	19,000	59,000	16°	18/10/1999
VIETTI	ILARIA	0,000	0,000	0,000	0,000	0,000	27,000	14,000	18,000	59,000	17°	30/01/1999
CORMACI	VALENTINA	0,000	0,000	0,000	0,000	0,000	26,000	14,000	19,000	59,000	18°	12/12/1989
MISSUD	MARTINA	0,000	0,000	0,000	0,000	0,000	26,000	14,000	18,000	58,000	19°	
DE MARTINO	ANTONELLA	0,000	0,000	0,000	0,015	0,015	22,000	16,000	18,000	56,015	20°	
BIANCUCCI	GEMMA	0,000	0,000	0,000	0,000	0,000	24,000	14,000	15,000	53,000	21°	
LENARDUZZI	SABRINA	0,000	0,000	0,000	0,000	0,000	21,000	16,000	15,000	52,000	22°	
FERRARA	VALERIA	1,200	0,000	0,000	0,010	1,210	21,000	14,000	15,000	51,210	23°	
PRESTIERI	SALVATORE	0,000	0,000	0,000	0,135	0,135	22,000	14,000	15,000	51,135	24°	

Milano, 31 gennaio 2022

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Pierangelo Spada
Il Presidente della Commissione
(dott. Pierangelo Spada)