



**ISTITUTO ZOOPROFILATTICO SPERIMENTALE  
DELLA LOMBARDIA E DELL'EMILIA ROMAGNA  
"BRUNO UBERTINI"**  
(ENTE SANITARIO DI DIRITTO PUBBLICO)

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**AVVISO DI SELEZIONE PUBBLICA PER CURRICULUM E COLLOQUIO PER LA COPERTURA DI POSTI A TEMPO DETERMINATO – TEMPO PIENO - NEL PROFILO DI ASSISTENTE TECNICO ADDETTO AI SERVIZI DI LABORATORIO CAT. C DA ASSEGNARE ALLA SEDE DI BRESCIA E ALLE STRUTTURE PERIFERICHE DELLA LOMBARDIA E DELL'EMILIA ROMAGNA PER ATTIVITA' NEL SETTORE DI CHIMICA DEGLI ALIMENTI**

**PROVA ORALE**

**GRUPPO QUESITI A – TECNICHE ANALITICHE**

1. KJELDAHL
2. AAS
3. SOXHLET
4. Tecniche RIA
5. GC
6. Titolazione
7. Cromatografia
8. Rivelatori GC
9. Umidità e ceneri
10. ELISA indiretta
11. Rivelatori di massa usati in GC
12. HPLC
13. Spettrofotometria
14. Tecniche di Immuno affinità
15. Tecniche preparati ve di un campione
16. Spettrometria di massa
17. Tecniche di estrazione
18. TLC
19. ELISA diretta
20. Tecniche di purificazione
21. ICP
22. Rivelatori HPLC

**GRUPPO QUESITI B MATRICI: QUALI TIPOLOGIE DI ANALISI POSSONO ESSERE EFFETTUATE**

1. Olio

2. Caffè
3. Acque potabili
4. Vino
5. Urine
6. Frutta secca
7. Frutta
8. Miele
9. Baby food
10. Pesce
11. Mitili
12. Salumi
13. Latte
14. Uova
15. Rene
16. Piatto
17. Fegato
18. Spezie
19. Muscolo
20. Padella
21. Cereali
22. Mangimi
23. Formaggi

### **GRUPPO QUESITI C – DI CARATTERE GENERALE**

1. Analisi qualitativa e quantitativa in Chimica
2. Metodi di conferma utilizzati in ambito chimico
3. Molarità Normalità
4. Definizione di campione legale
5. Contaminazioni crociate in un laboratorio chimico
6. Materiali di riferimento certificati
7. Definizione di campione conoscitivo
8. Definizione di Ph
9. Le unità di misura impiegate in chimica
10. Classi di vetreria utilizzate in ambito chimico
11. Il concetto di qualità in un laboratorio chimico
12. La normativa degli Istituti Zooprofilattici
13. Cosa sono i materiali di riferimento
14. Gestione del campione a fine analisi
15. Metodi di screening utilizzati in ambito chimico
16. Gestione dei reagenti in un laboratorio chimico
17. DPI
18. Carte di controllo
19. La sicurezza in un laboratorio chimico
20. Come si compilano le etichette di soluzioni standard e reagenti
21. Validazione di metodi in ambito chimico
22. Definizione di LMR e MPRL

Ai candidati viene inoltre richiesto di leggere e tradurre un brano dell'articolo di cui sotto ai fini della verifica della conoscenza della lingua inglese

## Ig Nobel prizes honor do-it-yourself colonoscopies, a curious use for postage stamps, and other peculiar research | Science

By Frankie Schembri Sep. 13, 2018, 7:00 PM



The Ig Nobel Prizes are awarded each year in Cambridge, Massachusetts, to research that “makes people laugh, then think.”

### Improbable Research

Tonight, as has become a yearly tradition, a historic theater at Harvard University was packed to the rafters with Nobel laureates and a rapt audience. They weren't there to witness a sacrosanct scientific ceremony, but rather the **28th annual Ig Nobel Prizes**, an honor bestowed on studies treasured as much for their hilarity as their scientific value. Although the theme of this year's event, put on by the science humor magazine *Annals of Improbable Research*, was “the heart,” much of the winning research focused on decidedly less glamorous parts of the human anatomy.

Take this year's prize in medicine, which went to a pair of doctors who investigated whether riding a rollercoaster can help pass a kidney stone. The duo took 3D-printed kidney models for 20 rides on Big Thunder Mountain Railroad at Walt Disney World in Orlando, Florida. Sitting in the back sections of the car yielded a **64% success rate for passing a stone**, compared with 17% when seated at the front, the researchers reported in 2016 in *The Journal of the American Osteopathic Association*.

A trio of urologists took home the prize in reproductive medicine for their now 4-decade-old technique for measuring nighttime erections. They instructed several male volunteers to wrap a ring of postage stamps snugly around their penis at bedtime and check in the morning for tears in the perforation. The method, they reported in 1980 in *The Journal of Urology*, was **nearly 100% accurate**. The researchers clarified that they manufactured their own stamps for the experiment, as using official U.S. postage “required permission from the Secret Service.”

Japanese gastroenterologist Akira Horiuchi won the medical education prize for an experiment in which he reviewed the comfort and efficiency of self-colonoscopy in the sitting position by **performing a colonoscopy on himself while seated**. He reported only “mild discomfort.”

Other winners included a team that demonstrated that most people who use complicated products **do not read the instruction manual** (Literature Prize); researchers

who surveyed Spanish drivers to determine the frequency, motivation, and effects of shouting and cursing while in a car (Peace Prize); a group that investigated whether using Voodoo dolls to retaliate against abusive bosses makes employees feel better (Economics Prize); and a team that tested the effectiveness of a “spit shine” by cleaning 18th century sculptures with saliva and several alcohol-based cleaners (Chemistry Prize). Spit won.

Past Nobel Prize winners handed out the awards, including Eric Maskin (Economics, 2007), Wolfgang Ketterle (Physics, 2001), Oliver Hart (Economics, 2016), and Michael Rosbash (Medicine, 2017). As has been tradition, each award was accompanied by a cash prize in the form of a \$10 trillion bill from Zimbabwe, worth only a few U.S. cents. The organizers capped acceptance speeches at exactly 60 seconds, with winners cut short by an 8-year-old girl repeating: “Please stop. I’m bored.”

The ceremony also included the world premiere of *The Broken Heart Opera*, a musical that featured a gaggle of children attempting to build a mechanical heart, then breaking it, and—as the Bee Gees’s 1971 song “How Can You Mend a Broken Heart” played—eventually repairing it. The audience was also encouraged to participate in the ceremony by folding pages from the program into paper airplanes and launching them at the stage.

