

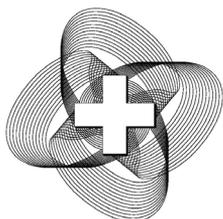


# INTERNATIONAL CHRONOMETRY CONTEST 2009

## RULES OF PROCEDURE

### TESTING

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**COSC**  
CONTRÔLE OFFICIEL SUISSE DES CHRONOMÈTRES



### PARTNERS

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Société Suisse  
de Chronométrie



COMPAGNIE D'ASSURANCES  
VERSICHERUNGS - GESELLSCHAFT  
INSURANCE COMPANY



CURRENT NEWS CONCERNING THE CONTEST:

[WWW.CHRONOMETRIE2009.CH](http://WWW.CHRONOMETRIE2009.CH)

# REGISTRATION

## DETAILS

Mr.  Mrs.

Name: \_\_\_\_\_

First Name: \_\_\_\_\_

Compagny / School: \_\_\_\_\_

Address: \_\_\_\_\_

ZIP (postal code): \_\_\_\_\_

City: \_\_\_\_\_

Country: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-mail: \_\_\_\_\_

## SUBMITTED PIECE /S

We commit to submit the following piece/s with the characteristics stated below (or on further forms that can be downloaded from [www.chronometrie2009.ch](http://www.chronometrie2009.ch)).

Brand / Type of model: \_\_\_\_\_

Type of movement / caliber: \_\_\_\_\_

Diameter of movement: \_\_\_\_\_

Surface: \_\_\_\_\_

Height: \_\_\_\_\_

Frequency: \_\_\_\_\_

Orientation of the stem in relation to the dial: \_\_\_\_\_

We have taken note of the conditions for applying and the rules of procedure.

We commit to placing the above mentioned piece/s at the disposal of the Watch Museum of Le Locle, Château des Monts, from May 23rd, 2009 till August 31st, 2009.

Signature / stamp:

Registration fees:  100 € for individuals  1000 € for brands and manufacturers of movements

Bank information:	Holder	Musée d'Horlogerie - Château des Monts
	Bank	UBS SA, 2400 Le Locle
	Clearing	242
	Account number	242-E8113489.0
	IBAN	CH17 0024 2242 E811 3489 0
	BIC / Swift	UBSWCHZH80A

Please send the form to:

Musée d'Horlogerie du Locle - Château des Monts - CP 292 - 2400 Le Locle - [chronometrie2009@ne.ch](mailto:chronometrie2009@ne.ch)

# PREAMBLE

IN ORDER TO CELEBRATE IN 2009 THE 50TH ANNIVERSARY OF THE CHÂTEAU DES MONTS, THE WATCH MUSEUM OF LE LOCLE HAS ORGANIZED THE FIRST INTERNATIONAL CHRONOMETRY CONTEST OF THE 21ST CENTURY. THIS CONTEST IS BASED ON THE OBSERVATORY CONTESTS OF THE 19TH CENTURY WHICH STOPPED IN THE SECOND HALF OF THE 20TH CENTURY. THE CONTEST WILL PROCEED WITH A SCIENTIFIC, TECHNICAL AND CULTURAL APPROACH INTENDED TO PROMOTE THE KNOW-HOW OF THE WATCHMAKERS, CRAFTSMEN, MANUFACTURERS AND WATCH LOVERS, WHO SHARE THE PASSION FOR PERFECTION WHICH FOUNDED THE HISTORY OF WATCH MAKING.

IT IS OUR GOAL TO PROMOTE THE INTEREST IN CHRONOMETRY IN MODERN WATCH MAKING. TO DO SO, WE WILL APPLY INNOVATING EXPERIENCE AND WANT TO MODERNIZE THE KNOW-HOW IN ADAPTING THE PRESENTED WATCHES TO MODERN CONTROL TECHNIQUES.

THE INTERNATIONAL CHRONOMETRY CONTEST 2009 IS JOINTLY ORGANIZED BY THE SWISS OFFICIAL CHRONOMETRY CONTROL OFFICE (COSC), THE OBSERVATORY IN BESANÇON (FRANCE), THE UNIVERSITY OF APPLIED SCIENCE HE-ARC IN LE LOCLE (SWITZERLAND), WITH ASSISTANCE FROM THE SWISS CHRONOMETRY ASSOCIATION AND IN PARTNERSHIP WITH THE FRENCH WATCH FORUM, FORUMAMONTRES.

THE JURY WILL BE COMPOSED OF INDEPENDENT PERSONALITIES WHO GUARANTEE THE SCIENTIFIC VALIDITY OF THE TEST RESULTS. THE CHAIRMAN IS MICHEL MAYOR (ASTROPHYSICIST OF THE OBSERVATORY OF GENEVA). THE TECHNICAL EXPERT IS LAURENT-GUY BERNIER (FEDERAL OFFICE OF METROLOGY METAS).

THE HONORARY COMMITTEE OF THE INTERNATIONAL CHRONOMETRY CONTEST IS PRESIDED BY CLAUDE NICOLLIER, ASTRONAUT, NASA, EPFL).

# RULES OF PROCEDURE

Admitted to the contest are wrist-watches, completely assembled, on a wristband not requiring a CITES form. The organizer of the contest declines any responsibility if the submitted pieces do not fulfill this requirement.

## PLACE OF DEPOSIT OF THE PIECES AND TESTING

The contest will start officially on May 23rd, 2009 with the submission of the pieces to the Watch Museum of Le Locle, Château des Monts, Route des Monts 65, Le Locle, Switzerland.

The test will be done in two independent control laboratories and at the Watchmaking and Design institute of the University of Applied Science, HE-ARC.

- The COSC (Official Suisse Chronometry Control Office, Switzerland) at the official office in Le Locle
- The Observatory in Besançon (France)
- Watchmaking and Design institute of the University of Applied Science, HE-ARC in Le Locle for the shock and magnetism tests

The sequence of test is the following:

- Observatory Besançon
- COSC - Le Locle
- HE-ARC - Le Locle
- COSC - Le Locle

## THE JURY

The multidisciplinary jury has been elected. The members are:

Chairman: Michel Mayor, astrophysicist, Observatory of Geneva

Technical commissary: Laurent-Guy Bernier, Federal Office of Metrology - METAS

Members: the full list of members of the jury of the international chronometry contest 2009 will be published during the month of August 2008.

## HONORARY COMMITTEE

The honorary committee will assist the organization and ensure international recognition of the International chronometry contest 2009 and is presided by Claude Nicollier, astronaut.

## REGISTRATIONS

The registration has been launched in June 2008. The deadline is September 5th, 2008 at 12 o'clock Swiss time (i.e. 10 AM UCT) attested by the postmark. The registration forms include the technical aspects of the product.

## APPLICANTS

The applicants are divided into three categories:

- Individuals
- Schools
- Brands and manufacturers of movements

The applicant must have assembled, adjusted and set the watch himself internally. He expressly commits to this by signing up for the contest.

The contest is open for watch movements assembled, adjusted and set up in the following countries:

Albania	Germany	Andorra	Armenia	Austria	Azerbaijan
Belgium	Byelorussia	Bosnia-Herzegovina	Bulgaria	Cyprus	Croatia
Denmark	Spain	Estonia	Finland	France	Greece

Georgia	Hungary	Ireland	Italy	Latvia	Liechtenstein
Lithuania	Luxembourg	Macedonia	Malta	Moldavia	Monaco
Montenegro	Norway	Holland	Poland	Portugal	Rumania
United Kingdom	Russia	Slovakia	Slovenia	Saint-Marin	Serbia
Switzerland	Sweden	Czech Republic	Turkey	Ukraine	Vatican

All pieces participating in the contest will be transported simultaneously.

The applicant registers with the intention of handing over a certain amount of pieces and the organizer of the contest commits to a equal treatment of requests, taking into consideration the capacities and equality of treatment. If necessary, there will be a draw by lots, under supervision of a notary, to decide on the available places. There is no possibility of appeal.

The jury decides exclusively on the admittance of applicants. It does not have to explain its decisions.

The jury will hold a meeting on September 15, 2008 to decide on the admittance of applicants.

The list of participants will be announced at the Annual Congress of the Swiss Chronometry Association on September 17, 2008.

The fees for admittance to the contest are:

- 100 € for non-commercial individuals
- no fee for schools
- 1'000 € for Brands and manufacturers of watch movements

The application is effective, once the fee has been paid no later than 30 days after the public announcement. If the applicant does not pay the fee in due time, he will be excluded. His place will be given to the next in line.

## PUBLICATION OF THE APPLICATIONS AND RESULTS

The list of the participants will be publicly announced. Each contender will receive a special identification number that will remain confidential. The results will be announced publicly, but only with the identification number, except the winners of each category. The obtained results of the other participants will be published anonymously.

## TECHNICAL SPECIFICATIONS

**DIMENSIONS OF THE MOVEMENT.** The contest applies to mechanical wrist watches only and excludes pocket watches. It aims to be representative of today's watch making industry.

- Maximum height: 15 mm
- Maximum diameter of watchcase: 38.5 mm of diameter (17 lines)
- Maximum surface: 1164 mm<sup>2</sup>

All movements will be tested following the criteria of category 1 of ISO 3159 (including the movements of category 2).

**SECOND'S DISPLAY.** Condition sine qua non: permanent view of the second, retrograde second is not allowed.

The positions of the tests are determined by the dial and must meet the ISO 3159 norm. The orientation of the stem relative to the dial must be known (e.g. Stem at 4 am, 9 am, etc.).

## RATING OF THE PIECES AND AWARD-WINNING

Each watch will be tested three times based on ISO-3159 norms. Each step will receive a rating; the third test will be applied after the specific, mechanic (shocks) and magnetism tests have been carried out.

The first test will be done at the Observatory in Besançon and will rate as note  $N_1$ . The second test will be carried out at the observation office of COSC in Le Locle and result in the note  $N_2$ , each watch will then be submitted to the shock and magnetism tests before going for the last time to the COSC, which will result in note  $N_3$ .

Each note  $N_1$ ,  $N_2$ ,  $N_3$  is calculated by the following formula:

$$N_i = 1000 - 500 \times |C| - 100/3 \times |D| - 100 \times V_{\text{moy}} - 10 \times P - 20 \times V_{\text{max}} - 10 \times |R| - 12,5 \times |M_{\text{moy}}|$$

Where:

- moy = average
- C is the variation of the running of the watch in relation to the temperature
- D is the difference between the horizontal functioning and the vertical functioning of the watch
- $V_{moy}$  is the average variation observed in the running of the watch
- P is the largest difference observed in the running of the watch
- $V_{max}$  is the largest variation observed in the running of the watch
- R is the reprise of the watch
- $M_{moy}$  is the average functioning of the watch in daytime

The formula of equation of these 7 criteria is defined by ISO-3159.

Failure to reach these minimal criteria defined by ISO 3159 at any of the three testing steps will mean elimination of the submitted piece from the contest.

There is no distinction made between watches that are too fast or too slow. The criteria C, D, R, and  $M_{moy}$  take only the absolute value into account;  $V_{moy}$ , P and  $V_{max}$  are positive by definition.

The final note will result due to a weighting of the three notes  $N_1$ ,  $N_2$ ,  $N_3$  with the following formula:

$$N_f = 0,4 \times N_1 + 0,4 \times N_2 + 0,2 \times N_3$$

In each category, the watch receiving the best note will be the winner (the perfect watch would receive 1000 points, a watch just passing the criteria of ISO 3159 would receive 0).

## REMARKS CONCERNING THE MAGNETISM AND SHOCK TESTS

- Magnetism

The pieces will be subjected to magnetic fields defined by the norm NIHS 90.10 / ISO 764. The tests will be carried out at the research unit watch making of the University of Applied Science, HE-ARC in Le Locle.

- Micro-shocks / wear simulation

The pieces will be subjected to 3 x 50 shocks with an amplitude of 150 G, during 5 ms, i.e. 50 shocks in the axis 3h-9h, 50 shocks in the axis 6h - 12 h and 50 shocks in the vertical axis to the dial. This corresponds to a normal use in everyday life, like clapping one's hands.

## PUBLICATION OF THE RESULTS

The results will be published at the beginning of 2010. The name of the winner of each category (individuals, schools, brands and manufacturers of movements) will be publicly revealed. The results of all participants will be published anonymously. There will be a special exposition presenting all participating watches at the watch museum Château des Monts, in Le Locle.

The participants commit to leave the watches of the contest at the disposal of the watch museum Château des Monts, Le Locle, till August 31, 2010.

## INSURANCES

The pieces are deposited at the participant's own risk. They are not insured: neither by the laboratories nor by the Watch museum Château des Monts, Le Locle. Some tests might be destructive; the participants must accept these tests and the risks.

All questions relating to liability in connection with the handling, the examination and the transport are excluded. During the transport from one site to the other, the watches are insured for up to 5,000 CHF per piece. If the participants wish a higher insurance, they may do so at their own expense.

## LEGAL REGULATIONS

If any question of interpretation arises, the French documents are legally binding. The legal venue is Le Locle, Switzerland, the Swiss Law will be applied.