THE ICOH SC ON SHIFTWORK
AND THE WORKING TIME SOCIETY:
A BRIEF HISTORY THROUGH THE INTERNATIONAL SYMPOSIA

Giovanni Costa

Hoofddorp, 18 September 2005
Foundation of the Scientific Committee “Shiftwork” of the Permanent Commission and International Association on Occupational Health (PCIAOH – now ICOH)

One of the first 4 Committees established
Absenteism - Maximum Allowable Concentration - Shiftwork - Lead intoxication
(At present they are 35)

Objectives:
- To discuss basic and applied problems
- To be an advisory Committee for national and international bodies
- To promote co-operative efforts for the solution of occupational work problems in this area of interest
<table>
<thead>
<tr>
<th>Period</th>
<th>Chair</th>
<th>Secretary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957-1978</td>
<td>A. Bruusgaard (NOR)</td>
<td>A. Swensson (SWE)</td>
</tr>
<tr>
<td>1978-1989</td>
<td>J. Rutenfranz (GER)</td>
<td>P. Colquhoun (UK)</td>
</tr>
<tr>
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<td></td>
<td>A. Wedderburn (UK)</td>
</tr>
<tr>
<td>1989-1997</td>
<td>K. Kogi (JAP)</td>
<td>A. Wedderburn (UK)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K. Greenwood (AUS)</td>
</tr>
<tr>
<td>1997-2003</td>
<td>S. Folkard (UK)*</td>
<td>D. Tepas (USA)*</td>
</tr>
<tr>
<td>2004-</td>
<td>G. Costa (ITA)*</td>
<td>S. Hornberger (GER)*</td>
</tr>
</tbody>
</table>
1st Symposium

**Date:** Jan 31- Feb 1, 1969  
**Location:** OSLO (Norway)  
**Organiser:** A. Bruusgaard  

**Participants:** 30?  
**Papers:** 13  
**Countries:** 6 DDR FIN FRG NOR SW UK  

**Main topics:**  
- Shiftwork & health  
- Shiftwork & circadian rhythms  
- Adaptability to shiftwork
Questions put by the Chair

- What has occupational health today to offer when asked about advice on shift and health?
- Do the recent advances in research give us sufficient knowledge to give a valid advice which may be of importance to the health of a great proportion of breadwinners?
- What do we know about age and shift? What about the length of shift periods?
- What about the number of social, socio-medical, economic and other factors?
- Should we only sit down and accept the increasing use of shift work, as we are told that it is necessary, under pressure of the tyranny of technology?
2nd Symposium

Date: September 20-24, 1971
Location: SLANCHEV BRYAG (BG)
Organiser: N. Tsaneva

Participants: about 40
Countries: 9 BUL, CCCP, DDR, FIN, FRG, NOR, POL, SW, UK
Papers: 18

Main topics:
- Physiological assessment
- Psychological problems
- Performance - accidents
Final statement of the Symposium

A. It is necessary to try to find and apply reliable methods for selecting people suitable for shifts work or maybe rather to recommend some individuals not to take shift work if their constitution and personality may produce difficulties in adapting to the shift work situation? This is a field where only very little work has been done, but research of this kind is very important.

B. Many different shift systems and schedules are practised and it is impossible to say simply which one is the best. It is necessary to study the different systems, perhaps in an international approach, with similar and comparable methods in an effort to find the system which causes least inconveniences.

C. There is a need for more research to elucidate the adaptation of families to shift and night work. Community planning, including houses built to ensure undisturbed daytime sleep for the shift worker, is an important area in which very little has been done.
The three “survivors”
3rd Symposium

**Date:** October 29-31, 1974  
**Location:** DORTMUND (FRG)  
**Organiser:** J. Rutenfranz  
 **P. Knauth**  
**Participants:** 50  
**Countries:** 8 BUL, FIN, FRA, FRG, NED, NOR, SW, UK  
**Papers:** 25

**Main topics:**  
- Experimental studies  
- Adaptation in lab & field studies  
- Individual differences
Rutenfranz’s statement

- It is our view that we need much more information based on experimental studies of shift-work before we can feel fully confident in advising industrial and other organisations about their own particular problems in this area.

- We think of an experiment on shift-work as a study where one controls as many factors as possible, then varies one or more of these factors systematically, and then observes the changes that results.

- We emphasise real-life problems because obviously it is essential to know these before one sets up an experiment in laboratory. Otherwise one might do a beautiful experiment, the results of which should be quite valueless in practice.

- This is why we need those of you here who have been working ‘in the field’ to advise those of us working in the laboratory what are the most important things for us to do experiments on.
4th Symposium

Date: November 14-17, 1977
Location: DORTMUND (FRG)
Organiser: J. Rutenfranz
P. Knauth

Participants: 80
Countries: 11
Papers: 38

Main topics:
- Adjustment of circadian rhythms
- Design of shift schedules
- Individual differences - tolerance
• The circadian system represents a temporal order which is mediated by the mutual coupling of a variety of oscillators and by the synchronising effects of zeitgebers. It is likely that the well-being of man depends partly on the maintenance of this order, and that repeated or long lasting disturbances to it will have harmful effects.

• Due to differences in the “inertia” of the various oscillators, the circadian system is temporarily out of order whenever it is phase shifted; and is more or less permanently out of order when under the influence of conflicting zeitgebers.

• One of the aims in designing shift work schedules is to minimise the possible effects of both these kinds of disorder.

J. Aschoff: “Features of circadian rhythms relevant for the design of shift schedules”.
5th Symposium

Date: May 12-16, 1980
Location: ROUEN (France)
Organiser: A. Reinberg, N. Vieux, J. Ghata, P. Andlauer
Participants: 90
Countries: 16
Papers: 60

Main topics:
- Methods of analysis
- Sleep disturbances
- Health and safety
- Field studies
We knew from experience that night and shift work has social, psychological, medical, physiological, biological, ergonomical, etc. implications and aspects. In addition it is quite clear that the organisation and the choice of night and shift work system is based mainly, if not exclusively, on economical, political and societal considerations.

Human factors are given “lip service” but seldom taken into account when a decision is to be made. It is still widely assumed that

1) a person is able to work, at will, at any time in the 24-h scale as well as in the early scale, and
2) anyone is able to tolerate a shift work position.

Thanks to facts provided by chronobiological studies and clinical experience, both of these assumptions are beginning to be recognised what they are: dangerous illusions!

A. Reinberg, N. Vieux, P. Andlauer: “Foreword”
6th Symposium

Date: 30 Aug – 1 Sep, 1982
Location: KYOTO (Japan)
Organiser: K. Kogi, T. Miura, H. Saito
Participants: 90
Countries: 23
Papers: 48

Main topics:
- Adaptation, individual differences
- Health measures
- Women & elderly workers
- Social support
- Developing countries
• With the economic growth, shift work is rapidly spreading in these countries, often involving youth and women in industrial night work.

• There still lack factual data on the extent and conditions of shift work in these countries. It appears, however, that certain aspects of shift work in rapidly growing industrialisation processes tend to be even harsher compared with the facts already known in developed countries.

• The need for establishing guidelines for shift work systems, promoting health services and providing for social support for the workers is especially keen in these countries.”

K. Kogi, T. Miura, H. Saito: “Preface”
Workshop

Date: September, 1982
Location: EDINBURGH (Scotland)
Organiser: A. Wedderburn
Participants: 70
Countries: 10
Papers: 20+

Main topics:
- Sleep – Health
- Design of shift schedules
- Women & elderly workers
- Social support
- Developing countries
7th Symposium

Date: 18 – 21 September, 1985
Location: IGLS (Austria)
Organiser: M. Haider, M. Koller, M. Kundi, R. Cervinka
Participants: 75
Countries: 22
Papers: 63

Main topics:
- Applied chronobiology
- Shiftwork and women
- Irregular working hours
- Combined effects
Professor Halberg’s definition of Chronobiology is “a science effectively quantifying and investigating mechanisms of biologic structure”.

Thus the application of chronobiology is presumably the application, to real life, of the principles of the chronobiologic science established in the laboratory.

You will note that “quantifying” comes before “investigating” in Halberg’s definition. Perhaps because of this, and the resultant emphasis on analytical methods, there has been a tendency in some quarters to think that applying cosinor analysis to a set of data is the application of chronobiology, i.e. there has been a tendency to confuse methods with principles.

But we should remember that a sine wave is often only an approximate descriptor of an observed rhythm, and therefore that parameters of phase and amplitude derive from a cosinor analysis may not be giving us an accurate or complete picture. We should thus view conclusions based on such measures alone with some cautions.

Peter Colquhoun: “Applied Chronobiology”, Jals 1985
8th Symposium

Date: June 22-26, 1987
Location: KRAKOW (Poland)
Organiser: A. Oginski, J. Pokorski
Participants: 80
Countries: 20
Papers: 76

Main topics:
- Applied chronobiology
- Combined effects
- Adaptability and tolerance
- Psycho-social problems
9th Symposium

**Date:** Sept 11-15, 1989

**Location:** VERONA (Italy)

**Organiser:** G. Costa, G.C. Cesana

**Participants:** 122

**Countries:** 27

**Papers:** 103

**Main topics:**
- Women and nightwork
- Standardisation
- Light and re-entrainment
- Condensed working hours
- Sleep and performance
Rutenfranz’s rules (Wedderburn 1989)

Take active researchers to a remote spot, where they cannot slip away on shopping trips and other diversions. Make sure that there is a good mixture of disciplines, so that knowledge is shared, cross-fertilised, and sometimes challenged, rather than simply catalogued. Include a good proportion of young researchers, as well as wise old men, so that the sharing and challenging is transmitted between generations.

Discipline the contributors into fairly brief presentations, that many can contribute, and there is also time for other activities.

Take sure that there are substantial breaks and coffee, food and drink, so that informal exchanges can take place, too.

Include some group outings, to act as bonding experiences. Take the contributors widely available to those who could not be present, so that the diversity and wealth of contributions is publicly shared as well.
10th Symposium

Date: Sept 18-22, 1991
Location: SHEFFIELD (England)
Organiser: S. Folkard
Participants: 70
Countries: 20
Papers: 69

Main topics:
- Designing & assessing shift schedules
- Interindivudual differences
- Educational programmes
- Coping strategies
11th Symposium

Date: 8-13 February, 1994
Location: MELBOURNE (Australia)
Organiser: M. Wallace, K. Greenwood
Participants: 67
Countries: 17
Papers: 56

Main topics:
- Twelve-hour shifts
- Attitudes and tolerance
- Assessment and compensation
- Gender differences
eleven-hour shifts – Editorial (M. Wallace and K. Greenwood)

Despite the absence of firm scientific data, these schedules are being used and employers, shiftworkers and unions want to know whether 12-hours shifts are “good”.

It is impossible to begin to answer them until it is known who is working shifts, what is the job, what is the roaster pattern, how many hours a week people are working, what is the overtime level, what cover there is for absenteeism, what the work environment is like, how far the work force has to commute, and so on.

Every organisation is different, and even where the same roster pattern is adopted, these basic details differ from one workplace to another and can lead to different outcomes.
2th Symposium

“Working towards solutions”

Date: 13-18 June, 1995
Location: LEDYARD, Conn. (USA)
Organiser: D. Tepas
Participants: 155
Countries: 27
Papers: 138

Main topics:
- Tools for designing shift schedules
- 8- vs. 12-hour shifts
- Work /non work conflicts
3\textsuperscript{th} Symposium

“New challenges for the organisation of night and shift work”

**Date:** 23-27 June, 1997  
**Location:** MAIJVIK (Finland)  
**Organiser:** M. Harma  
**Participants:** 190  
**Countries:** 34  
**Papers:** 131

**Main topics:**  
- Risk management  
- Reproductive health  
- Sleep and alertness  
- 8- and 12-hour shifts
14th Symposium

“Shift Work in the 21st Century”

Date: 13-17 September 1999
Location: WIESENSTEIG (Germany)
Organiser: P. Knauth, S. Hornberger
Participants: 150
Countries: 25
Papers: 138
Main topics:
- Alertness, performance and accidents
- Biological adjustment
- Health – Interindividual differences
- Computer aided scheduling
15th Symposium

“Innovative strategies in managing shiftwork”

Date: 10-13 September, 2001
Location: HAYAMA (Japan)
Organiser: K. Kogi, T. Sasaki
Participants: 180
Countries: 28
Papers: 158
Main topics:
- Innovative management
- Sleep/wake adjustment and health
- SW and industrial development
Welcome to Japan

Innovative Strategies in Managing Skilled Workforce

Opening Ceremony

Moderator: [Name]

[Speaker]
6th Symposium

Equity, diversity and working hours: challenges and solutions

Date: November, 2003
Location: SANTOS (Brazil)
Organiser: F.M. Fisher, C. Moreno, L. Rotenberg
Participants: 150
Countries: 22
Papers: 167

Main topics:
- Quality of life
- Flexible working hours
- Biological and social differences
- Health and well-being
17th International Symposium on Shiftwork and Working Time
18 - 22 September 2005
Hoofddorp, The Netherlands