

# COST-2103

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WG 5

Aachen 12. May 2008

# Trying to make Skype conferences

- It is suggested that we all are on Skype for conference calls.
- Eventually a plan can be made so that the members know the regularly dates and times.
- It is an experience the most of us do not use this modern and free tool, which is now even on telephone (Nokia N95).

# Plans of presentations made for WG 5

- International Conference on Advances in Laryngeal Biophysiology, July 9-10, 2008
- The 6th International Conference on Voice Physiology and Biomechanics  
ICVPB 2008 – Tampere, Finland - August 6-9, 2008
- Pacific Voice And Speech conference  
September 11-12 2008
- Summer school Tampere of COST 2103

# Main focus has been on

- immune system and advanced voice assessment,
- spasmodic dysphonia and High speed films and
- randomised controlled trials (RCT)

# Pamphlets

- Pamphlets on the need for advanced voice function assessment, are suggested for:
  - Politicians
  - Organizations
  - Officials
- Examples on the following slides

## COST 2103: *Public relations of sound*

# Politicians

(slide 1 of 2)

### ***The need for advanced voice function assessment***

Many people, especially those who need to use their voice constantly, walk around with low voice qualities that can cause great distress.

What is more is, that most individuals are not aware of the fact of how these voice disorders are acquired (and thereby prevented by restraining); examples are bad connections on cell phones, (im)proper use of the voice, environmental factors, allergies, stomach acid bacteria and reflux, and even simple things as the individuals *lifestyle*.

#### **Little attention given to cooperation**

It is problematic that so little attention is given to the voice, and the advanced voice function assessment. The current widely used structure, when an individual is faced with a problem of the voice, includes visits to either doctors, speech-therapists or other specialists, with no coordination and cooperation between these professionals – however, ***this structure needs to be changed!***

#### **The need for a new structure: advanced voice function assessment**

In order to obtain a holistic picture, and true *advanced voice function assessment* cooperation between especially laryngologists, phoniaticians, engineers and **politicians**, is inevitable and necessary. Engineers are of importance in for example designing better microphones for cell phones, and thus need to have a better understanding of the voice, what the voice requires, and what is needed to produce optimal speech; laryngologists contribute with clinical aspects, but need to take speaking techniques (as well as lifestyle) into consideration; phoniaticians and teachers educate individuals regarding how to speak *correctly*, and the clinical aspect, such as stomach acid bacteria and reflux, allergies, and mucosa of the upper airways must be taken into consideration. The aspects that each of these fields specializes in contribute to a holistic view of the voice, and together makes the *advanced voice function assessment*.

#### **How the structure can be changed**

**Politicians** can greatly help in making sure that the current structure changes from the small, individual guidance, into something bigger, where cooperation is an important factor, which will ensure great progress in the clinical assessment and enhancement of voice quality. With the cooperation, previous techniques can be combined with new developments that will improve the assessment of voice, as well obtaining data that will help produce, and elaborate better voice production models. This can be gained by for example appealing to the public, sharing the information with them, making them aware of the cooperation. Another crucial step would be to enhance the cooperation, by creating *official systems* in which results can be shared between laryngologists, phoniaticians, engineers and leaders.

# Politicians

(slide 2 of 2)

## ***The need for advanced voice function assessment***

### **Equipment**

It is of immense importance to have measuring equipment that helps determining diagnosis. The equipment includes provision of acoustical measures, physiological measures, as well as psychological measures.

### **The importance of voice**

The aim is to gain advanced voice function assessment, and thereby better voice qualities, especially for those who need to use their voice as a part of their job – including politicians. Because as a **politician**, one is seen as a representative of specific parties. One needs to use the voice not only constantly, but also *consistently*: words are the medium through which a politician formulates his ideas; however, it is not only the **content** of the sentences that matters, but also how the voice is used; i.e. how intensively the speaker speaks, as well as the frequency with which the words are formulated. In order to convince the listener, it is of extreme importance that these factors are in the control of the speaker.

***The aim is to enhance and put focus on advanced voice function assessment! (COST 2103)***

# Organizations

(slide 1 of 2)

## **The need for advanced voice function assessment**

Many people, especially those who need to use their voice constantly, walk around with low voice qualities that can cause great distress. What is more is, that most individuals are not aware of the fact of how these voice disorders may be acquired (and thereby prevented by restraining); examples are bad connections on cell phones, (im)proper use of the voice, environmental factors, allergies, stomach acid bacteria and reflux, and even simple things as the individuals lifestyle. Voice disorders affect all kinds of people and the amount of evidence based research in the area is limited. Limited is also the co-operation and coordination between different groups of professionals, in this case between doctors (laryngologists), phoniaticians (speech-therapists), engineers, politicians and various **organisations**.

### **Little attention given to cooperation**

It is problematic that so little attention is given to the advanced voice function assessment, which requires cooperation. The current widely used structure, when an individual is faced with a problem of the voice, includes visits to either doctors, speech-therapists or others, with no coordination and cooperation between these professionals – however, *this structure needs to be changed!*

### **The need for a new structure: advanced voice function assessment**

In order to obtain a holistic picture, and true *advanced voice function assessment* cooperation between especially laryngologists, phoniaticians, engineers, organisations and politicians, is inevitable and necessary.

### **Engineers**

One example is the use of portable phones; bad connections on cell phones might affect a person's voice, especially if one's work depends on it being used all day. To address this, we need better microphones and speakers in the cell phones, and thus we need engineers who have knowledge about how the voice works and how voices are different.

### **Speech-therapists**

Some individuals who need to use their voice everyday, i.e. public speakers, may be using their voice incorrectly, in relation to intensity and frequency, or even simply because their breathing technique is incorrect; therapists are needed to provide guidance to these individuals.

### **Medical aspects**

However, even though a person learns how to speak correctly, the clinical aspect **MUST** be taken into consideration; aspects such as allergies, stomach acid bacteria and mucosa in the upper airways contribute enormously to voice disorders and needs *treatment*; specialized doctors, laryngologists, will be needed for this aspect.

# Organizations

(slide 2 of 2)

## **The need for advanced voice function assessment**

### **Role of organizations**

The role of **organizations** would be to influence **politicians** and perhaps professionals to take steps and initiatives, to ensure that the information is brought out to the public, as well as making sure that results are shared between laryngologists, phoniaticians and engineers.

### **What should / could be done**

The environment at people's work place needs to be examined and public guidelines need to be made; many people have trouble with air conditioners and air refreshing products. Dust is another major factor. Teachers and pedagogues are in the danger zone for both voice- and ear damage, as they work in a very noisy environment. Specially designed ear plugs and speaking courses could prevent a lot of damage for this group.

### **Prevention and treatment**

The tools (guidelines) to prevent voice disorders are relatively simple and many disorders are due to the lack of knowledge about speaking/singing technique, (food) allergies, stomach acid bacteria (helicobacter) and reflux, and life style in general (cigarettes, alcohol, foods, artificial additives). Furthermore, it is of immense importance to have measuring equipment that helps determining diagnosis. The equipment includes provision of acoustical measures, physiological measures, as well as psychological measures.

### **How the structure can be changed**

The role of organizations would be to influence politicians for better structures which include the various experts, as well as appealing to the public. The public should be made aware of the cooperation, and the possibilities it brings. Politicians can greatly help in making sure that the current structure changes from the small, individual guidance, into something bigger, where cooperation is an important factor, which will ensure great progress in the clinical assessment and enhancement of voice quality.

### **Cooperation**

With the cooperation, previously unexploited techniques can be combined with new theoretical developments that will improve the assessment of voice, as well obtaining data that will help produce, and elaborate better voice production models. This can be gained by for example appealing to the public, sharing the information with them, making them aware of the cooperation. Another crucial step would be to enhance the cooperation, by creating *official systems* in which results can be shared between laryngologists, phoniaticians and engineers.

***The aim is to enhance and put focus on advanced voice function assessment! (COST 2103)***

# Officials

(slide 1 of 2)

## **The need for advanced voice function assessment**

Many people, especially those who need to use their voice constantly, walk around with low voice qualities that can cause great distress. What is more is, that most individuals are not aware of the fact of how these voice disorders may be acquired (and thereby prevented by restraining); examples are bad connections on cell phones, (im)proper use of the voice, environmental factors, allergies, stomach acid bacteria and reflux, and even simple things as the individuals *lifestyle*.

### **Limited cooperation and evidence-based research**

Voice disorders affect all kinds of people and the amount of evidence based research in the area is limited. Limited is also the co-operation and coordination between different groups of professionals, in this case between doctors (laryngologists), phoniaticians (speech-therapists), engineers, politicians and various organisations. With the help of **officials**, better circumstances can be obtained, that allows advanced voice function assessment, e.g. by creating communication centres.

### **Little attention given to cooperation**

It is problematic that so little attention is given to the advanced voice function assessment, which requires cooperation. The current widely used structure, when an individual is faced with a problem of the voice, includes visits to either doctors, speech-therapists or others, with no coordination and cooperation between these professionals – however, *this structure needs to be changed!*

### **The need for a new structure: advanced voice function assessment**

In order to obtain a holistic picture, and true *advanced voice function assessment* cooperation between especially laryngologists, phoniaticians, engineers, organisations and politicians, is inevitable and necessary.

### **Engineers**

One example being the use of portable phones; bad connections on cell phones might affect a person's voice, especially if one's work depends on it being used all day. To address this, we need better microphones and speakers in the cell phones, and thus we need engineers who have knowledge about how the voice works and how voices are different.

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# Officials

(slide 2 of 2)

## **The need for advanced voice function assessment**

### **What should / could be done**

The environment at people's work place needs to be examined and public guidelines need to be made; many people have trouble with air conditioners and air refreshing products. Dust is another major factor. Teachers and pedagogues are in the danger zone for both voice- and ear damage, as they work in a very noisy environment. Specially designed ear plugs and speaking courses could prevent a lot of damage for this group.

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Officials can greatly help improve the current advanced voice function assessment, is by creating *official systems* in which results can be shared between laryngologists, speech-therapists and engineers. The solution could be the co-called *communication centres*: a form of a round table, where laryngologists, engineers and speech-therapists sit together, and *communicate*.

### **How the structure can be changed**

The role of **officials** from organizations and politics would be to create better structures which include the various experts, as well as appealing to the public. The public should be made aware of the cooperation, and the possibilities it brings.

### **Cooperation: an important factor**

Cooperation is an important factor and will ensure great progress in the clinical assessment and enhancement of voice quality. With the cooperation, previously unexploited techniques can be combined with new theoretical developments that will improve the assessment of voice, as well obtaining data that will help produce, and elaborate better voice production models. This can be gained by for example appealing to the public, sharing the information with them, making them aware of the cooperation. Another crucial step would be to enhance the cooperation, by creating communication centres in which results can be shared between laryngologists, phoniaticians and engineers.

**The aim is to enhance and put focus on advanced voice function assessment! (COST 2103)**

- New Member of Work group 5
- The president of the Pacific Voice Foundation is suggested

# Problem of Dissimination of COST 2103

- There are many officials involved in the European Union related to advanced voice assessment as now updated by the COST 2103.
- The structure where officials are involved in planning, is especially the economic handling of the research work of the engineers, medical doctors, phoneticians and the other related non-medical people with various educations in speech and singing.
- **2 A** involves structured organizations with officials that take care of the engineer-, non-medical or medical member interests.
- **2 B** involves regular conferences arranged by some or all of the organizations.
- None of the Ministries or organizations have obligations to update their structure.

## Background

- There are mainly two kinds of structures related to Advanced Voice Assessment: 1) involves various ministries, 2) involves organizations.
- **1 A** involves structured department in universities with a chief who can be engineer, medical doctor, phonetician or voice pathologists educated in other ways. The departments have researchers and officials in their groups and information is traditionally spread.
- **1 B** involves departments in the industry with the same model, officials with monthly salaries and responsibility for both income and future development.
- Coordinated approaches are necessary. We have for some years worked on a future model structure for advanced voice assessment.
- The model was taken from the economic research at the Danish Technical University in Copenhagen.
- ***Their first comment was that it is not clear who to refer to in the European Commission.***
- ***No price of equipment, housing and personel is described in the field.***
- ***Defined treatment effect and research perspectives should be looked upon.***

## Action 2103

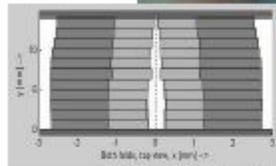
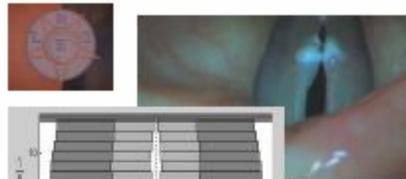
### Advanced Voice Function Assessment

Participating countries: AT, BE, CE, DE, DK, ES, FI, FR, GR, IE, IT, LI, NL, PT, SI, SE, UK  
Chair of the Action: P.H. DeJongkere NL [ph.dejongkere@umcutrecht.nl](mailto:ph.dejongkere@umcutrecht.nl)

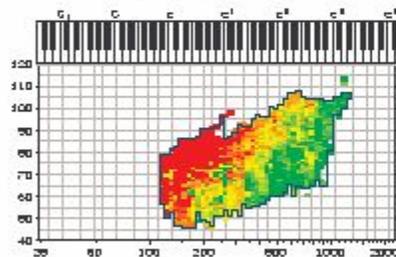
Vice-chair : Y. Stylianou GR

COST Science Officer: Gian Mario Maggio, [gmmaggio@cost.esf.org](mailto:gmmaggio@cost.esf.org)

[www.cost2103.eu](http://www.cost2103.eu)



Dynamic modelling of vocal fold nodules



Voice Range Profile with colour grading of an acoustic quality factor

#### Working Group 1 : Modelling

Improving voice production models (for normal and pathological conditions), and algorithms for speech synthesis and modification.

#### Working Group 2 : Analysis and Assessment

Developing accurate and robust objective/quantitative methods for assessing (pathological) voice function

#### Working Group 3 : Data Bases

Building, collecting and managing databases of categorized (pathological) voices in several European languages

#### Working Group 4 : Substitution and Occupational Voices

Developing new instruments and devices for monitoring and evaluating occupational voice problems, as well as for investigating quality and possible improvement of voices which are no more produced by two vocal folds, as after oncological treatments

#### Working Group 5 : Dissemination

Raising public concern about voice disorders and voice-related quality of life. Contact with professional associations, governmental authorities, health policy makers, etc.

### Objectives:

- Developing analysis algorithms that impact on speech processing applications and assessment of voice disorders
- Providing concerned clinicians with reliable cues of vocal quality in running speech as a possible standard for clinical practice, in order to evaluate and compare treatment outcomes
- Modelling pathogenesis of voice disorders
- Improving voice and voice related life quality, particularly in occupational voice users and in patients with substitution voices

### Main Achievements:

- Creating an European network of voice experts, and building up a bridge between the community of basic scientists involved in signal processing and the community of medical people responsible for care and cure of patients with voice disorders.
- Putting scientific knowledge into service of improving prevention and treatment of voice pathology, particularly for people needing their voice as main tool of trade, and for those who lost their voice due to cancer treatment.