

## UNITWIN/UNESCO Chairs Programme Progress report 2007-2008

«If this has not yet been done, please forward your progress report before  
31 May 2008» to the Director, Division of Higher Education.

**Period of activity:**

**2007-2008**

**Title of the UNESCO Chair or Network:**

UNESCO CHAIR TELEMEDICINE

**Report established by:**

**Prof.Dr.O.Ferrer-Roca,**

**Function / Title:**

**responsible UNESCO Chair Telemedicine 1999-2008**

Full Professor in Pathology. Responsible of the Telemedicine Training at the University of La Laguna.  
Canary Islands. Spain

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## I. Address

	Address of the Host Institution	Address of the Coordinator
Name	Prof. Dr. O. Ferrer-Roca	Prof. Dr. O. Ferrer-Roca
Function/Title	Chair of Pathology	Chair of Pathology
University/Institution	University of La Laguna	University of La Laguna
Faculty/Department/Centre	Faculty of Medicine	Faculty of Medicine
P.O.Box	La Cuesta	La Cuesta
Street	La Laguna	La Laguna
Postal Code	38071	38071
City	Santa Cruz de Tenerife	Santa Cruz de Tenerife
Province	Canary Islands	Canary Islands
Country	Spain	Spain
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Web Site	<a href="http://www.teide.net/catai">http://www.teide.net/catai</a>	<a href="http://www.teide.net/catai">http://www.teide.net/catai</a>

## II. Available resources

Please specify for each item, when available, **total cost** and **funding sources**  
(for guidelines see Annex 3)

### 1. Human resources

1. For the administration of the UNESCO Chair or Network
 

Partial time support Secretary	Jessica Farkas Rodríguez
Partial time support Secretary	Linnea Guijosa
Partial time support Secretary	Angela Bahija Chellaoui
Partial time support Secretary	Amparo Hopt
  
2. For the teaching/training/research activities  
Please specify number of full professors , researchers, visiting professors, lecturers, others
 

Prof. Dr. O. Ferrer-Roca	
Computer Engineer	Francisco Marcano Serrano
Computer Science	Pablo Pulido Lorenzo
Telecommunication Engineer	Álvaro Díaz-Cardama López
Physicist Science	Noelia de Armas Gutiérrez
Physicist Science	Elliezer Sepúlveda Hernández
Computer Engineer	Luis Alejandro Brito Mesa
Technical Engineer in computer	Juan José Quintana Melián
Technician in Computer	Xiomara Antonia Santos Palacios
Computer Engineer	Manuel Octavio Luque Armada

Computer Engineer  
Computer Engineer  
Computer Engineer

Oscar Antonio González de Chaves Pérez  
Javier Prieto Alonso  
Adonai Gutiérrez Méndez

3. For the information and documentation activities:  
Partial time support Lawyer: Margarita Suarez Delgado
4. For other activities: The international courses brought to teaching and training a total of 34 professors coming from European, African and Ibero-American countries (Greece, Germany, Brazil, Spain, Uganda, Norway, Italy, England, USA, Portugal, Venezuela).

## **2. Material resources**

1. For the administrative work: Computers fax machines, xerocopy machines, printer, and storage systems.
2. For the teaching/training/research activities: Videoconference, workstations, ultrasounds, video-edition, projector, Book edition, CD-edition, Proceedings editions, e-learning, Digital Fingerprint control systems, Breeze server.
3. For the information and documentation activities: Web site, Posters, brochures, Proceedings, Book editions, CD-edition
4. For other activities (*Please specify*): Videoconferencing, 3D-virtual reality, Distant control.

### III. Activities

Please, provide information on items 1 to 7 for each activity, when available, and specify:

- Target groups, in accordance with Annex 1
- Geographical coverage, in accordance with Annex 2
- Funding sources, in accordance with Annex 3.

#### 1. Education/Training/Research

- Title and expected results for each course, workshop,...

See joined memorandum and programs of the Winter Course of the CATAI

- Duration: 2weeks.
- Target groups: doctors, nurses, health-care providers, NGO's
- Partnership (please specify the name of the Institution, city, country): Universities Trier-DE, Postdamm-DE, Humboldt Univ. Berlin-DE, Univ. Udine-Italy, Makerere-Uganda, Simon Bolivar-Caracas-Venezuela, Athens Univ. of Economics and Business-GR, Miguel Hernandez-Alicante-Spain; Malaga-Spain, University Perm-Russia, Univ Moscu-Russia, New Delhi-India, Istambul-Turkey, El Cairo- Egypt, Queensland- Australia, EntreRios-Argentina, Pontificia Universidade Catolica do Rio Grande do Sul (PUCRS) Porto Alegre-Brazil, Porto-Portugal, London-UK, Harvard-Boston-Mass-USA, Univ Bergen,Bergen-Norway, Univ Munich-Munich-Germany, Univ Kaunas-Lituania.
- Geographical coverage for partners and participants: Europe-Africa-South & North America & Australia.
- Funding sources: CATAI founding. Telefónica SL.
- Outputs: Please specify number of doctoral students: 150-200 students per year. For the publications, complete form of Annex 4, and Annex 5 for the multimedia material.

#### 2. Conferences/Congresses/Meetings

- Title and expected results for each conference, meeting...:  
Always in Telemedicine. Expected increase of knowledge and training of how to handle medicine at distance for people and areas underserved or with health care constrains availability.
- Dates and place: *III Jornadas Telecomunicaciones en Entornos Sanitarios. "Las Telecomunicaciones al servicio del paciente"* (27 June 2008) Tenerife- Spain HUC, *p-Health, Valencia* (April 2008); *Tenerife-Winter Course* (5<sup>th</sup>March-18<sup>th</sup> March 2007) *Tenerife-Winter Course* (25<sup>th</sup>February-9<sup>th</sup> March 2008); *IV Congreso Nacional de suelo pélvico* (12<sup>th</sup> -14<sup>th</sup> March 2008); *9<sup>th</sup> European Congress on Telepathology and 3<sup>rd</sup> Internacional Congress on Virtual Microscopy*, Toledo (15<sup>h</sup>-17<sup>h</sup> May 08), *3<sup>rd</sup> Intercontinental Congress of pathology, Barcelona* (17<sup>th</sup> -22<sup>th</sup> May 08); *II Foro Internacional de Financiación de empresas de Base Tecnológica, -canary Islands-Spain* (11-12 July 2008);*Telemedicine, Perm-Russia* (24<sup>th</sup>-31<sup>th</sup> May 2008); *Telemedicine, Perm-Russia* (29<sup>th</sup> January – 3<sup>rd</sup> February 2007) *XXXIII European Congress of cytology, Madrid* (14<sup>th</sup> – 17<sup>th</sup> Oct 2007), *VII Congreso Nacional de Medicina del Mar. Santa Cruz de Tenerife* (27<sup>th</sup> – 31<sup>th</sup> Oct 07), *7<sup>th</sup> Internacional Conference on Successes and Failures in Telehealth, Queensland,Australia* (27<sup>th</sup> – 28<sup>th</sup> Ago 2007), *XVIII Congreso de la Sociedad Española de Educación Médica. Santa Cruz de Tenerife* (24<sup>th</sup> – 26<sup>th</sup> Oct 2007), *The 20<sup>th</sup> IEEE internacional Symposium on Computer-Based Medical Systems, Maribor, Slovenia* (20<sup>th</sup> -22<sup>th</sup> Jun 2007)
- Partnership (please specify: Name of the Institution, City, Country): see joined programs plus *Mulago Hospital-Uganda; Roche Research Center, Univ Perm-Russia, Casablanca-Marrocco, Pontificia Universidade Catolica do Rio Grande do Sul (PUCRS) Porto-Alegre-Brazil.*
- Participants (number): 100 up to 1000 depending of the type of meeting

- Geographical coverage for participants and partners: Europe, Africa, South-America, Asia & Australia.
- Funding sources: CATAI funding. Telefonica SL.
- Outputs: Please complete Annex 1 for the publications and Annex 2 for the multimedia material.
- Actually **“Telemedicine Master”** at distance, with the Universities of Makerere-Uganda, Beijing-China, New Delhi-India, Istanbul-Turkey, El Cairo- Egypt, Queensland- Australia, Casablanca- Marrocco; Albania.

### 3. Missions / Travels abroad

Destination: University La Laguna-UNESCO Chair Telemedicine.

From : Entre Rios-Argentina, Makerere-Uganda and Caracas-Venezuela

Purpose: Students training in telemedicine

Duration: from 1 to 2 month

Funding source: University of La Laguna/Telefónica SL / Catai fundings/

Outputs: 1- Training of students to provide telemedicine in underserved areas.

2- A/011902/07 - Desarrollo Rural: Web Semántica para la Gestión, planificación t coordinación descentralizada en Telemedicina.

### 4. Visiting professors / Fellowships

Number: (22)

Duration: 1-2 month

University of origin: *Potsdam-Germany (2), U.-Caracas-Venezuela (3), Univ. of Udine (1), Clinical university of the Charité-Berlin (1), Harvard Medical School-Boston (USA) (1), University of Salamanca (1); Univ. of Malaga-Spain (1); U. Makerere - Uganda (2), Univ London (1), Univ. Elche (1), Univ Bergen, Norway (1), Univ Athens (2), Univ. Athens (2), Univ Munich- Germany (2), Univ Kaunas Lituania (1),*

Funding sources: University of La Laguna, CATAI fundings, Telefonica SL.

### 5. Information and documentation activities

1. CATAI 2008 “Quality Control In Telemedicine Biobanking”, Ed: Prof.Dr.O.Ferrer-Roca. CATAI Ed 2007. Tenerife. ISBN 978-84-612-1364-1.
2. CATAI 2007 “Standards in Telemedicine”, Ed: Prof.Dr.O.Ferrer-Roca. CATAI Ed 2006. Tenerife. ISBN 84-611-4628-X
3. European Master of Telemedicine and Bioengineering applied to Telemedicine. DVD. CATAI Editions. 2005. ISBN 84-609-2162-X
4. European Master of Telemedicine and Bioengineering applied to Telemedicine, Volume III. CATAI Editions 07. ISBN 84-611-3589-X
5. European Master of Telemedicine and Bioengineering applied to Telemedicine, Volume IV. CATAI Editions 08. ISBN 978-84-612-1102-9

### 6. Others

#### Written agreements with Universities

- 6.1 Preparing Written agreements with the Universities of Santiago de Compostela, University Polytechnic of Madrid, University Alicante to provide distant teaching for developing areas.
- 6.2 Preparing written agreements with the Pontificia Universidade Catolica do Rio Grande do Sul (PUCRS), Porto-Alegre, Brazil for training in telemedicine.  
[http://www.teide.net/catai/Catedra\\_Unesco/catedra\\_unesco\\_esp.htm](http://www.teide.net/catai/Catedra_Unesco/catedra_unesco_esp.htm).
- 6.3 Agreements of the students interchange in the field of Telemedicine and for third cycle students with the Universities of Postdamm-DE (6 Students), Charite-Berlin-DE

(6 Students) and Univ. Udine-IT (6-students) as Erasmus students, plus 1 or 2 professors from each University.

### **Training Books donations**

6.4 Donations of the vol. III of the European Master of Telemedicine and Bioengineering applied to Telemedicine. to the Universities of Entre-Rios (5), Makerere (6), Greece (5), Lituania (5), Caracas (5).

6.5 Donations of the vol. IV of the European Master of Telemedicine and Bioengineering applied to Telemedicine. to the Universities of Entre-Rios (5), Makerere (6), Caracas (5), Greece (5).

### **Computer donations**

6.6 2007: Donations of 5 computer University of Makere in Uganda.

6.7 2008 Preparation for the donation of computers for the Un. Makerere.

### **Project International**

6.8 Proyectos conjuntos de cooperación de la Secretaria de Estado de Universidades e investigación, Ministerio de Educación y Ciencia y el Ministerio de Educación de Brasil. BOE número 88.( p 19589 – 19597). AECI- A/011902/07 - Desarrollo Rural: Web Semántica para la Gestión planificación y coordinación descentralizada en Telemedicina.

## **IV. Impact**

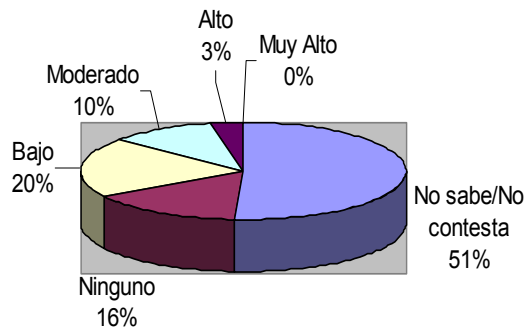
*Please describe shortly (one page maximum) the impact of the mentioned activities on the human, social, economical and cultural development at national, regional or international level.*

1. The activity carried out in Uganda, showed that the local doctors are able to take now their own solutions and built a web site to train and support at abroad doctors, nurses and people in general is of high importance. <http://med.mak.ac.ug/9/department.htm> . Their initiatives with the use of VHF in walky-talkies to support midwives, has decreased the mortality of new-born babies by 30%.
2. Similarly the cooperation with the Simon Bolivar University in Caracas Venezuela, bring the development of rural areas accessing distant diagnosis of vaginal cytology.
3. The cooperation with Pontificia Universidade Catolica do Rio Grande do Sul (PUCRS) PortoAlegre in Brazil have been started obtaining founding for a join seminar of training and extending the telepathology to telepathology and teledermatology mission to the Amazon (City of Jiparana)and in Amazon area (Rondonia State) this summer. <http://www.capes.gov.br/bolsas/cooperacao/espanha/mecd.html>
4. The cooperation with Entre-Rios have extendend the telemedicine into the Peru selvatic areas in the Napo river [http://www.teide.net/catai/Catedra\\_Unesco/catedra\\_unesco\\_esp.htm](http://www.teide.net/catai/Catedra_Unesco/catedra_unesco_esp.htm)
5. Scholarships of the GD of the relations with Africa from the Canarian Governement.

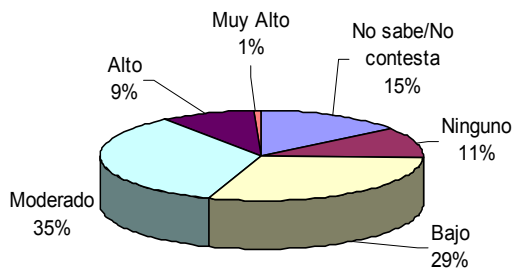
One of the principle obstacles in the wide use of Telemedicine is the lack of specific training and qualifications in the health care environment (doctors, nurses, paramedics, managers, NGO's) as well as related areas from which they require support (computer science, telecommunications).

## SURVEY ANALYSIS RESULTS

### 3.1. Impacto Cátedra en Actividades I+D+I del encuestado



### 3.2 A sus actividades de estudio, la cátedra transfiere conocimiento, tecnología e innovación



## **V. Forthcoming activities**

1. XV SUMMER COURSE OF THE CATAI – September 2008 – to be determined
2. XVII WINTER COURSE OF THE CATAI – 9<sup>th</sup> – 21<sup>th</sup> March 2009 – Tenerife – Spain
3. STUDENTS EXCHANGE TO TENERIFE
4. STUDENTS TRAINING IN TENERIFE
5. UGANDA DOCTORS TRAINING IN EUROPE
6. SCHOLARSHIPS FOR IBEROAMERICAN BIOENGINEERS
7. EU to IBEROAMERICA INTERCHANGE FOR SUPPORT.
8. TELEMEDICINE MASTER FOR DEVELOPING COUNTRIES
9. European convergence inter-university master in Telemedicine and Bioengineering applied to telemedicine.
10. Presentation of the vol V of the DVD for distant training in Telemedicine.
11. New edition of the biannual Telemedicine and Bioengineering master of the ULL.
12. Implementation of the SSVS (small size virtual slide) a cheap solution for developing countries in telepathology.

## **VI. Development prospects**

The activities of the Chair started on 1999 has expanded during the period 2007-2008 to:

1. - Brazil.
2. - USA.
3. - Cabo Verde



## Target groups

Undergraduate students	YES
Graduate students	YES
Postgraduate students	YES
Academics	YES
Public administrators	YES
Employees from industry, or other private organizations ( <i>please, specify</i> )	YES: NGO's
Teachers from primary education	NO
Teachers from secondary education	NO
Teachers from technical and vocational education	YES
Teachers from adult education	YES
Others groups ( <i>Please specify</i> )	YES: VOLUNTIERS

## Geographical Coverage

- **National**

Spain: Canary Islands (7 Islands)

- **Regional**

*Please specify countries and regions*

- Africa: Nairobi-Kenya, Makere-Uganda, Marrocco, Argelia; Cabo Verde.
- Arab States: Israel, Turkey-Istambul,
- Asia/ Pacific: Kazakhstan, Israel-Tel Aviv, New Delhi-India, China-Beijing
- Eastern and Central Europe: Sofia-Bulgaria, Rumania, Russia-Perm & Moscow-Albania – Lithuania.
- Australia: Queensland University.
- Western Europe and North America: Germany-Regensburg/Postdamm/Berlin, Italy-Udine/Milan/Rome, Greece-Athens and Aegean islands, Austria-Tyrol, France-Strasbourg/Paris, Lachen-Switzerland, Oxford-UK.
- Latin-America: Argentina-Entre-Ríos, Venezuela-Maracaibo, Venezuela-Caracas, Pontificia Universidade Catolica do Rio Grande do Sul. Brasil.).
  - USA: Massachusets

- **Interregional**

*Please specify regions*

### Funding sources

Funding source	Type of Organization / Institution	Period	Amount US\$
<b>UNESCO Contribution</b>		2007/08	0
<b>Other contributions:</b> <i>Please specify, for each contribution:</i>  <i>Institution, City, Country</i> ■	Host Institution	2007/08	12000
	Partner university/ institution	2007/08	15000
	Governmental body		
	Other public institution <i>Please specify</i>		
	UN Agencies		
	IGO's		
	NGO's: CATAI	2007/08	20000
Industry			
Other private sources <i>Telefónica SL -Spain</i>	2007/08	55000	
PCI-Desarrollo rural: Web semántica para la gestión , planificación y coordinación descentralizada en telemedicina. <i>AECI Dirección General de Relaciones culturales y científicas</i>	2007/2009	17000	
HUC-CA-149-07 Plan de Calidad para el proyecto CIRUMAC del HUC- 05-MAC 2.3 C21 <i>Hospital universitario de Canarias</i>	2007/2008	200000	
<b>TOTAL</b>		2007/08	319000

## Outputs

### Form 1: Publication

#### Title of activity: STANDARDS IN TELEMEDICINE.

**Title: Standards in Telemedicine. CATAI 2007**

Publisher(s): CATAI 2006 Ed. ISBN 84-611-4628-X Canary Islands CATAI- Tenerife-Spain

Year: 2006

Number of pages: 203

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X - Proceedings XV Winter Course CATAI.

Teaching/learning material X

Language(s): English, Spanish

Main keywords (4 or 5): Telemedicine, Information Society, Health Care, Ambience Intelligence.

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

The Telemedicine has passed the consolidation period, since there are standards for any of the existing activities, and have to put into practice in order to assure quality of care. At the present moment the 13 items of the Telemedicine body of knowledge contain established medical informatics and engineering standards capable of assuring connectivity, security and quality of care.

**Title: Estándares en Telemedicine**

Publisher(s): In "Standards in Telemedicine". CATAI Ed 2006 ISBN 84-611-4628-X Canary Islands.

Year: 2007

Number of pages: 12-21

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Article.

Teaching/learning material X

Language(s): English & Spanish.

Main keywords (4 or 5): Standards, Quality assurance.

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

The use of standards in Telemedicine assure several principles such as: operability, portability and mobility quality, security and confidence. The technology and applications are reaching the maturity plateau where standards for any application are available. In this paper we will analyze the most generic ones, although for each specific application there are working groups in the standardization committees taking care of them

**Title: Asistencia sanitaria urgente en alta mar. Papel de la Telemedicina**

Publisher(s): In "JANO Medicina y Humanidades".

Year: 2008

Number of pages:

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Article.

Teaching/learning material

Language(s): Spanish

Main keywords (4 or 5):

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

El término “medicina en el mar” hace referencia a cualquier asistencia sanitaria en alta mar. Desde la introducción temprana de la radio en los barcos, la atención sanitaria a distancia ha estado presente en el mar, y es una de las primeras aplicaciones de telemedicina de reconocimiento mundial.

**Title: Departamento de anatomía patológica a tenor de la Legislación Vigente**

Publisher(s): In “Revista Española de Patología”.

Year: 2008

Number of pages:

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Article.

Teaching/learning material

Language(s): Spanish

Main keywords (4 or 5):

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

La gestión de muestras en un departamento de anatomía patológica se ve directamente afectada en España por las leyes de protección de datos, la ley de autonomía del paciente y la ley de investigación biomédica.

Estas leyes influyen en aspectos tan trascendentales como que las muestras deben guardarse un mínimo de 30 años, que la utilización de las mismas para investigación requieren un comité de ética, que deben venir referidas con un consentimiento informado, que requieren una trazabilidad total, un alta en la base de datos de biobancos etc...

Estos y otros de los aspectos que influyen directamente en la gestión de las muestras en un servicio de anatomía patológica son analizados en este artículo.

**Title: Quality Label for e-health**

Publisher(s): In “IET Communications”.

Year: 2008

Number of pages: 202-207

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Article.

Teaching/learning material

Language(s): English.

Main keywords (4 or 5): Telemedicine, e-health, PMI, PKI, Digital signature, TTP, Security, Health Information Systems, and USB-token.

### **SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

A drug e-prescription demonstrator was created in compliance with existing legislation as well as security and privacy standards. A professional ID-card was built on a high security chip (ISTEC E4 High; EAL-5) with a Hash hardware accelerator for a digital signature placed in a single chip USB token. Commercial software products as well as development kits of the new hardware designed in the project were used to build an authentication, authorisation and electronic signature demonstrator. The degree of legal compliance was evaluated. The tested novel single chip USB token was highly efficient but limited by its 1.1 interface speed (12 Mbit/s). The chip, initialised with a banking-mask, inefficiently managed space for the health-care chain of trust. The public key and privilege management infrastructure was not able to handle health-care attributes in the appropriate extensions. Templates for role-rule privileges were not available and healthcare standards for security and privacy were not found in commercial products. The paper points out the urgent need for an e-health conformance label as well as a quality label for liability and confidence to gain users' trust.

## Title of activity: p-HEALTH.

### **Title: p-Health in Diabetes**

Producer and/or distributor (*with address*): Proceedings 5th pHealth International Workshop on Wearable, Micro and Nano Technologies for the Personalised Health, pHealth 2008. ISBN-13 : 978-84-612-4277-1

Year: 2008

Number of pages: p5.pdf

el link <http://www.phealth2008.com/Events/papers/p5.pdf>.

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Proceedings.

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5): p-Health, diabetes mellitus, PDA, smartphone, SMS, DSS, GSM, GPRS, UMTS.

### **SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

A mobile p-Health system for diabetes control is proposed. This system contains a decision support system to calculate insulin shots based on three patient items: Food-Exercise-Insulin dose. This system is able to send SMS (short messages) to a central database to be reviewed by corresponding healthcare specialist. The software has been developed in Visual Basic 2005 and SQL Server Mobile environment and was installed in a PDA mobile system and Smart phone based on Windows Mobile. Collected patient data is transmitted through internet to the CATAI diabetes control server, using a pre-defined SMS message format. It has been shown as a powerful and easy-to-use tool available to common citizens for diabetes control and its treatment by healthcare specialists

### **Title: Intelligent Consultation in Down Syndrome**

Producer and/or distributor (*with address*): Proceedings 5th pHealth International Workshop on Wearable, Micro and Nano Technologies for the Personalised Health, pHealth 2008

Year: 2008

Number of pages: p23.pdf

el link <http://www.phealth2008.com/Events/papers/p23.pdf>.

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Proceedings.

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5): Down Syndrome, Multimedia resource

### **SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

It is considered to Down's Syndrome (SD) the most frequent chromosomal anomaly observed in humans , which

occurs with an incidence of 1/700 live newborns and turns out to be the first reason of motive of consultation in any clinic of genetics or in the institutions to that children attend with problems of mental retardation. The bibliography on the SD is extensive and of different levels of complexity and today united to the use of the telecommunications and the computer science in the health, there have been designed diverse means of diffusion of the knowledge and divulgative programs that allow a better conduction of the SD. The aim of this paper is the presentation of a resource multimedia that tries to report and advise to the family before and after the birth of a child with SD and it describe some of the standard and specialized care that may be required for a patient with Down syndrome.

**Title: Literature mining in cytology discovery virtual images**

Producer and/or distributor (*with address*): APPIII 2008 Abstract Management

Year: 2008

Number of pages:

el link [http https://secure.opi.upmc.edu/APIIIABS/logon/](http://secure.opi.upmc.edu/APIIIABS/logon/)

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X – Proceedings.

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5):

**SHORT ABSTRACT**

(*Brief description of the content in English, French or Spanish*)

Novel techniques in pathology such as Literature mining and small size virtual slide or web services have to put in place in distant diagnosis.

**Title of activity: REMOTE IMAGE ACCESS**

**Title: Stitching y visualización remota de imágenes mediante JPEG2000 y JPIP**

Publisher(s): In Standards in Telemedicine CATAI Ed. ISBN 84-611-4628-X

Year: 2007

Number of pages: 106-111

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X- Article.

Teaching/learning material X

Language(s): English & Spanish.

Main keywords (4 or 5): JPEG2000, JPIP, stitching

**SHORT ABSTRACT**

(*Brief description of the content in English, French or Spanish*)

En el presente artículo se analiza el estándar JPEG2000 para el *stitching* de imágenes y su visualización remota, presentando todas las interesantes características aprovechables de este estándar para tal fin: i) uno de los sistemas de compresión de imágenes más eficientes y flexibles de los existentes en la actualidad, ii) una estructuración interna y organización del *bit-stream* comprimido que facilita y mejora el proceso de unión de imágenes, y iii) un sistema de transmisión de imágenes, centrado principalmente en el protocolo JPIP, altamente eficiente

**Title: Stitching and remote browsing of images using JPEG2000 y JPIP**

Publisher(s): CATAI Ed. ISBN 84-611-4628-X

Year: 2007

Number of pages: 112-116

Type of document/material:

- Book
- Periodical X
- Others (*specify, please*)

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5): JPEG2000, JPIP, stitching

**SHORT ABSTRACT**

In the present paper the JPEG2000 standard is analyzed for stitching images and its remote visualization, showing all the interesting characteristics of this standard for such aim: i) currently, one of the most efficient and flexible still image compression systems, ii) an internal structuring and organization of the compressed bit-stream that facilitates and improves the process of union of images, and iii) a system for transmission of images, mainly centered in the JPIP protocol, highly efficient.

**Title: Telepathology and distant diagnosis with Small size virtual slides (SSVS)**

Publisher(s): Proceeding 9<sup>th</sup> European Congress on Telepathology and 3<sup>rd</sup>

Internacional Congress on virtual microscopy. ISBN 978-84-934283-3-4

Producer and/or distributor (*with address*):

Year: 2008

Number of pages: 29

Type of document/material:

- Book
- Periodical X
- Others (*specify, please*)

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5): Telepathology, Telecytology, Telemedicine, Small Size Virtual Slide, TEXCAN-II, JPEG 2000, JPIP server.

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

The present study analyzes the diagnostic capability of the Small Size Virtual Slide (SSVS) created by us (Ferrer-Roca et al 2005). SSVS is a low power acquisition (4x) with a high resolution camera system that digitizes the whole slide and builds a JPEG2000 10:1 image from 16 to 24 MB. The area of interest (ROI) is digitized at 20x. SSVS are reviewed, annotate and transmitted through intranet or Internet using JPIP (JPEG2000 internet Protocol) as if they were seen under a microscope.

**Title: Small Size Virtual Slides in Pathology**

Publisher(s): Virchows archiv. ISBN 0945-6317

Producer and/or distributor (*with address*):

Year: 2008

Number of pages: S9

Type of document/material:

- Book
- Periodical X



- Others (*specify, please*)

Teaching/learning material

Language(s): English & Spanish.

**Main keywords (4 or 5):** Pathology, Telepathology, Telemedicine, Small Size Virtual Slide, TEXCAN-II®, JPEG 2000, JPIP server.

**SHORT ABSTRACT**

Small Size Virtual Slide (SSVS) is a novel technique used by TEXCAN-II® software to make diagnosis on pathology slide images through an intranet or internet environment as these slides were seen under the microscope, with diagnostic quality, in a fast and reliable way, minimizing storage requirements.

## Title of activity: TELEPATHOLOGY

**Title: Low Cost Telepathology.**

Publisher(s): "Journal of Telemedicine and Telecare"

Year: 2008

Number of pages:

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X- Article.

Teaching/learning material X

Language(s): English.

Main keywords (4 or 5):

**SHORT ABSTRACT**

*(Brief description of the content in English, French or Spanish)*

The use of virtual slides in pathology increase the cost of diagnostic devices. The technique of Small Size Virtual Slide (SSVS) built with low power scan systems by means of high resolution cameras provide a low cost tool with microscopic comparable diagnostic accuracy. The resulting digital slides support a high digital zoom, allow ROI (region of interest) areas at higher power, are small in size and quickly display at distance.

In the present paper the SSVS technique was assess on fifteen cytology and pathology specimens evaluated by ten pathologists that have never done distant diagnosis or try telepathology systems, obtaining a ROC diagnostic curve of 0.95.

## Title of activity: COLABORATIVE WORK

### **Title: Collaborative Systems for Pathology Applications**

Publisher(s): In "The open Pathology Journal"

Year: 2007

Number of pages: 1-4

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X- Article.

Teaching/learning material

Language(s): English & Spanish.

Main keywords (4 or 5): Collaborative systems, telemedicine, SSVS®, JPEG2000, image stitching

#### **SHORT ABSTRACT**

Use of collaborative tools is essential in health applications, especially pathology. This paper presents the results of a huge-size image data collaborative system based on SSVS®, suitable for telepathology work, which can be implemented in any system working with large images. Quality, image stitching performance in the JPEG200 wavelet domain and image viewing performance were analyzed.

### **Title: "Small Size Virtual Slides" CATAI 2008**

Publisher(s): CATAI Ed. 2007. ISBN: 978-84-612-1364-1 Tenerife-Spain

Year: 2007

Number of pages: 112-116

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X- Proceedings XVI Winter Course CATAI.

Teaching/learning material

Language(s): English

Main keywords (4 or 5): Virtual Slide, Digital Zoom, Telepathology, TEXCAN, JPEG200, JPIP.

#### **SHORT ABSTRACT**

Small Size Virtual Slide (SSVS) is a novel technique used by TEXCAN-II software to make distant diagnosis on pathology slide images in intranet or internet environment. Slide images are seen online in the TEXCAN-II virtual microscope, with diagnostic quality, in a fast and reliable way, minimizing storage requirements. Assessment of SSVS technique using ROC analysis is delivered.

### **Title: "Ambiente Assitant Living-Art. 169 of the New EU Treaty". CATAI 2008**

Publisher(s): CATAI Ed. 2007. ISBN: 978-84-612-1364-1 Tenerife-Spain

Year: 2007

Number of pages: 128-132

Type of document/material:

- Book
- Periodical
- Others (*specify, please*) X- Proceedings XVI Winter Course CATAI.

Teaching/learning material

Language(s): Spanish

Main keywords (4 or 5): Home care, Ambient intelligence, Independent living ICT, Elderly, Ageing, Demography.

**SHORT ABSTRACT**

The EU is in favour of the TIC to improve quality of life of the European citizen and put forwards a research programme called “Ambient assisted living-ALL169” that is recognized in the art. 169 of the new EU treaty.

## Outputs

### Form 2: Multimedia material

#### Title of activity: TELEMEDICINE-CD

**Title: CATAI Telemedicine-CD. ISBN 84-923357-2-6**

Producer and/or distributor (*with address*): CATAI

Year: 1999-2006

Teaching/learning material X

Type of material:

- Video
- CD ROM X with videos
- Visioconference:
- Other type of material

*(Please specify)*

Duration: 643 MB

Format: Word, Html, /ppt, /mpeg

Language(s): English- Italian-Spanish

Main keywords (4 or 5): Telemedicine

#### **SHORT ABSTRACT**

According to one of the numerous definitions of Telemedicine “providing medicine at a distance“, any doctor being trained in the use of some telematic devices could effort that practice. The reality is far from this because to assure a safe practice, people have to learn and bear a minimum understanding of a wide range of topics: from economics to telecommunications and from medicine to legal aspects. Technology learning is not limited to technology itself but linked to its social practical consequences in all their aspects. To guarantee that none of the aspects related with Telemedicine are missed, this minimum knowledge has to be fixed, organised and in some way standardized. The main purpose of this book is to structure the basic knowledge linked to teaching to provide or to practise telemedicine, as well as an overview of the technology developments linked to this new discipline. As expressed in the title (Handbook of Telemedicine), the book is precisely structured as a “handbook” whose main value is the joint opinion of all the participating authors of what are the learning requirements for anyone that would like to practice Telemedicine. It is not a full treatise nor a complete collection of all telemedicine applications or telemedicine basics. It was built with the aim of creating awareness to the academic aspects (technology development, telecommunications approach, law and regulations, medical practice) as well as to the minimum knowledge requirements to guarantee safe and appropriate medical practice. Nowadays this fact is enhanced by the evidence that welfare expenses cannot be endlessly increased, whilst an efficient health provision system in the context of the information society, will mark a new trend to configure health care practice in the next century. If training and teaching schemes are to cope with the demands of society it seems obvious that those carers and professions should consider structured and sufficient training in Telemedicine.

#### **Title of activity: EU-MASTER OF TELEMEDICINE DVD**

**Title: EU-Master of Telemedicine and Bioengineering applied to Telemedicine**

Producer and/or distributor (*with address*): CATAI Ed. ISBN 84-609-2162-X

Year: 2004-06

Teaching/learning material X

Type of material:

- Video DVD with text & multimedia X
- CD ROM
- Visioconference:
- Other type of material

*(Please specify):\_\_*

Duration: 2 GB

Format: RM (real media)

Language(s): English-Spanish  
Main keywords (4 or 5): Telemedicine

**SHORT ABSTRACT**

Generic name of the list of DVDs with multimedia material produced to train at distance on Telemedicine and Bioengineering applied to telemedicine any people interested. No requirements needed except a DVD reader in the computer.

**Title: EU-Master of Telemedicine and Bioengineering applied to Telemedicine. Volume I.**

Producer and/or distributor (*with address*): CATAI Ed. ISBN 84-609-2163-8

Year: 2004-06

Teaching/learning material X

Type of material:

• Video DVD with text & multimedia X

• CD ROM

• Visioconference:

• Other type of material Other multimedia material

(*Please specify*): \_\_\_\_\_

Duration: 2 GB

Format: RM (real media); PDF; HTML

Language(s): English-Spanish

Main keywords (4 or 5): Telemedicine

**SHORT ABSTRACT**

Volume I of the multimedia material to train the people in Quality control and security in e-health. It include text, presentations and videos given by the more representatives professionals in the world in the topics of Minima requirements, Technical knowledge, Teleworking and teleteaching, Principal technical innovations, Telemetry, Nanotechnology, Quality control and assessment, Legal requirements, Security, Internet, Standards, Electronical Health Record.

**Title: EU-Master of Telemedicine and Bioengineering applied to Telemedicine. Volume II.**

Producer and/or distributor (*with address*): CATAI Ed. ISBN 84-609-6488-4.

Year: 2005-07

Teaching/learning material X

Type of material:

• Video DVD with text & multimedia X

• CD ROM

• Visioconference:

• Other type of material

(*Please specify*): \_

Duration: 2 GB

Format: RM (real media); PDF; HTML

Language(s): English-Spanish

Main keywords (4 or 5): Telemedicine

**SHORT ABSTRACT**

(*Brief description of the content in English, French or Spanish*)

Volume 2 of the multimedia material produced for distant training containing text, presentation and videos. Topics covered in this editions include Telemedicine applications, Minimal technical knowledge, Nanotechnology and new materials, Mobile and electronic learning, Digital signature, Security for health-care, Legal and liability issues, Artificial intelligent in the control of diseases, robotic surgery, ambience intelligence and virtual environment for disease control and treatment, telepresence.

**Title: EU-Master of Telemedicine and Bioengineering applied to Telemedicine. Volume III.**

Producer and/or distributor (*with address*): CATAI Ed. ISBN: 84-611-3589-X.

Year: 2006-07

Teaching/learning material X

Type of material:

- Video DVD with text & multimedia X
- CD ROM
- Visioconference:
- Other type of material

(Please specify): \_\_\_\_\_

Duration: 2 GB

Format: RM (real media); PDF; HTML

Language(s): English-Spanish

Main keywords (4 or 5): Telemedicine

#### **SHORT ABSTRACT**

Volume 3 of the multimedia material produced for distant training containing text, presentation and videos. Topics covered in this editions include mainly standards and technology linked to personalized medicine or *p*-Medicine, Non-invasive sensors, Security for health-care, Legal and liability issues, Artificial intelligent in the control of diseases, robotic surgery, ambience intelligence and virtual environment for disease control and treatment, telepresence.

#### **Title: EU-Master of Telemedicine and Bioengineering applied to Telemedicine. Volume IV.**

Producer and/or distributor (*with address*): CATAI Ed. ISBN: 978-84-612-1102-9.

Year: 2007-08

Teaching/learning material X

Type of material:

- Video DVD with text & multimedia X
- CD ROM
- Visioconference:
- Other type of material

(Please specify): \_\_\_\_\_

Duration: 2 GB

Format: RM (real media); PDF; HTML

Language(s): English-Spanish

Main keywords (4 or 5): Telemedicine

#### **SHORT ABSTRACT**

(*Brief description of the content in English, French or Spanish*)

Volume 4 of the multimedia material produced for distant training containing text, presentation and videos. Topics covered in this editions include Global vision of standard in Telemedicine. Quality control in Teleophthalmology and OCT. Telemedicine cost in Primary Attention. New aspects in the DICOM standard. Wavelet compression on medical imaging. Image quality assessment. Identity management Quality of services in 4G networks. Telecardiology quality and reliability assurance frameworks. IHE in Spain. Data Protection Laws. Advances in Sanitary Regulation. OneQL: Efficiently Querying the Health Domain in the Semantic Web. Telemetry. Calibration of monitors in Radiology. Wide Spain. Standards of virtual reality. Environmental intelligence in telemedicine. Decision support system and robotics. Stitching & transmission in JPEG2000. Telemedicine in the Sea. Teleophthalmology in the HUC. Distance learning in surgery. Quality control and quality assessment medical device standards. Medical image modalities. Cardiac frequency and detection of cardiac events. Image stictchin in medicine. Telepsychyatry efficacy. Hand-held computer in medicine. Spanish law and Telemedicine. Ethics in Telemedicine.

#### **Title of activity: WEB OF THE TELEMEDICINE GROUP**

**Title:** [www.teide.net/catai](http://www.teide.net/catai)

Producer and/or distributor (*with address*): CATAI

Year: 1997-2008

Teaching/learning material X

Type of material:

- Video
- CD ROM
- Visioconference:

- Other type of material X  
(Please specify): \_\_\_\_\_ Web page; Videostreaming training

Duration:

Format: Html; RM (real media)

Language(s): English- Spanish

Main keywords (4 or 5): Telemedicine

**SHORT ABSTRACT**

The CATAI web has as main objective the spread of the Telemedicine in Spain and in developing countries. The non-for profit association for the CATAI (Center of Advanced Technology in Image Analysis) support Telemedicine activities and studies in the field of:

Image Analysis at distance

Data transmission

Videoconsultation and videoconferences

On Line training

Distant telequantitation.

The Summer and Winter Courses of the CATAI can also be followed on line during its production by means of the Helix Videoserver providing Real Media output that contain the Power Point presentation together with the video image of the speaker.

**Title of activity: WEB & SMS Server for Diabetes control at distance**

**Title:** <http://193.145.112.231/CHS/>

Producer and/or distributor (with address): CATAI

Year: 2002-2007

Teaching/learning material

Type of material:

- Video

- CD ROM

- Visioconference:

- Other type of material X

(Please specify): \_\_\_\_\_ Support of diabetic people at distance

Duration:

Format: Html;

Language(s): English- Spanish

Main keywords (4 or 5): Telemedicine, Diabetes, SMS

**SHORT ABSTRACT**

Web Server available for groups of medical people in English and in Spanish to be able to test Diabetes control at distance. It is accessible by Internet and also using mobile phone SMS.

**Title of activity: WEB & SMS Server for anticoagulant treatment control at distance**

**Title:** <http://193.145.112.231/INR/>

Producer and/or distributor (with address): CATAI

Year: 2002-2007

Teaching/learning material

Type of material:

- Video

- CD ROM

- Visioconference:

- Other type of material X

(Please specify): \_\_\_\_\_ Support of people treated with an anticoagulant treatment.

Duration:

Format: Html;

Language(s): English- Spanish

Main keywords (4 or 5): Telemedicine, INR, telemetry, anticoagulation, SMS



### SHORT ABSTRACT

This web site is available for any patient or doctor that either can be controlled at distance or want to control the patient at distance. Include a Decision Support System (DSS) to advise the user on the type of treatment that should be implemented plus the capability of giving messages from doctor to patients and viceversa.

### Title of activity: DISTANT TEACHING

**Title:** <http://alexandros.ccslab.aueb.gr/~ctc>

Producer and/or distributor (*with address*): CATAI

Year: 2000-2007

Teaching/learning material X

Type of material:

- Video
- CD ROM
- Visioconference:
- Other type of material X  
(*Please specify*): \_\_\_\_\_ Web page

Duration:

Format: Html

Language(s): English-Spanish

Main keywords (4 or 5): Telemedicine distance training

### SHORT ABSTRACT

The present activity carries out the diffusion of the structured training skills in the field of TELEMEDICINE. It introduces an innovative professional training by assuming new Information Society skills not only in the Health Care provision but also in the teaching methodology. The co-operation inside of the present CTC consortium will provide and update the contents of those rapidly moving technologies, and will bring innovative approaches in the teaching done at distance with experience of the ODL of APOLLO project as well as the experience on surgical virtual reality simulators provided by the new partners. The training is directed towards trainers to update their knowledge and skills, it means health care professionals (including directors and responsible people) in the European Union. This requires the updating of the Information Society training applied to health care.

This activity is linked with the initiative of the UNESCO Chair of Telemedicine to apply the consortium experience towards the urgent demand of Telemedicine in developing countries to improve their limited health care system efficiency and accessibility. The International teaching activities are arranged in intensive Winter and Summer Courses particularly to update trainers knowledge and teaching material. This activity also takes into consideration the fact that a complete training is not possible in each individual country due to the irregular Health Care technology developments throughout the European Union

### Title of activity: TELEMEDICINE DISTANT COACHING-TRAINING

#### (BREEZE)

**Title:** <http://www.cataibreeze.ull.es/>

Producer and/or distributor (*with address*): CATAI

Year: 2006-2007

Teaching/learning material X

Type of material:

- Video X
- CD ROM
- Videoconference: X
- Other type of material X

(*Please specify*): Multimedia material and on-line session to train at distance in Telemedicine, including the official master students.

Duration: Always updated. Up to now 3 months material

Format: Macromedia Breeze (server-presenter); Macromedia Flash

Language(s): English- Spanish

Main keywords (4 or 5): Telemedicine training

### SHORT ABSTRACT

Web Server available for training and coaching students on line and at distance in the Telemedicine topic as well as Bioengineering applied to telemedicine. Top multimedia material and test as well as on line conferences are included for study an review of the students. On line questionnaires will be available in the future.

### **Title of activity: GUIDE OF THE UNIVERSITY OF LA LAGUNA**

**Title:** <http://www2.ull.es/gabprensa/guia/texto.pdf>

Producer and/or distributor (*with address*): ULL (University La Laguna)g

Year: 2007-2008

Teaching/learning material

Information material

X

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material  
(*Please specify*): PDF. ( pages 52-53)

Duration: Always updated.

Format: PDF

Language(s): English- Spanish

Main keywords (4 or 5): UNESCO Chair information in the guide of the ULL

#### **SHORT ABSTRACT**

Refers the presence and the activity of the UNESCO Chair of the University of La Laguna in the general guide of the University in a prominent place.

### **Title of activity: DISTANT MONITORING ECG**

**Title:** [http://www.entrierios.gov.ar/rechum/noticias/noticia\\_detalle.php?nro=684](http://www.entrierios.gov.ar/rechum/noticias/noticia_detalle.php?nro=684)

Producer and/or distributor (*with address*): UNER

Year: 2008

Teaching/learning material

Information material

X

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material  
(*Please specify*):\_Noticias\_

Duration: Always updated.

Language(s): English- Spanish

#### **SHORT ABSTRACT**

El gobernador Sergio Urribarri se interiorizó sobre el denominado Sistema de Monitoreo de Variables Ambientales en Tiempo Real que presentaron hoy socios de la firma entrerriana Integración de Sistemas Tecnológicos. Se trata de tres docentes de la Facultad de Bioingeniería de la Universidad Nacional de Entre Ríos (UNER) que trabajan en innovadores proyectos vinculados a esa temática y a telemedicina, que serán considerados por el gobierno entrerriano.

## **Title of activity: MASTER EUROPEO DE TELEMEDICINE Y BIOINGENEERING**

**Title:** <http://www.teide.net/catai/inscripcion/MASTERESP.htm>  
[http://www.bioingenieria.edu.ar/extension/secretaria/novedades/boletines/Boletin%20Institucional\\_76.htm](http://www.bioingenieria.edu.ar/extension/secretaria/novedades/boletines/Boletin%20Institucional_76.htm)

Year: 2007-2009

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): PDF.

Duration: 2007-2009

Format: PDF

Language(s): English- Spanish

### **SHORT ABSTRACT**

El objetivo del Master Europeo de Telemedicina y Bioingeniería aplicada a la Telemedicina es impartir una enseñanza de calidad en Telemedicina y Salud electrónica orientada a posgraduados en Medicina, Informática, Ingenieros, Economistas e incluso Abogados, habilitando a estos profesionales para desarrollar e implementar soluciones sobre atención médica a distancia en cada uno de sus entornos.

## **Title of activity: TELEMEDICINE**

**Title:** <http://www.aecid.es/unesco/docs/catedras.pdf>

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): PDF.

Format: PDF

Language(s): Spanish

### **SHORT ABSTRACT**

Guia de la Real Civil de la UNESCO en España. Cátedra de UNESCO de Telemedicina.

**Title** [http://lomiweb.med.auth.gr/asclepios/partners/laguna\\_university.htm](http://lomiweb.med.auth.gr/asclepios/partners/laguna_university.htm).

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): htm

Format: PDF

Language(s): English

### **SHORT ABSTRACT**

The Center of Advanced Technology on Image Analysis (C.A.T.A.I.) has evolved to one of the leading telemedicine sites in the European Community. In its well-known telemedicine courses, C.A.T.A.I actively promotes transeuropean training and licensing to provide telemedicine services in the EU. Professor Olga Ferrer-Roca has edited the first International Handbook of Telemedicine. In October 1999, Prof. Ferrer Roca's research group was awarded the first *Chair of Telemedicine* by the *UNESCO* to start a worldwide promotion of telemedicine to improve education and health care in underdeveloped areas

**Title** <http://www.tecnologias-sanitarias.com/>.

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): htm

Format:

Language(s): Spanish

**SHORT ABSTRACT**

Tecno- Med Ingenieros participo en el XVI Curso de Invierno del CATAI con la presentación: Comunicaciones Intrahospitalarias: Gestión de riesgos y norma ISO 11073" realizada en colaboración con el profesor J.C. Fernández-Aldecoa del Hospital Universitario de Canarias y presidente de la Sociedad Española de Electromedicina e Ingeniería Clínica SEEIC.

En la misma sesión el profesor Dr. Hernández Armas presentó el tema "New Medical histological and high resolution image modalities" con una revisión de las imágenes médicas avanzadas.

**Title** <http://www.unescocan.org/catedrasunesco.htm>

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): htm

Format:

Language(s): Spanish

**SHORT ABSTRACT**

Facilitar el aprendizaje y la adquisición de habilidades en Telemedicina. Dirigido a áreas geográficas y aplicaciones médicas que tienen verdaderas necesidades de soporte médico a distancia por diferentes razones (catástrofes, aislamiento, epidemias, diagnósticos y tratamientos urgentes,..) manteniendo la calidad en el cuidado de la salud.

**Title** <http://www.unescocan.org/catedrasunesco.htm>

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X  
(Please specify): htm

Format:

Language(s): Spanish

**SHORT ABSTRACT**

Facilitar el aprendizaje y la adquisición de habilidades en Telemedicina. Dirigido a áreas geográficas y aplicaciones médicas que tienen verdaderas necesidades de soporte médico a distancia por diferentes razones (catástrofes, aislamiento, epidemias, diagnósticos y tratamientos urgentes,..) manteniendo la calidad en el cuidado de la salud.

**Title: Ecografía y Telemedicina en la evaluación complementaria del suelo pélvico**

Link : <http://www.congresosuelopelvico2008.com/>

Year: 2008

Teaching/learning material X

Information material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X

*(Please specify):*

Format:

Language(s): Spanish

**SHORT ABSTRACT**

El avance tecnológico y los nuevos ordenadores han aumentado considerablemente la capacidad de la telemedicina. Actualmente, ya están disponibles computadores cuyo monitor pueden colocarse en un dedo. Muy pronto aparecerán sensores tan pequeños que podrán integrarse en las lentes en las lentes de contacto y en diez años se habrán desarrollado microchips con menos de 1 milímetro de diámetro para ser inhalados ("polvo inteligente").

Otro de los avances tecnológicos que ya están disponibles consiste en un sensor integrado en un reloj de pulsera que mide la glucemia. También se han desarrollado sistemas de tubos nanométricos implantados debajo de la piel muy útiles en telemetría.

Los instrumentos de telemedicina están hoy en día tan miniaturizados y son tan fácilmente transportables que la clásica imagen del médico asociada a un fonendo será pronto sustituida por la de un médico con un sistema portátil inalámbrico con capacidad telemétrica.

**Title of activity: DIABETES CONTROL BY MOBILE PHONE**

**Title: Windows mobile platform for guiding diabetes people**

Producer and/or distributor *(with address)*: CATAI

Year: 2006-2007

Teaching/learning material

Type of material:

- Video
- CD ROM
- Videoconference:
- Other type of material X

*(Please specify):* \_\_\_\_\_ Program in Windows-mobile to guide insulin dosage according 3 parameters (diet//activity//illness).

Duration: no limitation

Format: Windows mobile

Language(s): English- Spanish

Main keywords (4 or 5): Diabetes control. Artificial Intelligence.

**SHORT ABSTRACT**

The programming tool to be used in mobile phones with windows mobile to advise the insulin dose in diabetic people according to diet/activity and illness.

# COURSE PROGRAMMS

## XV Winter Course of CATAI

## XX Image Analysis Course of the ULL

March 5th – 18th 2007

### STANDARS IN TELEMEDICINE

La Laguna. Tenerife. Canary Islands. Spain.

Course recognized by: ESCAP (European Society of Analytical Cellular Pathology), ISDQP (International Society of Diagnostic Quantitative Pathology) and ISCO (International Society of Cellular Oncology). <http://www.qub.ac.uk/cm/pat/isdq/>;

Course recognized by EFMI (European Federation of Medical Informatics)

<http://www.efmi.org>

### Monday 5<sup>th</sup> March, 2007

16-20h • *Welcome to the Course*, **Prof. Dr. M. Tejedor**, Chancellor of Industrial Development and Technological Innovation. **Prof. Dr. Á Gutiérrez** Head of the University of La Laguna (ULL), Tenerife. **Prof. Dr. C. Évora** Vice-Rector of Research, University of La Laguna (ULL), Tenerife. *Experiences in Spain: Standardized electronic health record. EU norms versus HL7v3*

**Eng R. Somolinos**. Clinic Puerta de Hierro. Madrid <http://redtelemecina.retics.net/> . *Global vision of the standards in Telemedicine*, **Prof. Dr. O. Ferrer Roca**, UNESCO Chair of Telemedicine. ULL. <http://www.teide.net/catai>.

### Tuesday 6<sup>th</sup> March, 2007

16-20h • *Quality control in Telemedicine*, **Dr. P. Serrano**, FUNCIS. <http://www.funcis.org/>. *Teleophthalmology and OCT*, **Drs R. Abreu, P. Abreu, A. Abreu, J. Nadal**. Candelaria and HUC hospitals, Ophthalmology-center Barraquer <http://www.ofalnet.nu>; <http://www.co-barraquer.es/cast/index.htm> *Telemedicine cost in Primary Attention*. **Drs A. Nogales and C. Pelaez**. Telemedicine of Health Service of Extremadura and University Hospital Badajoz. <http://www.juntaex.es/consejerias/syc/ses/home.html>

### Wednesday 7<sup>th</sup> March, 2007

16-20h • *New aspects in the DICOM standard*. Prof. **Dr. V. Punys**. Kaunas Univ. EFMI WG MIP <http://www.mmlab.ktu.lt>. *Wavelet compression on medical imaging. Image quality assessment*. **Prof. Dr. Eng. P. García Tahoces**. Department of Electronics & Computation. Univ. Santiago de Compostela. Spain. <http://www.usc.es/labir>

### Thursday 8<sup>th</sup> March, 2007

16-20h • *Identity management*, **Prof. Dr. Ch. Meinel**, Institute Hasso-Plattner-, University of Potsdam, Germany, <http://www.hpi.uni-potsdam.de/>. *Quality of services in 4G networks*. **Eng. C. García García**. IT Department Carlos III Inst. Madrid. <http://biotic.isciii.es/index.htm> .

### Friday 9<sup>th</sup> March, 2007

16-20h • *Telecardiology quality and reliability assurance frameworks*. **Prof. Dr. A. Kastania**, Found Biomedical Res. Academy of Athens. <http://www.bioacademy.gr/EN.htm> ; *IHE in Spain*. **Dr. M. García Rojo**. Ciudad Real. <http://www.ihe-e.org/>.

### Saturday 10<sup>th</sup> March, 2007

16-20h • *Data Protection Laws. Advances in Sanitary Regulation*. **J. Sempere Samaniego**, Data Protection Agency, Madrid, <https://www.madrid.org/apdcm>. *OneQL: Efficiently Querying the Health Domain in the Semantic Web*. **Prof. Dr. M. E. Vidal**. University Simon Bolivar. Venezuela. <http://www.usb.ve>

### Sunday 11<sup>th</sup> March, 2007

16-20h. *Telemetry*, **Mr. J. L. López**. COMITAS Communications. <http://www.comitas.es>. *Calibration of monitors in Radiology*. **M. Marin**. Wide Spain. *Standards of virtual reality*, **Prof. Dr. G. Grashew and V. Guerkan**, Clinical university of the Charité, Berlin, <http://www.rk-berlin.de/op2000>. ESA- European Space Agency, ESTEC- European Space Research and Technology Centre,

Noordwijk, Holland, <http://www.esa.int/>

#### **Monday 12<sup>th</sup> March, 2007**

16-20h • *Environmental intelligence in telemedicine.* **Prof. Dr. MT Arredondo** Group of Environmental intelligence. Polytechnic University Madrid. <http://www.gbt.tfo.upm.es/~mta/>; *Decision support system and robotics.* **Prof. Dr. J. Mira Mira.** UNED. Madrid. <http://www.ia.uned.es/~jmira/>; *Stitching & transmission in JPEG2000.* **Ing. J.P. García Ortíz.** Univ. Almería. <https://acc.ual.es>.

#### **Tuesday 13<sup>th</sup> March, 2007**

16-20h • *Telemedicine in the Sea.* **Prof. Dr. A. Burgos Ojeda.** ULL. [http://webpages.ull.es/users/nautica/informacion\\_general/index.htm](http://webpages.ull.es/users/nautica/informacion_general/index.htm); *Teleophtalmology in the HUC.* **Prof. Dr. MA. Serrano- García, Dr. A. Pareja, Dr. M. J. Losada, Dr. F. Ascanio.** University Hospital. Tenerife, Canary islands. <http://www.hecit.es/>; *Intelligent operating room.* **Prof. Dr. A. Alarcó Hernández, *Distance learning in surgery* **Dr. A. Bravo Gutiérrez.** HUC <http://www.hecit.es/>.**

#### **Wednesday 14<sup>th</sup> March, 2007**

16-20h • *Quality control and quality assessment medical device standards.* **Prof. Dr. J.C. Aldecoa.** Subdirector Biomedical Engineering. HUC. <http://www.hecit.es/>; *Medical image modalities.* **Prof. Dr. J Hernández Armas.** Medical Physics. ULL. HUC <http://www.hecit.es/>.

#### **Thursday 15<sup>th</sup> March, 2007**

16-20h • *Cardiac frequency and detection of cardiac events,* **Dr. S. Perrone,** Univ. Entre Ríos, Argentina, [http://www.bioingenieria.edu.ar/ar/index/42\\_index.htm](http://www.bioingenieria.edu.ar/ar/index/42_index.htm). *Interactive TV services for telemedicine (TV-medicine).* **Prof. Dr. G. Fernández.** CeTVd. Univ Ramon Llull. [www.salle.url.edu/cetvd](http://www.salle.url.edu/cetvd). *Image stictchin in medicine.* **Eng. F. Marcano.** Faculty of Medicine. ULL. [www.teide.net/catai](http://www.teide.net/catai) .

#### **Friday 16<sup>th</sup> March, 2007**

16-20h. *Telepsychiatry efficacy,* **Prof. Dr. C. de las Cuevas** . Univ. La Laguna.. Dpt. Psychiatry. *Hand-held computer in medicine,* **Dr. R. Subirana.** Delfos Clinic. Barcelona. *Wireless system radiation, health effects.* **Eng. S. Cardenes** CATAI, <http://teide.net/catai>.

#### **Saturday 17<sup>th</sup> March, 2007**

16-20h • *Spanish law and Telemedicine,* **Prof. Dr. E. Sola,** Faculty of Laws, ULL. *Ethics in Telemedicine.* **Prof. Dr. E. Sanz.** Dpt. Pharmacology. Faculty of Medicine. ULL.

#### **Sunday 18<sup>th</sup> March, 2007**

16-20h *Presentation of student'works. Telemedicine in developing countries.* **Dr. Dan Wamala.** University Makerere. Uganda.

**Workshops:** Everyday from 8 to 16 h.

1. Tele-pathology systems: Texcan and Coolscope;
2. Teletraining with Presenter-One and Breeze;
3. Flash Programming;
4. Digital Signature;
5. Telemetry with electronic stethoscopes, weights, ECG and vital sign control;
6. HTML;
7. Portable ultrasonography;
8. Wireless sensors;
9. SMS management control;
10. Web control of diabetes;
11. SMIL Programming;
12. Wearable computers;
13. Distan control of monitors for image diagnosis.



## XVI Winter Course of CATAI

### XXI Image Analysis Course of the ULL

February 25<sup>th</sup> – 9<sup>th</sup> March 2008

#### QUALITY CONTROL IN TELEMEDICINE. BIOBANKING

La Laguna. Tenerife. Canary Islands. Spain.

Course recognized by: ESCAP (European Society of Analytical Cellular Pathology),  
ISDQP (International Society of Diagnostic Quantitative Pathology) and ISCO (International Society of Cellular Oncology). <http://www.qub.ac.uk/cm/pat/isdqp/>;

Course recognized by EFMI (European Federation of Medical Informatics)  
<http://www.efmi.org/>; <http://www.gsf.de/imei/efmi/>

#### Monday 25<sup>th</sup> February, 2008

16-20h • *Welcome to the Course*, **Prof. Dr. J. Marin Rodriguez**, Chancellor of Industrial Development and Technological Innovation. **Prof. Dr. E. Domenech** Head of the University of La Laguna (ULL), Tenerife. **Prof. Dr. L. Moreno Ruiz**, Vice-Rector of Research, University of La Laguna (ULL), Tenerife. *Security in Healthcare*, **Prof. Dr. Ch. Meinel**, Institute Hasso-Plattner-, University of Potsdam, Germany, <http://www.hpi.uni-potsdam.de/>

#### Tuesday 26<sup>st</sup> February, 2008

16-20h • *pHealth in self diabetes control*, **Ms.R.Pallares y JJ.Quintana**, Catedra UNESCO Telemedicina <http://www.teide.net/catai>. *Biosensors of glucosae, lactate and glutamate*. **Ing Quim. P. Salazar**. Universidad de La Laguna <http://www.nf.ull.es/>

#### Wednesday 27<sup>th</sup> February, 2008

16-20h • *DICOM standards. Basic and recent extensions*. **Prof.Dr. A.Horsch**. Technical Univ. Munich. Germany. <http://www.efmi-wg-mip.net/>. *Biobanks traicing management*. **Ms. Marta Acilu**. NorayBio. <http://www.noraybio.com/es/index.asp>

#### Thursday 28<sup>th</sup> February, 2008

16-20h • *Quality control and Socioeconomic models*, **Prof. Dr. O. Ferrer Roca**, UNESCO Chair of Telemedicine. ULL. <http://www.teide.net/catai>. *The open source eSlide Whole Slide Imaging System*. **Prof.Dr. V. DellaMea**. Univ of Udine. <http://www.dimi.uniud.it/Members/vincenzo.dellamea>

#### Friday 29<sup>th</sup> February, 2008

16-20h. *Quality assesment methodologies to evaluate invasive and non-invasive Self Monitoring Diabetes systems*. **Prof. Dr. GB.Kristensen**. NOKLUS, Norwegian Centre for Quality Improvement of Primary Care Laboratories Univ. of Bergen, Bergen, Norway. <http://www.uib.no/isf/intern/nokleng.htm>. *Evaluation aspects of the e-Herophilus telecardiology model*. **Prof. Dr. A. Kastania**, Found Biomedical Res. Academy of Athens. <http://www.bioacademy.gr/EN.htm>.

#### Saturday 1<sup>st</sup> March, 2008

16-20h. *Data protection law in the framework of the Biomedical investigation law*. **A. Igualada Menor**, Data Protection Agency, Madrid, <https://www.madrid.org/apdcm>. *Requirements for image bio- banks*. **Prof.Dr.F.Schmitt**. University Porto. Portugal. <http://www.ipatimup.pt/>

#### Sunday 2<sup>nd</sup> March, 2008

16-20h. *Telemetry*, **Mr. J. L. López**. COMITAS Communications. <http://www.comitas.es>. *Telesurgery*. **Prof. Dr. G. Grasczew and V. Guerkan**, Clinical university of the Charité, Berlin, <http://www.rnk-berlin.de/op2000>. ESA- European Space Agency, ESTEC- European Space Research and Technology Centre,

Noordwijk, Holland, <http://www.esa.int/>

### Monday 3<sup>th</sup> March, 2008

16-20h • *Waiting lists, waiting times and admission. Effect of Telemedicine in the hospital level supply and its effect in the mathematical elasticity model.* **Prof. Dr. F. Windmeijer** Prof. Econometrics. Institute for Fiscal Studies. London. UK. <http://www.ifs.org.uk>. *Diabetic control with non-invasive devices.* **Prof. Dr. D.B. Sacks**. Prof. Pathology. Harvard Medical School. Brigham and Women's Hospital. Boston. Massachusetts. USA. <http://sackslab.bwh.harvard.edu/>

### Tuesday 4<sup>th</sup> March, 2008

16-20h. • *Techniques to Query the Semantics Web Efficiently.* **Prof. Dr. M. E. Vidal**. University Simon Bolivar. Venezuela. <http://www.usb.ve>. *Quality label in Biobanking management.* **Prof. Dr. E. Alava**. University of Salamanca. Cancer Investigation centre. <http://www.cicancer.org/>.

### Wednesday 5<sup>th</sup> March, 2008

16-20h *Hospital communications. Risk management. ISO 11073 Point of Contact.* **Ing. X. Canals Riera & Prof. Dr. J.C. Aldecoa**. Subdirector Biomedical Engineering. HUC. <http://www.hecit.es/>. *New Medical histological and high resolution image modalities.* **Prof. Dr. J Hernández Armas**. Medical Physics. ULL. HUC. <http://www.hecit.es/>.

### Thursday 6<sup>th</sup> March, 2008

16-20h • *Spanish robots in surgery,* **Prof. Dr. V. Fernando Muñoz**, System engineering and automation of Malaga University., <http://www.isa.uma.es>. *Small size Virtual images (SSVS) for distant diagnosis.* **Eng. F. Marcano**. Faculty of Medicine. ULL. [www.teide.net/catai](http://www.teide.net/catai).

### Friday 7<sup>th</sup> March, 2008

16-20h. *Nanozoommer.* **Mr. J García Balién**. Hamamatsu photonics. <http://www.hamamatsu.es> *Supervised architecture in the OR (Operating Room) for robotic surgery.* **Prof. Dr. JM Azorin**. Univ. Miguel Hernandez. Elche. <http://www.isa.umh.es/vr2>

### Saturday 8<sup>th</sup> March, 2008

16-20h • *Spanish law and Telemedicine,* **Prof. Dr. E. Sola**, Faculty of Laws, ULL. *Ethics in Telemedicine.* **Prof. Dr. E. Sanz**. Dpt. Pharmacology. Faculty of Medicine. ULL. *AAL-169. Ambient assistent living- Art 169 of the new European treaty.* **Prof. Dr. O. Ferrer Roca**, Cátedra UNESCO de Telemedicina. ULL. <http://www.all169.org>.

### Sunday 9<sup>th</sup> March, 2008

16-20h. *Presentation of student'works. Static telepathology in a rural African hospital settings.* **IGK Munabi MD**. University Makerere. Uganda. <http://mak.ac.ug/makerere/>

**Workshops:** Everyday from 8 to 16 h.

1. Tele-pathology systems: Texcan and Coolscope;
2. Teletraining with Presenter-One and Breeze;
3. Flash Programming;
4. Digital Signature;
5. Telemetry with electronic stethoscopes, weights, ECG and vital sign control;
6. HTML;
7. Portable ultrasonography;
8. Wireless sensors;
9. SMS management control;
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11. SMIL Programming;
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**Venue :** Main hall of the Faculty of Medicine. University of La Laguna  
+34-(9)22-319321; Fax : +34-(9)22-641855. [www.teide.net/catai](http://www.teide.net/catai)