European Network for the Study of Cholangiocarcinoma (ENS-CCA)

Jesus M. Banales

Biodonostia Institute
San Sebastian (Spain)

Presenter Disclosure Information

FINANCIAL DISCLOSURE:

none

UNLABELED/UNAPPROVED

USES DISCLOSURE: none

ENS-CCA

- Open, International and Multidisciplinary network of scientists focused on the study of CCA

- Creation: May 2015 (Vienna, Austria). 50th EASL Congress

Main goal

Promote and boost collaborative research projects on CCA at **basic, translational and clinical level**

Multidisciplinarity

BASIC/TRASLATIONAL SCIENTISTS

- Cholangiocyte pathobiology
- Molecular pathology
- Stem cells
- Genetics
- Epigenetics
- Quemorresistance
- Immunology

CLINICIANS

- Hepatologists/Gastroenterologists
- Oncologists
- Surgeons
- Radiologists

Members

- **52 Research goups** (45 European; 7 USA)
- **14 European countries** (Austria, Denmark, France, Germany, Italy, The Netherlands, Lithuania, Norway, Portugal, Poland, Spain, Sweden, Switzerland and UK)

Collaborators:

EASL EUROPEAN ASSOCIATION FOR THE STUDY OF THE LIVER

AEG Asociación Española de Gastroenterología

AMMF THE CHOLANGIOCARCINOMA CHARITY

THE cholangiocarcinoma FOUNDATION

Steering Committee

Dr. Jesus M Banales (Coordinator)
Biodonostia Institute
(San Sebastian; **Spain**)

Dr. Rocio R. Macias

Univ. Salamanca
(Salamanca; **Spain**)

Dr. Jesper B. Andersen

Biotech Research & Innovation Centre
(Copenhagen; **Denmark**)

Dr. Chiara Braconi

The Institute of Cancer Research
The Royal Marsden NHS Trust
(London; **United Kingdom**)

Dr. Domenico Alvaro

Sapienza Univ.
(Rome; **Italy**)

Dr. Vincenzo Cardinale

Sapienza Univ.
(Rome; **Italy**)

Dr. Guido Carpino

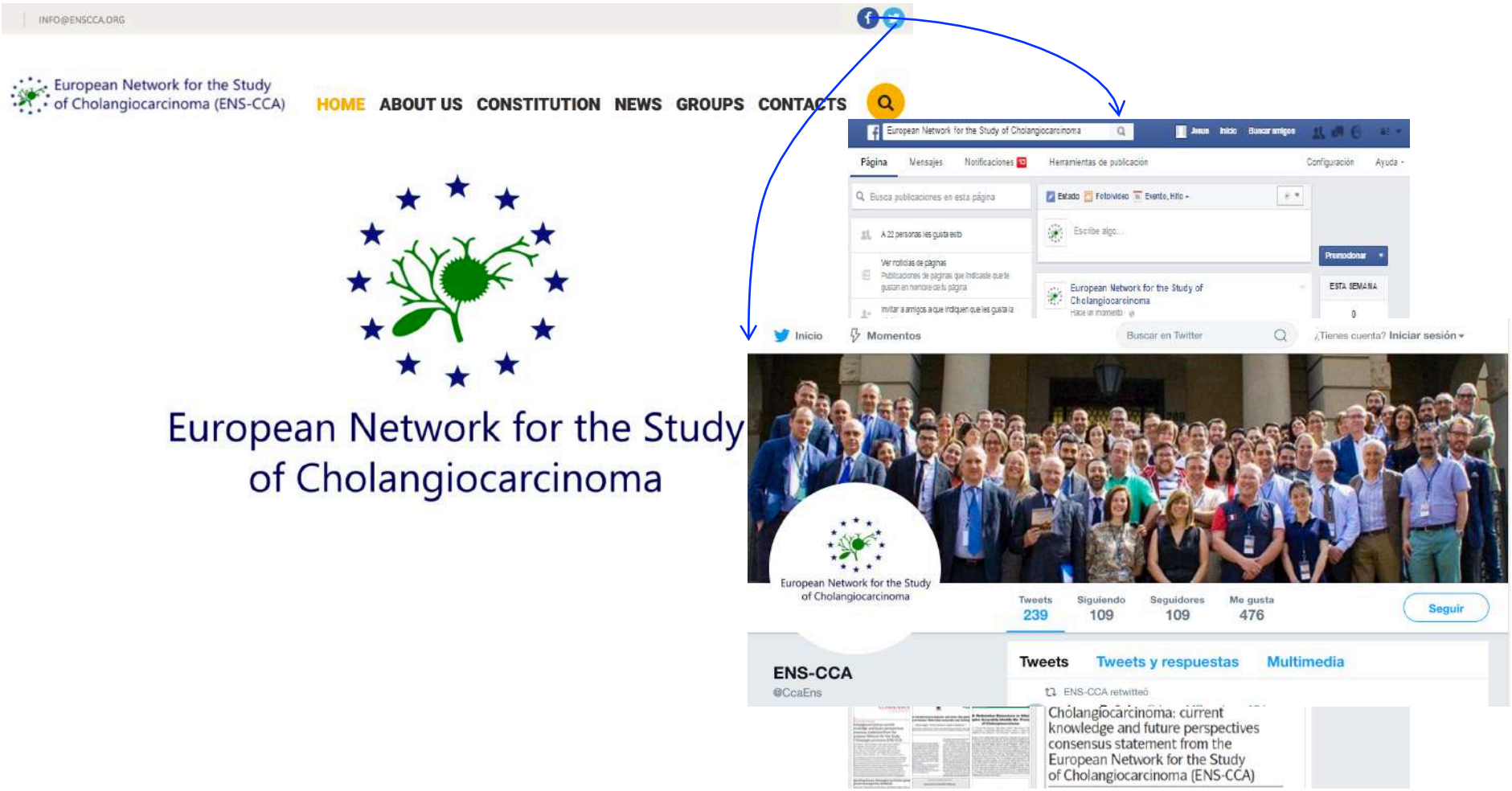
Sapienza Univ.
(Rome; **Italy**)

Objectives

1. Follow-up the **natural history** of CCA in European countries
2. Improve the current **CCA classification** (morphology, pattern of growth, genetics, epigenetics, molecular features,…)
3. **Risk factors** in the development and progression
4. Investigate on **early & non-invasive tumor biomarkers** for diagnosis and prognosis
5. Study the **molecular mechanisms of pathogenesis**
6. Compare effectiveness of **therapies**
7. Select patients for **clinical trials**

ENS-CCA media

ENS-CCA : www.enscca.org or **www.cholangiocarcinoma.eu**



ENS-CCA consensus statement

nature REVIEWS GASTROENTEROLOGY & HEPATOLOGY
CONSENSUS STATEMENT

OPEN

EXPERT CONSENSUS DOCUMENT

Cholangiocarcinoma: current knowledge and future perspectives consensus statement from the European Network for the Study of Cholangiocarcinoma (ENS-CCA)

Jesus M. Banales[1], Vincenzo Cardinale[2], Guido Carpino[3], Marco Marzioni[4], Jesper B. Andersen[5], Pietro Invernizzi[6,7], Guro E. Lind[8], Trine Folseraas[9], Stuart J. Forbes[10], Laura Fouassier[11], Andreas Geier[12], Diego F. Calvisi[13], Joachim C. Mertens[14], Michael Trauner[15], Antonio Benedetti[4], Luca Maroni[4], Javier Vaquero[11], Rocio I. R. Macias[16], Chiara Raggi[6], Maria J. Perugorria[1], Eugenio Gaudio[17], Kirsten M. Boberg[9], Jose J. G. Marin[16] and Domenico Alvaro[2].

Abstract | Cholangiocarcinoma (CCA) is a heterogeneous group of malignancies with features of biliary tract differentiation. CCA is the second most common primary liver tumour and the incidence is increasing worldwide. CCA has high mortality owing to its aggressiveness, late diagnosis and refractory nature. In May 2015, the "European Network for the Study of Cholangiocarcinoma" (ENS-CCA: www.enscca.org or www.cholangiocarcinoma.eu) was created to promote and boost international research collaboration on the study of CCA at basic, translational and clinical level. In this Consensus Statement, we aim to provide valuable information on classifications, pathological features, risk factors, cells of origin, genetic and epigenetic modifications and current therapies available for this cancer. Moreover, future directions on basic and clinical investigations and plans for the ENS-CCA are highlighted.

Liver INTERNATIONAL

Special Issue on CCA (2019)

11 review articles in different disciplines

Guest Editor: Dr. Diego Calvisi
Editor: Dr. Mario Mondeli

Banales et al. *Nat Rev Gastroenterol Hepatol.* 2016;13(5):261-280

European CCA Registry

EASL EUROPEAN ASSOCIATION FOR THE STUDY OF THE LIVER

EASL Registry Award 2016

Platform for collaborative research projects

REDCap Research Electronic Data Capture

Clinical & Biochemical data

General data

- Demographic
- Risk factors
- Medical history

Clinical parameters

- Biochemical
- Immunological

CCA features

- Diagnosis
- Presentation
- Staging
- Treatment
- Other tumors

Collection of biological samples

- Serum
- Plasma
- Bile
- Urine
- Tissue
- Stools
- Saliva

Histological analysis

CCA tissue

- CCA histological classifications
- Proliferation index
- Tumor stroma extension
- Microvessel density
- Macrophage infiltration

Surronding tumor tissue

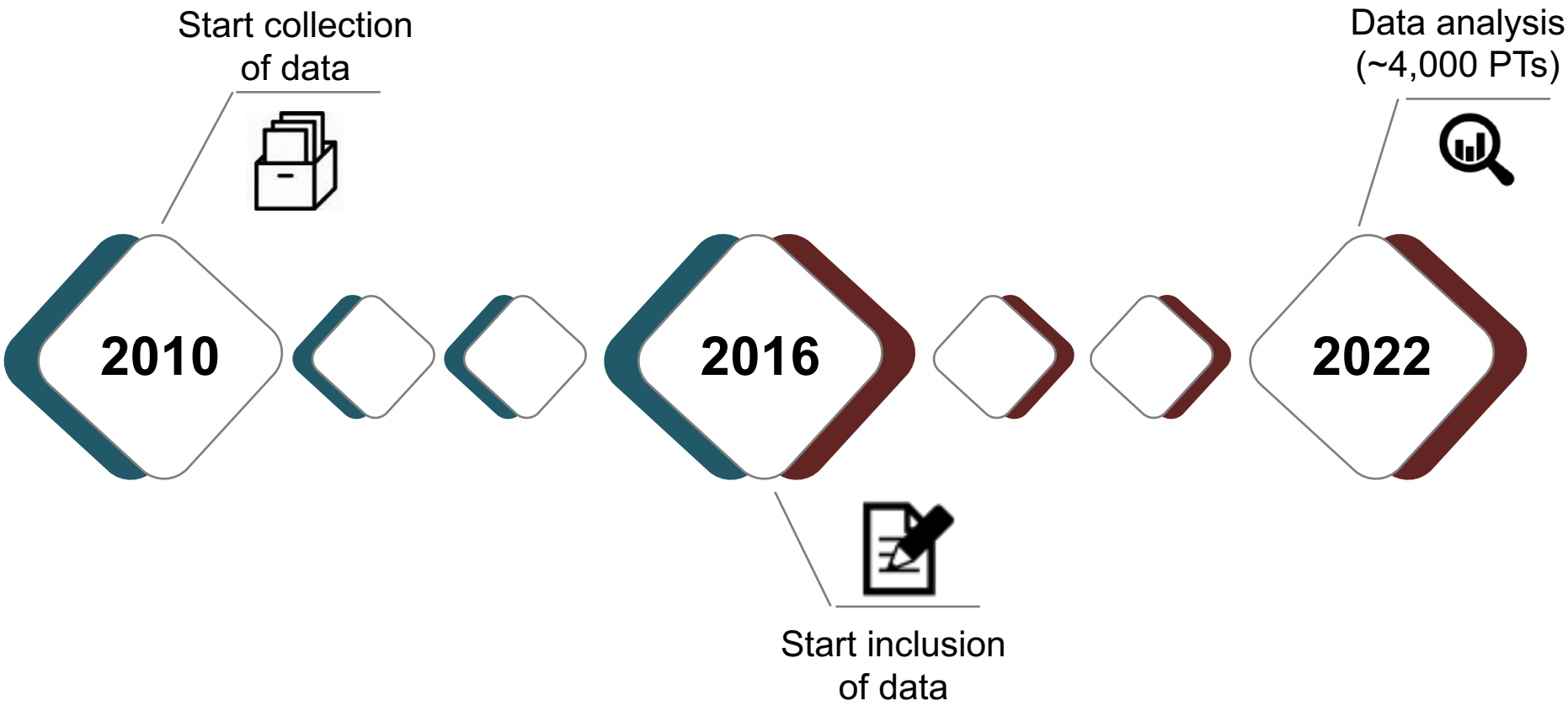
- Presence of pre-neoplastic lesions
- Ductular reaction extension & proliferation
- Peribiliary gland volume & proliferation

Coordinators: Dr. Jesus M Banales (Spain)
Dr. Domenico Alvaro (Italy)

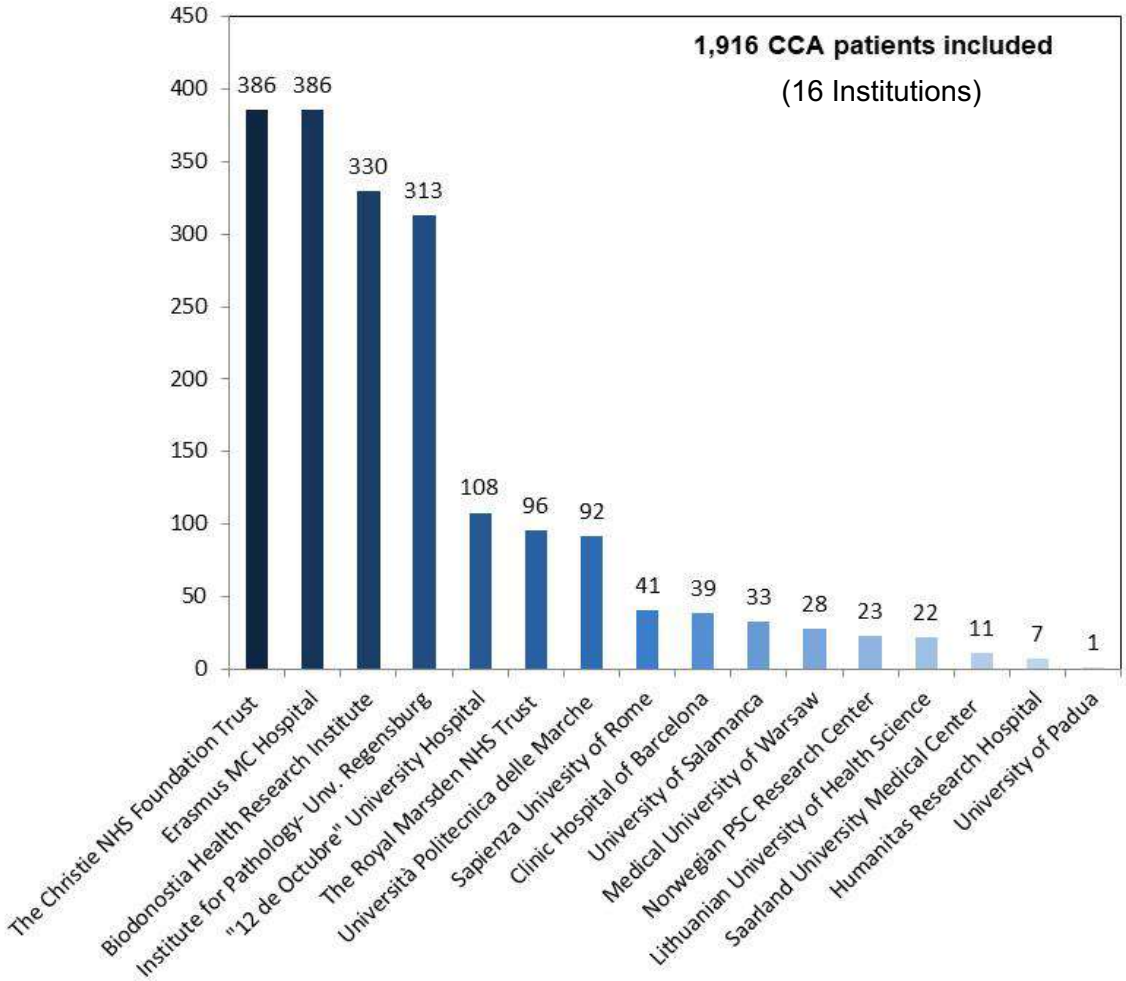
Coordinator: Dr. Guido Carpino (Italy)

European CCA Registry

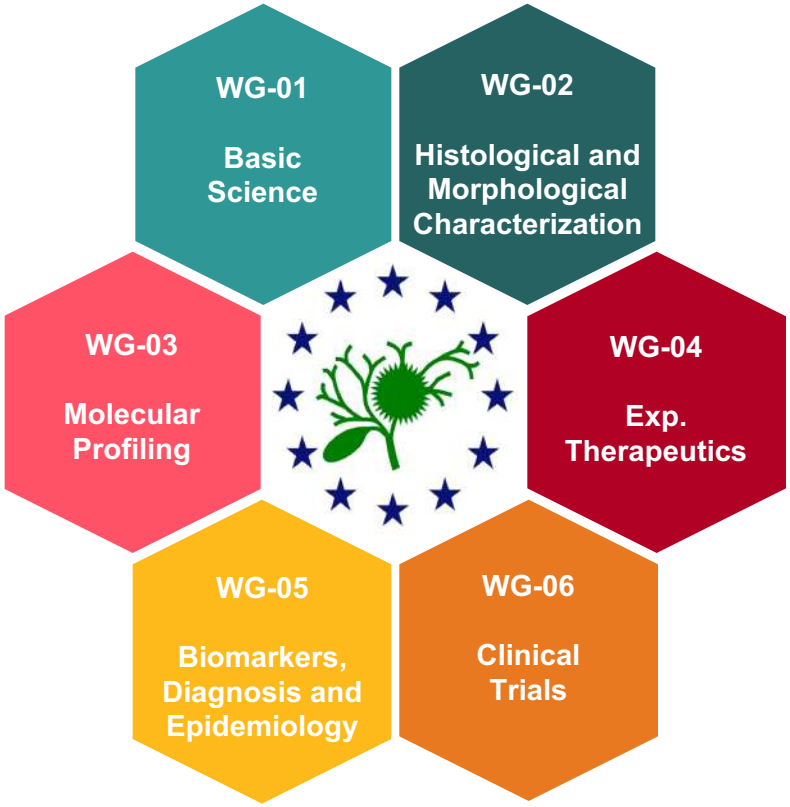
Data collection



European CCA Registry



ENS-CCA working groups



CCA Histological Registry

Coordinator: Dr. Guido Carpino (Italy)

FFPE Tumor Tissue Samples

Target and needed Materials
- Primary Target: **100 patients**
- Patients to be included should have: frozen samples, blood, urine
- Blank (FFPE) slides: 15

Other ENS-CCA group member(s) interested in re-viewing the CCA slides:
- Hermanns H (Würzburg, Germany)
- Evert M (Regensburgr, Germany)
- Kendall T (Edinburgh, UK)

Digital Registry
- On-line system

Future International collaborative projects (Genomic, Epigenetic, Metabolic, etc)

CCA Histological Registry

Label	Image	Slide ID	Barcode ID	Block ID
		2852	9855C	EE
		2881	9855C	SR FG
		2886	9855C	PAS
		2908	9855C	alfa SMA
		2931	9855C	HepPar1
		2939	9855C	PCNA
		2945	9855C	CK7
		2957	9855C	vWF
		2978	9855C	CD68
		2989	9855C	SOX9
		2997	9855C	CD31
		3005	9855C	EpCAM

OUTPUTS FROM CCA SPECIMENS

- CCA histological classification
- Tumor cell differentiation
- Proliferation Index
- Tumor stroma extension
- Microvessel density (MVD)
- Macrophage infiltration

VIRTUAL SLIDES FOR EACH PATIENT

Histo-morphological routine stains

Immunohistochemistry

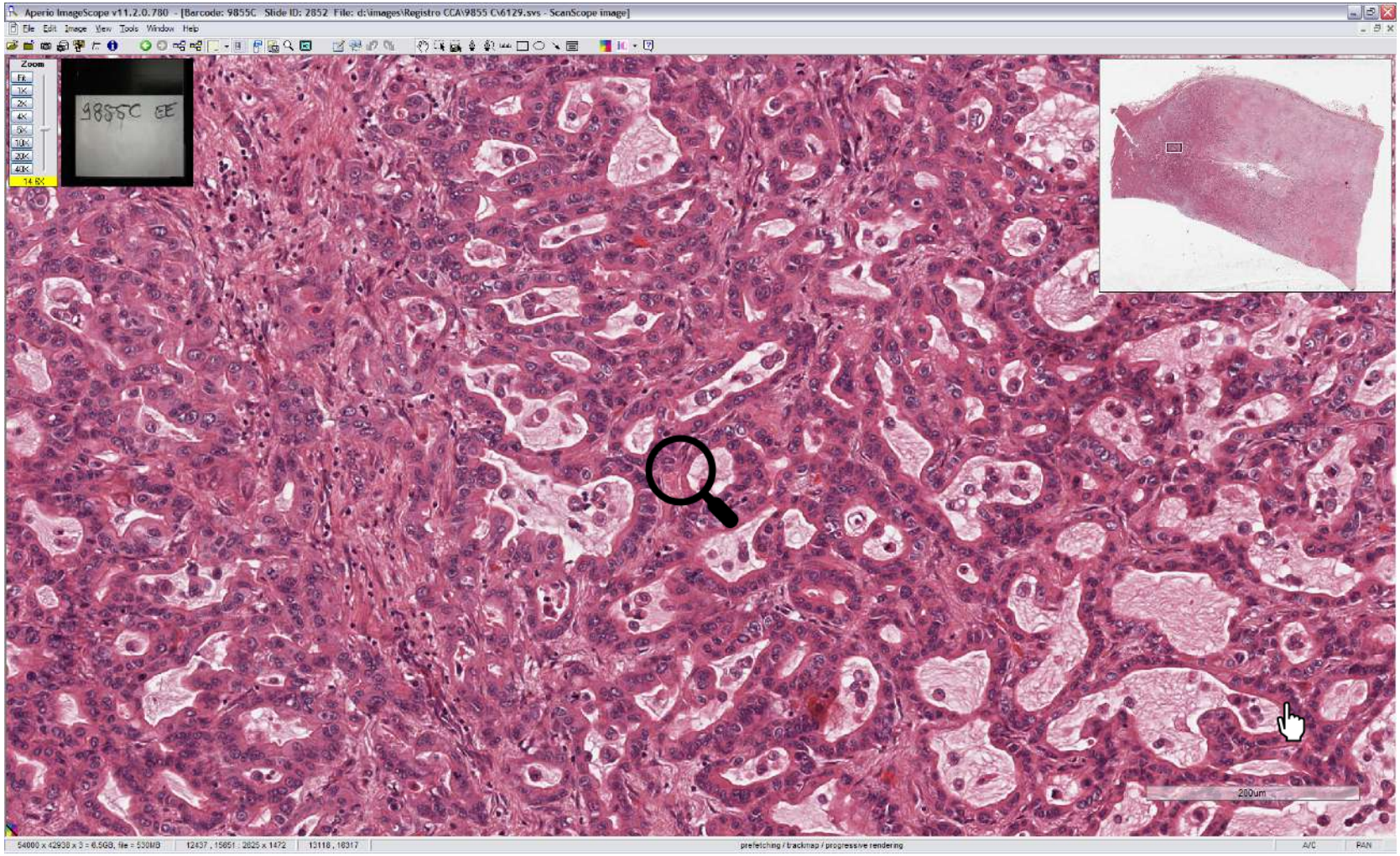
CCA Histological Registry

VIRTUAL SLIDE: VIEW AND NAVIGATION

CCA Histological Registry

EASL
The Home of Hepatology

VIRTUAL SLIDE: VIEW AND NAVIGATION



CCA Histological Registry

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		2978	9855C	CD68
		2989	9855C	SOX9
		2997	9855C	CD31
		3005	9855C	EpCAM

OUTPUTS FROM CCA SPECIMENS
(example of automated count)
- Proliferation Index

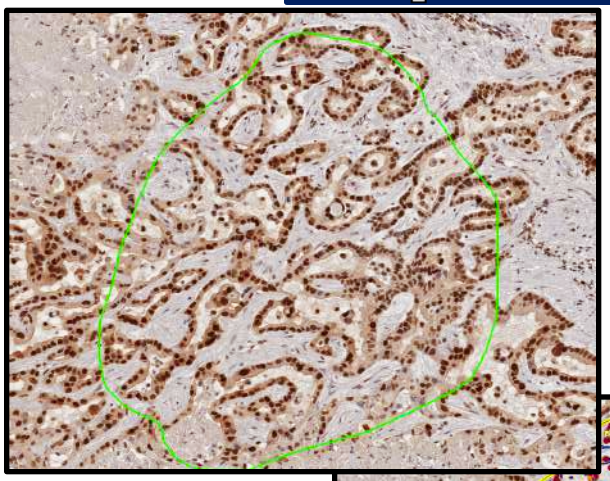
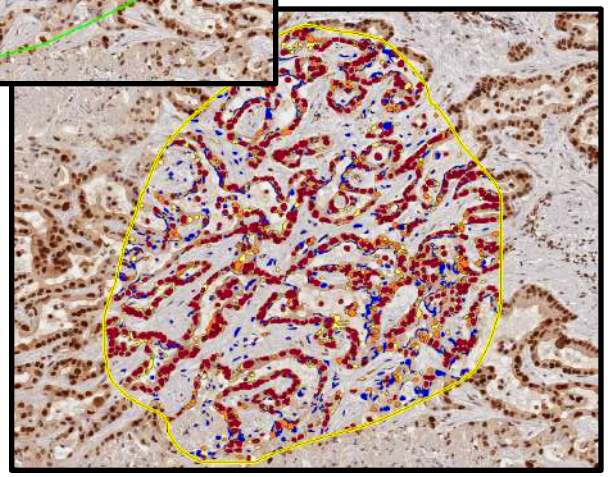


Image automated analysis



GWAS in CCA

Coordinator: Dr. Lewis Roberts (Mayo Clinic, Rochester, USA)

GWAS *Action Alert*

THE *cholangiocarcinoma* FOUNDATION

European Network for the Study of Cholangiocarcinoma

- 2000 CCA
- 500 Gallbladder cancer

→ **SNPs Genotyping**
National Cancer Institute (NCI, USA)

NEXT: Validation Phase (ongoing)

COLLABORTIONS EUROPE - LATIN AMERICA

ESCALON (2019-2013)

European-Latin American network for the assessment of biomarkers to predict and diagnose hepatobiliary malignancies and characterization of risk factors for cancer development

Participant No	Participant organisation name	Short name	Country
1 (Coordinator)	Erasmus University Medical Center Rotterdam	EMC	The Netherlands
2	Biodonostia Health Research Institute, San Sebastian	BHRI	Spain
3	Universidad San Francisco de Quito	USFQ	Ecuador
4	Hospital Privado Centro Médico de Córdoba	HPCMC	Argentina
5	Centro de Enfermedades Hepáticas Y Digestivas, Bogota	CEHYD	Colombia
6	Hospital Nacional Edgardo Rebagliati Martins, Lima	HNERM	Peru
7	Universidade Federal de Ciências da Saúde de Porto Alegre	UFCSPA	Brazil
8	Pontificia Universidad Catolica de Chile	PUC	Chile
9	University Health Network, Toronto	UHN	Canada
10	Mayo Clinic, Rochester	Mayo	USA
11	The Christie NHS Foundation Trust, Manchester	The Christie	United Kingdom
12	Medizinische Hochschule Hannover	MHH	Germany
13	Sensu Productions	Sensu	The Netherlands

WP leaders

Dr. Andre Boonstra
Dr. José Debes — **HCC**

Dr. Jesus Banales — **CCA**

Dr. Juan Carlos Roa — **GbC**

New Registry databases in Latin America

EASL Consortium

- A scientific network officially endorsed by EASL

COLLABORATIONS
IPSCSG - ENSCCA

Coordinators: Dr. Cyriel Ponsioen
Dr. Ulrich Beuers
(Amsterdam, The Netherlands)

IPSCSG: Malignancies working group
Chairs: Luca Fabris and Jesus Banales

Establishing a global voice in cholangiocarcinoma through community collaborations

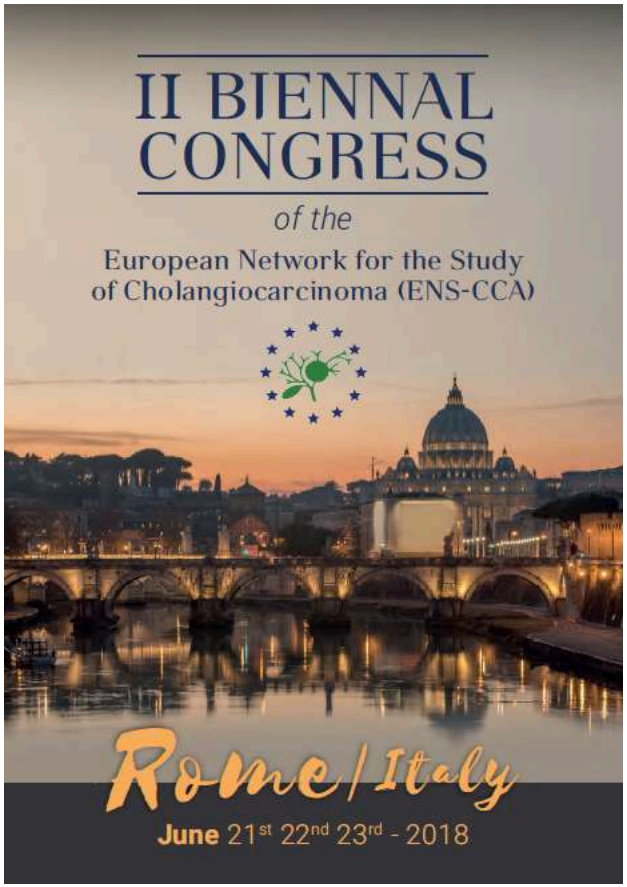
I Biannual ENS-CCA Congress

San Sebastian 2016 (Spain)

Local Organizer: Dr. Jesus Banales

II Biannual ENS-CCA Congress

Rome 2018 (Italy)



Local Organizer: Dr. Domenico Alvaro

III Biannual ENS-CCA Congress

Edinburgh 2020 (UK)

THE UNIVERSITY of EDINBURGH

Organizing Committee:

Edinburgh
Dr. Luke Boulter
Dr. Tim Kendall
Manchester
Dr. Juan Valle
Dr. Angela Lamarca
London
Dr. John Bridgewater
Dr. Chiara Braconi
Dr. Shahid Khan
UK
Mrs Helen Morement,
AMMF–The CCA Charity

European H2020 COST ACTION

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Information and Communication Technologies (ICT)

COST is supported by the EU Framework Programme Horizon 2020

HORIZON 2020

- **Aim:** creation of European Networks on science and technology
- 13 countries → 41 Institutions → 87 proposers

THE cholangiocarcinoma FOUNDATION

AMMF
THE CHOLANGIOCARCINOMA CHARITY

EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

Brussels, 13 November 2018

COST

DECISION

Subject: **Memorandum of Understanding for the implementation of the COST Action "EUROPEAN CHOLANGIOCARCINOMA NETWORK" (EURO-CHOLANGIO-NET) CA18122**

- https://www.cost.eu/actions/CA18122
- Awarded: **2019-2013** (4 years: **500,000 €**)
- First **Management Commette Meeting** (Brussels) on 18th March 2019: definition of the timeline of the COST Progam

Coordinator:
Dr. Vincenzo Cardinale

COST is supported by the EU Framework Programme

CA18122 - EUROPEAN CHOLANGIOCARCINOMA NETWORK

EURO-CHOLANGIO-NET

Main Contacts

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+025333868
Nathalie.Warenghien@cost.eu
(mailto:Nathalie.Warenghien@cost.eu)

Dr. Jesus M Banales (Vice-Chair of COST Action)
Biodonostia Institute
(San Sebastian; **Spain**)

Overview

- COST Association General Info
- Application History
- The Challenge and the Rationale
- AIMs
- Constitution of EURO-CHOLANGIO-NET
- Main Deliverables
- What is going on (First Year Events)

COST provides networking opportunities for researchers and innovators in order to strengthen Europe's capacity to address scientific, technological and societal challenges. COST implements its mission by funding bottom-up, excellence-driven, open and inclusive networks for peaceful purposes in all areas of science and technology

If you have a Challege and if you have Friends… ALL you need is COST (and work)

COST Actions

Open to

All fields of S&T

Trans-, multi,-interdisciplinarity

All countries

COST Countries

Global cooperation

All career stages

Young and experienced researchers

All Partners

Academia, public organisations, SME

NGO, Industry, International Organisations

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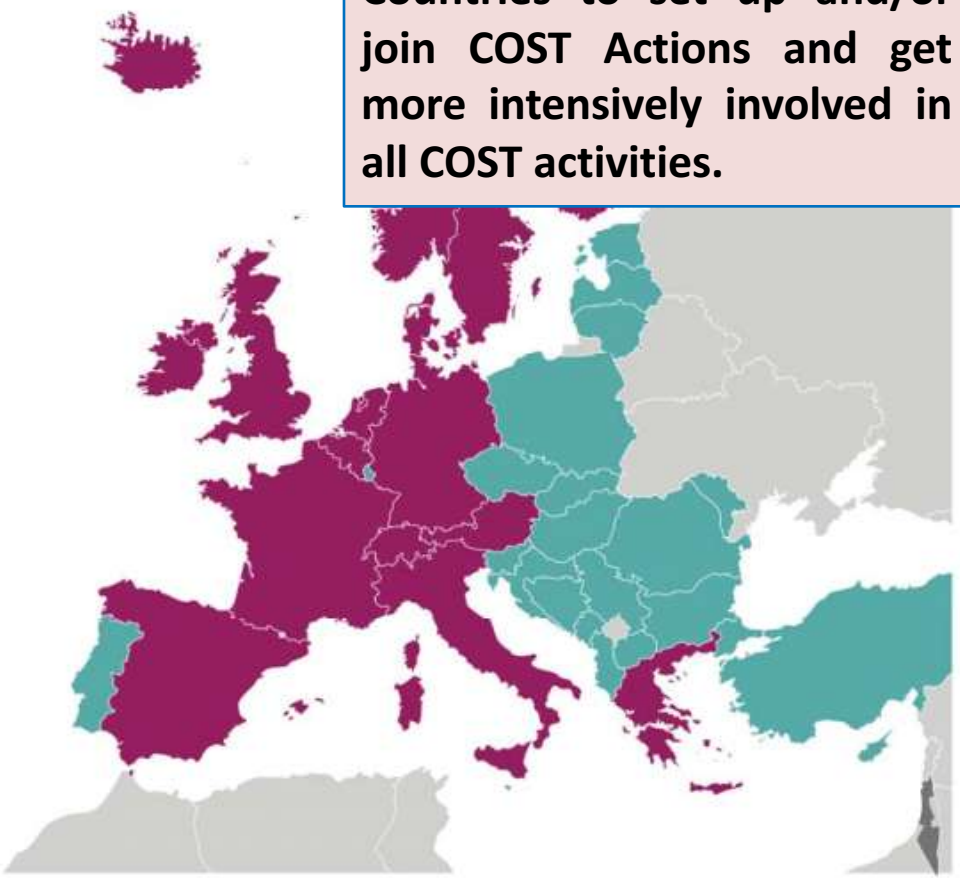
COST Member Countries

38 COST Full Members*:
Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the Republic of North Macedonia

The countries in green are the less research-intensive COST countries, also know as **Inclusiveness Target Countries** (**ITCs**)

1 Cooperating State:
Israel

Encourage and enable researchers from less research-intensive countries across the COST Member Countries to set up and/or join COST Actions and get more intensively involved in all COST activities.



***Minum 5 cost members**

How COST Member Countries join an Action

Less than one year after CSO* approval of the Action

Researcher contacts the CNC+ → CNC nominates MC Member → CNC accepts the MoU

More than one year after CSO* approval of the Action, the **MC must approve** the new COST country request for participation in the Action

Date of CSO approval for 2018-1: 13/11/2018

*CSO: Committee of Senior Officials
+ CNC: COST National Coordinator

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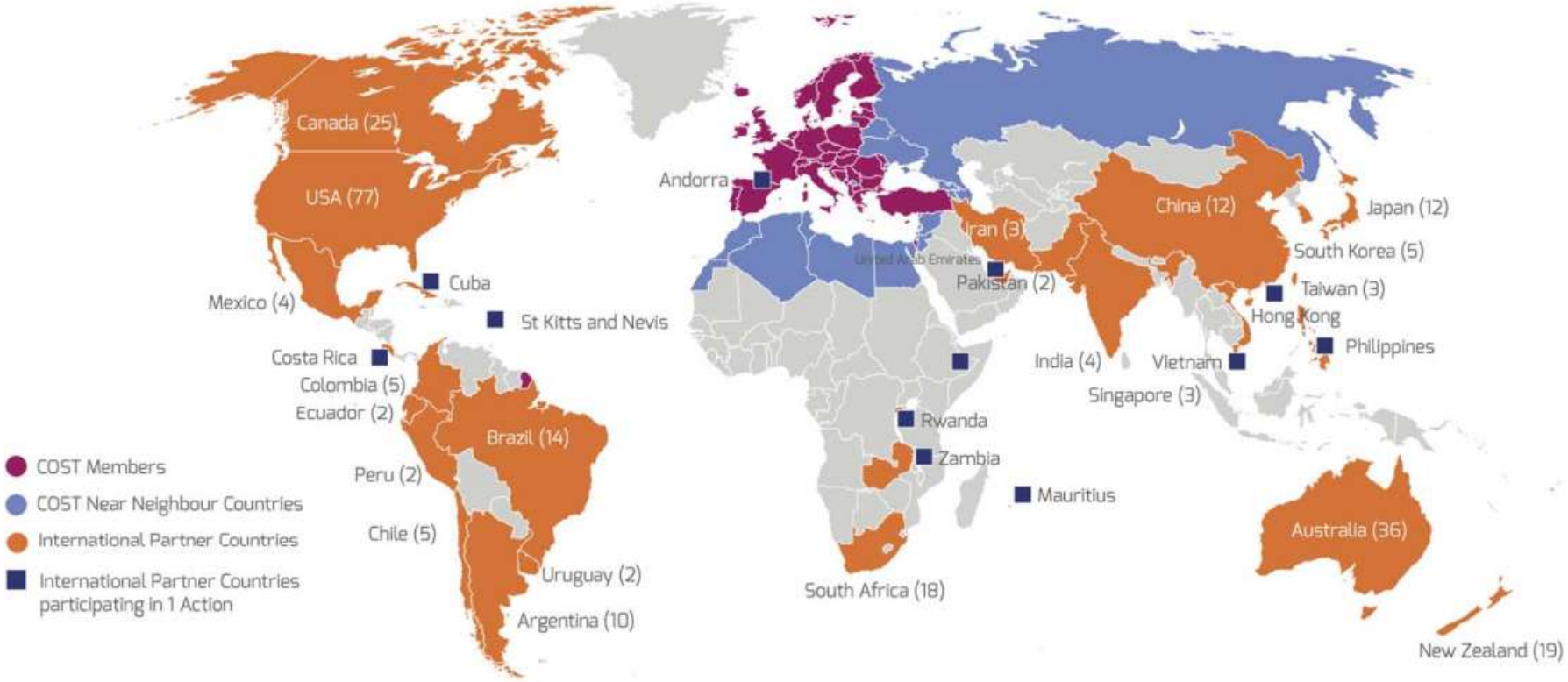
NNC and IPC



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How IPCs, NNCs and Specific Organisation join an Action

1. **Entity already included in the proposal = Founders**
   - After 1st MC: Chair encodes mutual benefit
   - Chair initiates MC approval in e-COST or confirms approval made during 1st MC meeting

2. **New Entity**
   - Chair encodes applicant details in e-COST
   - Applicant and Chair complete application form in e-COST
   - Online approval by MC and COST Association

- Once the **Institution** is approved the applicant becomes MC Observer

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COST Policies

COST Actions

Network

Memorandum of Understanding

4 years

Min 7 countries, *average participation, 27 countries*

Research coordination and capacity building activities

€ **~500 000 euros over lifetime**

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Networking tools

Research coordination & Capacity building activities

Management Committee meeting

Working Group meeting

Conferences

Training Schools

Scientific Term Scientific Missions (inter-lab exchanges)

Dissemination

ITC Conference Grants

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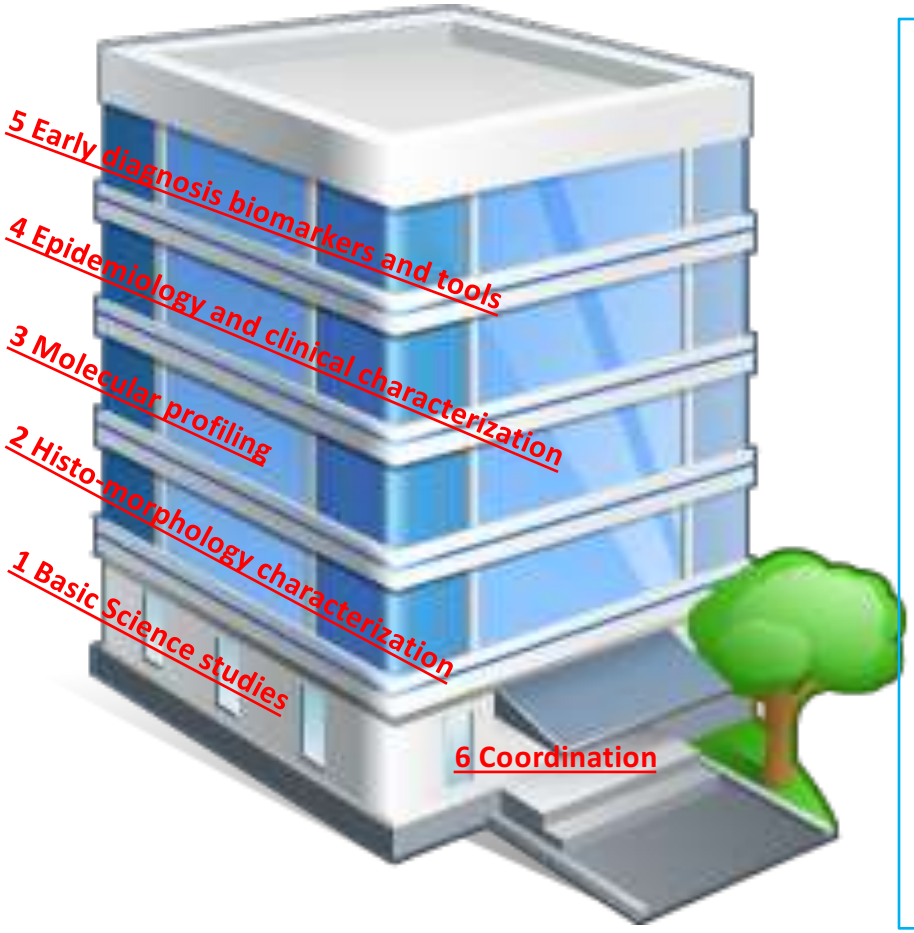
E-CHOLANGIO-BUILDING Action



- June 2016 – 1° ENSCCA meeting/Original idea
- December 2016 – First application Submitted
- June 2017 – Response (50/65 points)
- May 2018 – Second Application Submitted

E-CHOLANGIO-BUILDING Action aims to develop an orchestrated multidisciplinary international activity grid, organized in sub-action Working Groups dedicated to face interrelated challenges.

COST Inclusiveness target countries
47.62 %

Number of Proposers
99

Geographic Distribution of Proposers

Country	ITC/ non ITC/ other	Number of institutions from that country	Number of researchers from that country	Percentage of the proposing network
Austria	non ITC	1	1	1.01 %
Czech Republic	ITC	1	1	1.01 %
Denmark	non ITC	5	5	5.05 %
France	non ITC	1	3	3.03 %
Germany	non ITC	17	17	17.17 %
Hungary	ITC	1	1	1.01 %
Italy	non ITC	19	20	20.2 %
Latvia	ITC	1	1	1.01 %
Malta	ITC	1	1	1.01 %
Netherlands	non ITC	4	4	4.04 %
Norway	non ITC	4	4	4.04 %
Poland	ITC	3	3	3.03 %
Portugal	ITC	3	3	3.03 %
Romania	ITC	1	1	1.01 %
Serbia	ITC	1	1	1.01 %
Slovenia	ITC	1	1	1.01 %
Spain	non ITC	13	15	15.15 %
Sweden	non ITC	1	1	1.01 %
Switzerland	non ITC	3	3	3.03 %
Turkey	ITC	1	1	1.01 %
United Kingdom	non ITC	4	4	4.04 %
United States	other	7	8	8.08 %

22 countries
10 ITC
1 International Partner Countries (USA)

Although 3 countries are more represented, it should be noted that these countries have a larger population. However, the Action will be open to the incorporation of additional institutions and member especially from ICT and near-neighbour countries.

Other issues on the network composition

- The proposal would benefit from certain improvements: The proposal does not include Near-Neighbor country institutions, European RTD organisations, International organisations.

- European RTD organizations, SMEs

Cytognos Spain

OWL Metabolomics Spain

Ability Pharma Spain

Delcath UK

- International organizations: EASL International Liver Foundation, Prof. Colombo

- Cholangiocarcinoma Foundation charity based in the United States (US); AMMF, the UK's only cholangiocarcinoma charity.

Gender balance

- The gender distribution is somewhat unbalanced (26.4% women). Only 8.33% of the COST Inclusiveness target countries are involved.

- *Promote inclusion of women and their role in leading position.*

Gender Distribution of Proposers
52.6% Males
37.4% Females

Average Number of years elapsed since PhD graduation of Proposers with a doctoral degree
15.1

Number of Early Career Investigators
33

Cholangiocarcinoma: relevance of a worldwide challenge

- Underestimation due to classification coding for CCA and terminology. Four ICD-10 sub codes agreed: **incidence rate of 3.65/100,000**, mortality rate **of 4.01/100,000** in England in 2013. The number of deaths for the CCA from 2010 to 2013 in England surpassed the ones for hepatocellular carcinoma (HCC) (7,743 vs. 6,899 deaths). *A Report from Pubblic Health England, National Cancer Registration and Analysis Service.*

- CCA is the most frequent cause of metastasis of unknown origin, and thus further highlights how we still do not know the real burden of CCA. *Varadhachary GR Engl J Med. 2014.*

- Mortality for primary liver cancer has become more uniform across Europe over recent years with an evident decline of HCC mortality, but, in contrast, iCCA mortality substantially increased. *Bertuccio P. Ann Oncol. 2013. Petersen KA. Br J Cancer. 2016. Lepage C. Eur J Cancer. 2015*

- Reduction of the mortality rate from other malignancies (19 types comprising breast, lung, colon, etc.) in 1990-2009 (US data), but the mortality rate for malignancies of liver and bile ducts increased by more than 40% and 60% in females and males, respectively. *Llovet JM. Nat Rev Clin Oncol. 2015*

Translation stays between current knowledge and future perspectives: an issue in CCA.

Multilevel heterogeneity and limited knowledge on causes:

- No data to develop early diagnosis and screenings
- Incomplete/heterogenous molecular landscape

CCA heterogeneity has limited the discovery of biomarkers and novel therapeutic options, hampering the development of tools for early diagnosis and effective treatment.

CCA constitutes a major challenge for researchers, clinicians, national health systems and society.

Coordinated multidisciplinary pan-European studies are lacking.

AIM

- *To face cholangiocarcinoma burden and heterogeneity through the creation a co-operative, interdisciplinary pan-European network harmonising clinical investigators, basic scientists, charities, European RTD Organizations, SMEs, and National and European Institutions.*

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EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

Brussels, 13 November 2018

COST

DECISION

Subject: Memorandum of Understanding for the implementation of the COST Action "EUROPEAN CHOLANGIOCARCINOMA NETWORK" (EURO-CHOLANGIO-NET) CA18122

- November 2018 – MoU published on line
- Definition of Management Commettee
- March 2019 – First Managment Commette meeting
- April 2019 submission WBP first year
- 1 May – Action officially started


18 March 2019: FIRST MC MEETING
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PROPOSAL APROVED BY THE MC

Action Chair : Vincenzo Cardinale (Italy)

Action Vice-Chair: Jesus Banales (Spain)

Working Group Leaders and Vice-Leaders

- **WG1 Preclinical**: Diego Calvisi (Germany), Laura Fourasier (France)
- **WG2 In-Depth Histomorphological Phenotyping**: Guido Carpino (Italy), Benjamin Goeppert (Germany)
- **WG3 Molecular Profiling**: Jesper Andersen (Denmark), Trine Foulserais (Norway)
- **WG 4 Epidemiology, Clinical Characterization and Trials**: Juan Valle (UK), Bas Groot Koerkamp (The Netherlands)
- **WG5 Early Diagnostic Biomarkers**: Rocio Macias (Spain), Marcin Krawczyk (Poland),
- **WG6 Development of Novel Therapeutic Targets and Tools**: Chiara Braconi (UK), Joachim Martens (Swiss)
- **WG7 Legislation and Ethics**: Cecilia Rodrigues (Portugal), Tadeja Rezen (Slovenia)

WG1. PRECLINICAL

Tasks & Activities
• To review available experimental models of CCA and their usefulness for preclinical studies. • To conduct workshops on experimental models of CCA, including organoids, either from resected tumours tissue, from resected lymph node or from bile. • To generate a data registry based on standardized sheet forms. • To deliver STSMs to ECIs with a focus on *in vitro* and *in vivo* models. • To identify targets for therapies that will be available for further tests in preclinical experiments. • To translate the scientific evidences into regulatory language, practices and recommendations.

WG2. IN-DEPTH HISTOMORPHOLOGICAL PHENOTYPING
See Histology Registry leaded by Guido Carpino

Tasks & Activities
• To collect samples and data to set up the digitalised European registry. To review current knowledge on CCA histology and clinical-pathology; To harmonize nomenclature, clinical measurements, definitions, classification and outcomes. • To conduct workshops to discuss and validate data and outputs. • To share collected data with other WGs, through the registry. • To organize STSMs for ECIs with a focus of histomorphology.

WG3. MOLECULAR PROFILING

Tasks & Activities
• To define the transcriptome, proteome and metabolome of each CCA subtype. • To define molecular profiling of each CCA subtype.

• Because there are no genome wide association studies (GWAS) for CCA, an important task will be to carry out a GWAS in genomic DNA (gDNA) from >2000 CCA patients.

WG4. EPIDEMIOLOGY AND CLINICAL CHARACTERIZATION AND TRIALS

See Clinical Registry leaded and presented by Jesus Banales

Tasks & Activities
The primary goal of the clinical-epidemiology data registry will be to establish a follow-up of the natural history of CCA in European countries: • To determine the current management of patients and outcomes. • To broaden the current CCA classification by introducing information about morphological, immunohistochemical, genetic and molecular parameters. • To elucidate the role of environmental factors in the development and progression of CCA. • To compare the effectiveness of different therapies (e.g., standardised surgical approaches). • To select patients for clinical trials. To explore the access to clinical trial for patients, the patients' outcomes and treatment strategies and consistency across countries. • To propose guidelines on CCA management. • To attract support for planning, setting-up and coordinating observational and interventional multicentre clinical trials in CCA.

WG5. EARLY DIAGNOSTIC BIOMARKERS
See Radiology Registry

- To carry out the analysis of CCA imaging data and correlations with data from the histomorphology, genomic and clinical-epidemiology registries.
- To establish the best imaging modality to detect early changes in the wall of the bile ducts.
- To explore new imaging biomarkers (i.e., texture analysis; diffusion-weighted imaging; perfusion analysis) to differentiate patients with benign structures *versus* patients with CCA.
- To correlate imaging biomarkers with histological subtypes, genomic profile (radiogenenomic analysis) or clinical presentation (e.g. CCA on primary sclerosing cholangitis *versus* CCA on cirrhosis/fibrosis).
- To determine new early biochemical tumour markers for screening, diagnosis and CCA prognosis.

WG6. DEVELOPMENT OF NOVEL THERAPEUTIC TOOLS

Tasks & Activities

- To identify molecular targets for the development of novel therapeutic approaches.
- To define the genetic signature of chemoresistance in CCA.
- To incorporate well-defined experimental models of CCA to the evaluation of novel therapies.
- To harmonize the use of novel biomarkers of CCA with the screening of antitumour drugs and therapeutic strategies.
- To carry out pilot pre-clinical studies using already available and novel drugs and therapeutic strategies.

Grant Holder Institution

PROPOSAL Sapienza University of Rome (Italy)

Key Positions

- **Grant Holder Scientific Representative/Legal Representative**

Prof. Domenico Alvaro (Director of Departement of Translational and Precision Medicine)

- **Grant Holder Financial Representative**
- **Grant Holder Manager (assisting financial representative, chairs and all in invitations, reimbursements, traveling, reports of activities)**.

Early Career Investigator and Gender-Balance Advisory Committee

- Timothy Kendal (UK) Coordinator
- Patricia Munoz-Garrido (Denmark) Co-Coordinator
- Angela Lamarca (UK)

Short Term Scientific Mission Manager and Committee

- Exchange visits to foster collaboration, contributing to the scientific objectives of the Actions and allowing participant to learn new techniques, to have access to data/instruments/methods not available in their own institution.
- Jose Marin (Spain) Manager

Leaders of horizontal activities/Stake Holders Contact Points

Patient Association, Scientific Society, and Foundation Advisory Committee

- Helen Morement (UK) Chair
- Marco Marzioni (Italy) Chair

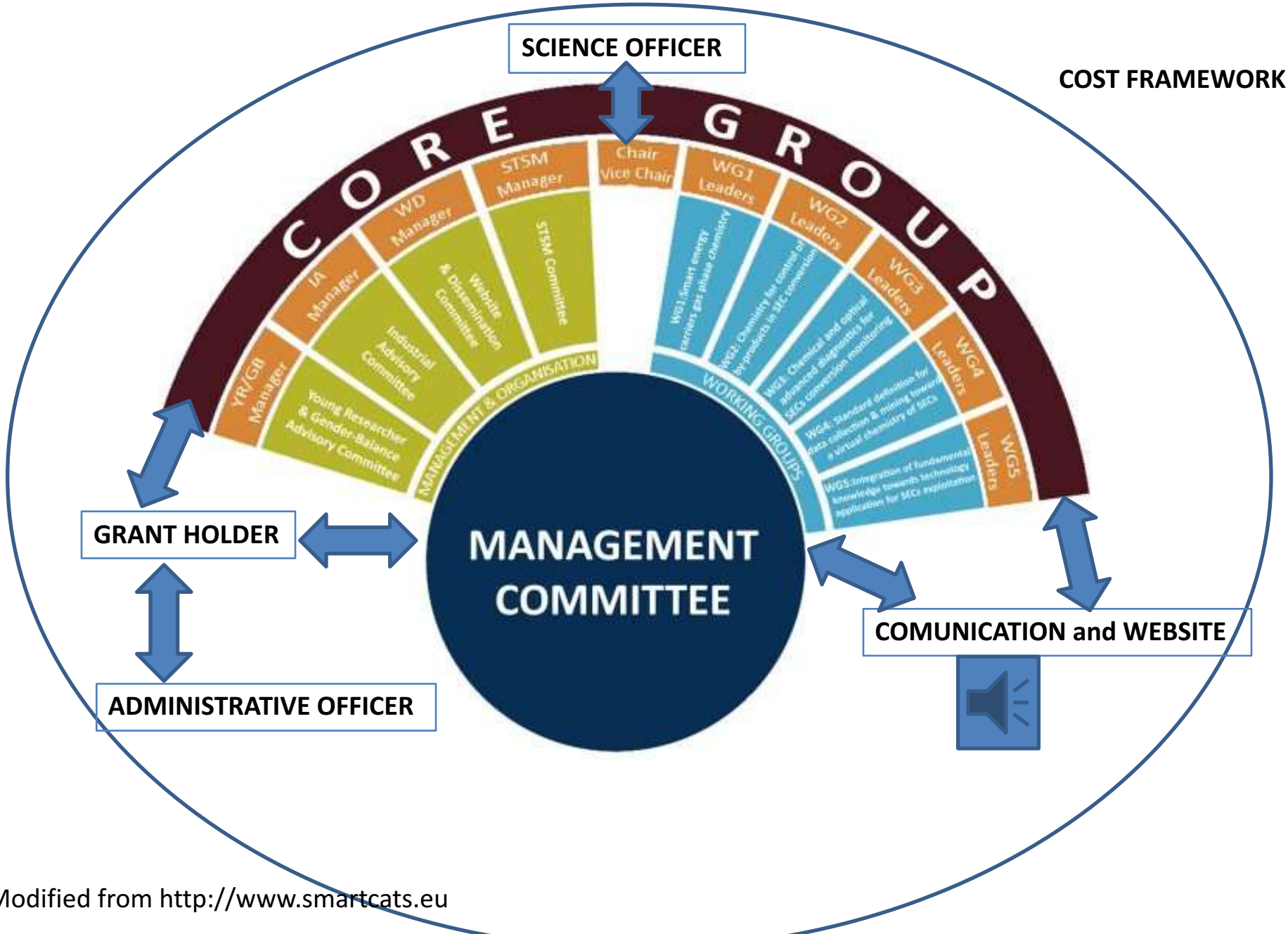
Industrial Advisory Committee

- Alejandro Forner (Spain) Coordinator
- Cedric Coulouarn (France) Co-Coordinator

Science Communication Manager and web site and dissemination committee

- The **Science Communication Manager (SCM)** promotes the dissemination of the information by means of Action website, media and social communication channels. He also takes care of the public image of the Action.
- Rui Castro (Portugal) SCM

- **Website under construction**



Modified from http://www.smartcats.eu

Main Deliverables Year 1

- *Special Issue on cholangiocarcinoma in a peer-reviewed international scientific journal covering all aspects of this disease, containing multiple State of art/Consensus review articles*

- *Standard Operating Procedures (SOPs) for the collection and storage of biological samples related to experimental models of cholangiocarcinoma and SOPs for the collection and storage of all biological samples (liver biopsy, serum, pasma, DNA, urine and stool) from cholangiocarcinoma patients.*

- *Educational materials from the first EURO-CHOLANGIO-NET Training School on the promises and hurdles of novel models of cholangiocarcinoma*

- *Educational materials on cholangiocarcinoma for patients (including clinical implications of diagnosis, available treatments as well as description of the potential side effects of therapies) to be adopted in several European countries with translation in local language.*

Deliverable Year 2

- *Conference proceedings/Educational materials of the joint COST action General Meeting / ENSCCA Bi-Annual International Meeting which is to be held in 2020 in Edinburgh.*

- *Production of educational materials as result of the second year Training School for the development of skills related to diagnosis and management of cholangiocarcinoma.*

- *Publication of International Expert Consensus on cholangiocarcinoma.*

- *Publication of the genomic analyses resulting from international collaborative studies to which COST participating countries are contributing.*

- *Press release on the key findings discussed at the monothematic conference on histomorphology diagnosis and classification of cholangiocarcinoma to sensitise policy makers to the importance of proper classification and codification of cholangiocarcinomas.*

COST TOOL Meetings: Core Group Meeting/Working Group Meeting/ MC Meeting Malta 12-13/09; 90 participants (65 reimbursed)

EURO-CHOLANGIO-NET set-up meeting: A set-up Action meeting

- 1. A meeting to boost activity within the WGs and Committees and collaboration among WGs.
- 2 Prepare and discuss publication drafts
- 3. Prepare and discuss website contents
- 4. Prepare and discuss training school organization
- 6. Prepare and discuss SOPs
- 8. Update state of art of registries (Clinical/Epidemiology, Histologic, Radiologic, Experimental)
- 9. Implement collaboration with patients' charities

PROGRAM will be disseminated soon along with invtation

COST TOOL Training School: EURO-CHOLANGIO-NET Basic and Translational Science Training School, Glasgow (UK), 18-20 March 2020, N. trainees 30

Training school in novel experimental models for cholangiocarcinoma: from ex vivo patients derived organoids to in vivo animal models.

Location: The University of Glasgow – Beatson Institute for Cancer School coordinators: **Prof Chiara Braconi (Hosting) and Prof Diego Calvisi**

PRACTICAL SESSIONS

- Interactive small group workshops at the BICR Group 1: Patients derived organoid cultures – Group 2: Mouse derived organoid cultures - Group 3: Co-cultures with CAF - Group 3- 3D printing to create niches for co-cultures - detecting cell movements - generation of an ECM frame to support organoid growth.
- Educational videos/operational issues in animal research - Hydrodynamic tail vein injection - Genetic strategies for in vivo modelling

COST TOOL: STSMs N. 5
Average cost per STSM(EUR): 2000 Euro
STSM is one of the major tool for starting and potentiating collaborations within the network.

- The participants eligible of the STSM will be performed with regularly deadlines posted in the EURO-CHOLANGIO-NET web site: prioritizing scientific excellence, participation of young researcher, gender equality and IT inclusion; the proposals must be strictly pertinent to the goals of the Action, with a special priorities for applications related to the development and dissemination of the Registries and main WG projects.

- If you need info on COAST or on EURO-CHOLANGIO-NET COST Action
- If you need slides
- If you want join
- …. just ask me

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Thanks ENSCCA Friends

Thanks AMMF

Thanks Everyone

Acknowledgements

EURO-CHOLANGIO-NET COST ACTION (2019-2013)

EASL REGISTRY DATABASE AWARDS 2016 and 2019

EASL SPONSORSHIP: Congress 2018

THANK YOU
FOR
YOUR ATTENTION