

# iPath Network

**past - present -  
future**

Monika Hubler, Kurt Brauchli  
contact:  
[monika.hubler@basysdata.ch](mailto:monika.hubler@basysdata.ch)

# Overview

- What is iPath?
- History
  - From research to service
- Present state
  - iPath Community Edition
  - Hosted Server: iPath-Network
- Future plans
  - iPath Mobile

# What is iPath?

- iPath is an internet platform to facilitate distance collaboration in medical practice, education and research
- Management of medical content such as cases, images, data forms
- Organisation of collaboration in closed user groups: real time and in asynchronous store-and-forward mode

# Content Managed by iPath

- Cases with text description
- Images (400+ image formats)
- Video clips - automatically converted to flash format for easy preview
- Custom forms
- Links to PubMed (literature)
- ... and many more by extending iPath

# Case + Comments

## Completed Case

Haemolytic Hereditary Elliptocytosis (22845) < | up | >

Home List Find Edit Add Delete Compare Export Chat Slideshow presentation image drop

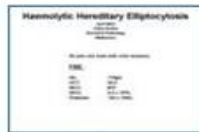
**Haemolytic Hereditary Elliptocytosis** ●  
**Subtitle:** Authors: J.Metz and C.Durkin, Dorevitch Pathology, Melbourne, Australia

**Type:** Peripheral Blood

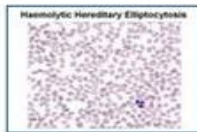
**Sender:** durkin

2010-07-16 09:15  
INCTR - Hematopathology teaching group

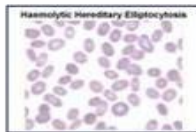
### Gallery:



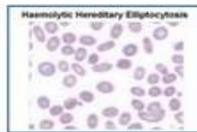
Slide1.JPG



Slide2.JPG



Slide3.JPG



Slide4.JPG



Slide5.JPG



Haemolytic HE fo... .jpg

### Annotations » Add comment

diane.c.farhi  
2010-07-23 23:02

Thank you, as always, for a nicely presented case. For some unknown reason, I see many of these, sometimes 3-4/month. The RDW is typically high. I have seen these cases range in morphology from predominantly elliptocytes, as in your case, to a wide range of elliptocytes, spherocytes, and fragments, presumably a more hemolytic version of hereditary spherocytosis.



diane.c.farhi  
2010-07-23 23:02

Sorry, I meant hereditary elliptocytosis at the end.



# Advanced functionality

- Slideshow mode  
slideshow directly  
from server
- Compare images  
display 2 images next  
to each other
- Web meeting  
interactive  
collaboration on  
synchronised set of  
slides  
(chat + shared  
pointer)



# Multi-discipline collaboration

## Tumourboard meeting

Lörrach (Germany) + Basel (Switzerland)

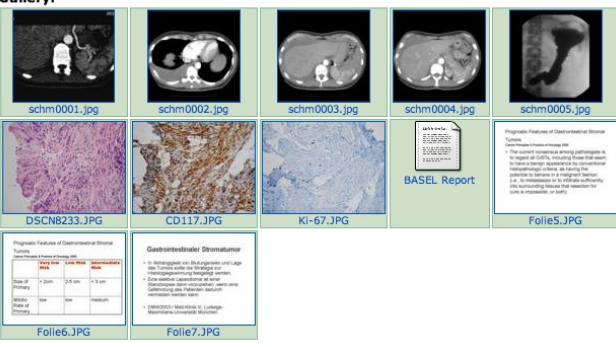
LOE\_20060504\_4 (84243) < up | >

Home List Find Edit Add Delete print Chat image drop Export Slideshow Compare referral

**LOE\_20060504\_4** Type: Sender: 2006-04-24 14:39  
Subtitle: Magen, gastrointestinaler Stromatumor, GIST glienke Oncology Center Lörrach

Gastrointestinaler Stromatumor an der Cardiallippe, 7mm, Mitoserate <1%. Status nach biptischer Entfernung mit schwerer Nachblutung und Notfallaparotomie sowie Thoraxdrainage.  
Frage an die Pathologie: Demonstration des Befundes.  
Frage an die Internistische Onkologie: Ist eine chirurgische 'Nachresektion' zu empfehlen? Wäre alternativ eine Beobachtung erlaubt?  
Beschluß der Tumorkonferenz  
Aufgrund des sehr niedrigen Risikos (<2cm, Mitoserate <1%) ist eine Beobachtung zu empfehlen. Die erste endosonographische Kontrolle sollte nach abgeschlossener Wundheilung als Ausgangs-befund

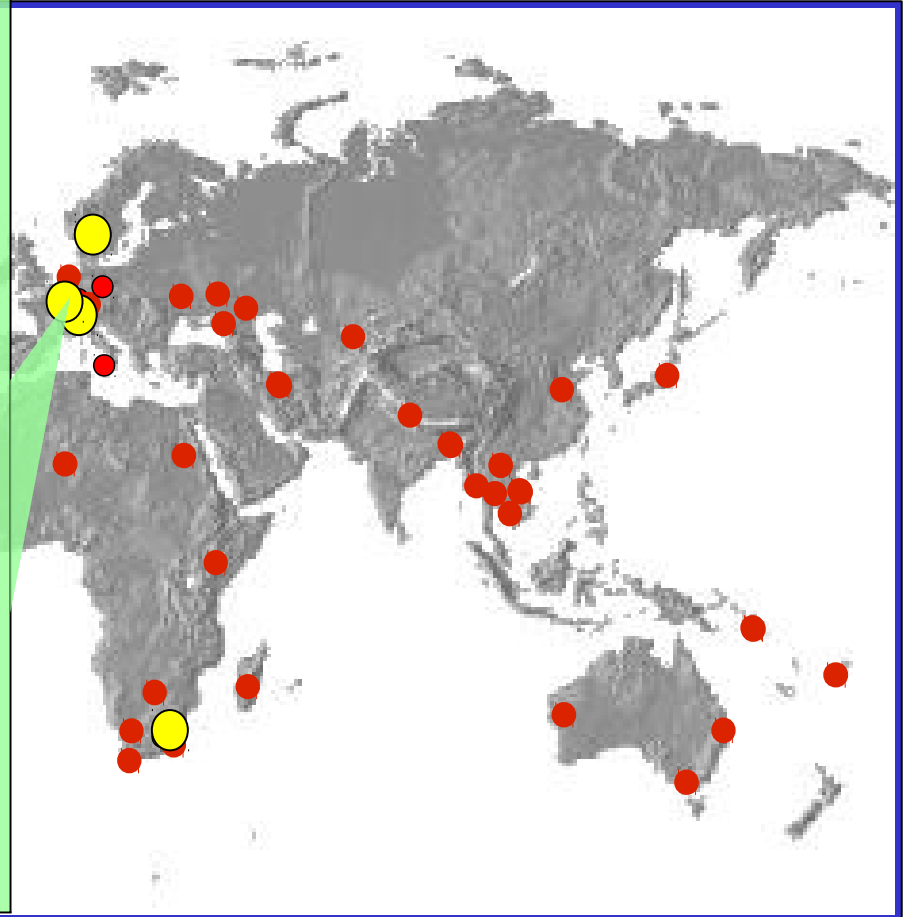
**Gallery:**



schm0001.jpg schm0002.jpg schm0003.jpg schm0004.jpg schm0005.jpg

DSCN8233.JPG CD117.JPG Ki-67.JPG BASEL Report Folie5.JPG

Folie6.JPG Folie7.JPG



● Utilisateurs

● serveurs

# Online-Presentations

The screenshot displays a Mozilla Firefox browser window with the following elements:

- Browser Address Bar:** <https://www.ipath-network.com/inctr/presentation/master/359>
- Page Title:** iPath INCTR - PPT for Presentations - Mozilla Firefox
- Navigation Bar:** Home, List, Find, Edit, Add, Delete, Compare, Export, Import, Chat, Slideshow, presentation, image drop
- Content Area:**
  - Title:** PPT for Presentations
  - Subtitle:** Several topics
  - Type:** hublerm
  - Sender:** hublerm
  - List:**
    - 1.) Diagnostic Findings Bone marrow
    - 2.) Lymphknoten, malignes follikulaeres non-Hodgkin Lymphom
    - 3.) General conception of ipath
    - 4.) multiple lung nodules of varying sizes
  - Gallery:** A grid of histology images with captions: KM DD Myelom.jpg, KM Lymphome Vert...jpg, KM Lymphome.jpg, DD MDS MPD.jpg, DSCN5136.JPG, DSCN5137.JPG, DSCN5138.JPG, DSCN5139.JPG, DSCN5140.JPG.
- Sidebar (Left):**
  - Language:** English
  - hubler:** Logout, my groups, My account, Preferences, Alerts
  - iPath:** Home, Discussion group, Find case presentations
  - Admin:** User list, Group settings, Administration
  - Site statistics:** Active users: 358, Groups: 9, Server statistics, group statistics
- Video Chat:** A small window shows a woman with a headset. Status: connected, disable video broadcast.
- Tip:** click on the bar to the right to close this toolbox
- Chat:** chat (hubler):



# History

- **2001 - 2006:**
  - Research project at the Department of Pathology at the University of Basel
  - Telepathology on Solomon Islands and many other applications of iPath
- **2007 - 2010:**
  - Transition
- **2010 - today:**
  - iPath-Network: Hosted Service based on open source iPath software provided through Basys Data GmbH
  - Community Edition: extension of iPath to allow self-organised communities with many groups.
  - Jan 2011: Transfer of 20'000 cases from University Server to iPath-Network

# General Statistics

## General statistics about this server

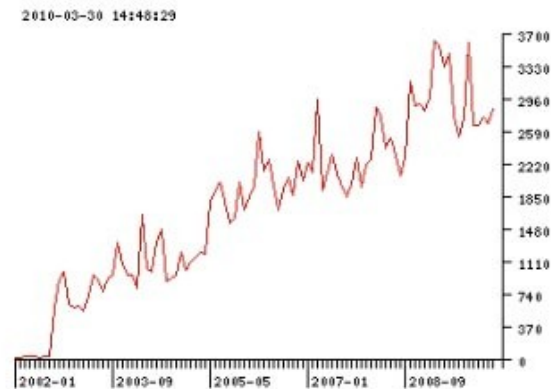
### user & group statistics

- **active users:** 4249 (total: 6144)
- **groups:** 379 (hidden: 103)

### objects

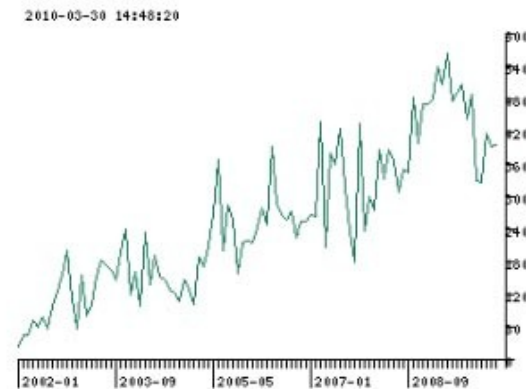
- **cases:** 25708
- **objects:** audio: 3, blog: 31, dicom: 333, dotslide: 1356, drawing: 249, file: 5485, folder: 2098, form: 12736, forumpost: 18, googleslide: 2, image: 203062, imageseries: 18, link: 1124, news: 84, page: 65, textslide: 4313, video: 229, vmicslide: 3,
- **comments:** 59870

### monthly login statistics



**fig.** Number of logins for every month.  
(numbers are only available since August 2002)

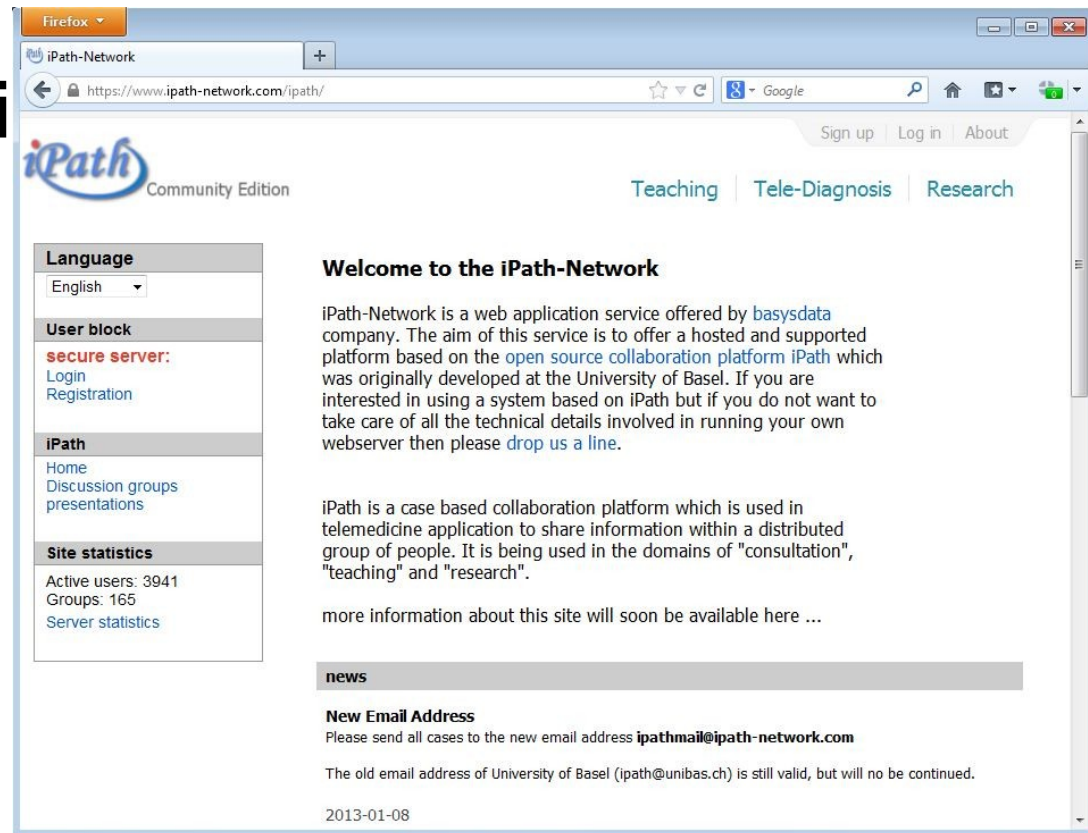
### monthly case statistics



**fig.** Number of cases submitted every month.

# Present – iPath Network

- <http://ipath-network.com>
- Hosted server
- Many communities
- 4'000 users
- 35'000 cases
- 300'000 images



The screenshot shows a Firefox browser window displaying the iPath Network website. The browser's address bar shows the URL <https://www.ipath-network.com/ipath/>. The website header includes the iPath logo with "Community Edition" text, and navigation links for "Teaching", "Tele-Diagnosis", and "Research". There are also links for "Sign up", "Log in", and "About".

The main content area features a "Welcome to the iPath-Network" section. It states: "iPath-Network is a web application service offered by [basydata](#) company. The aim of this service is to offer a hosted and supported platform based on the [open source collaboration platform iPath](#) which was originally developed at the University of Basel. If you are interested in using a system based on iPath but if you do not want to take care of all the technical details involved in running your own webserver then please [drop us a line](#)."

Below this, it says: "iPath is a case based collaboration platform which is used in telemedicine application to share information within a distributed group of people. It is being used in the domains of "consultation", "teaching" and "research"."

Further down, it mentions: "more information about this site will soon be available here ..."

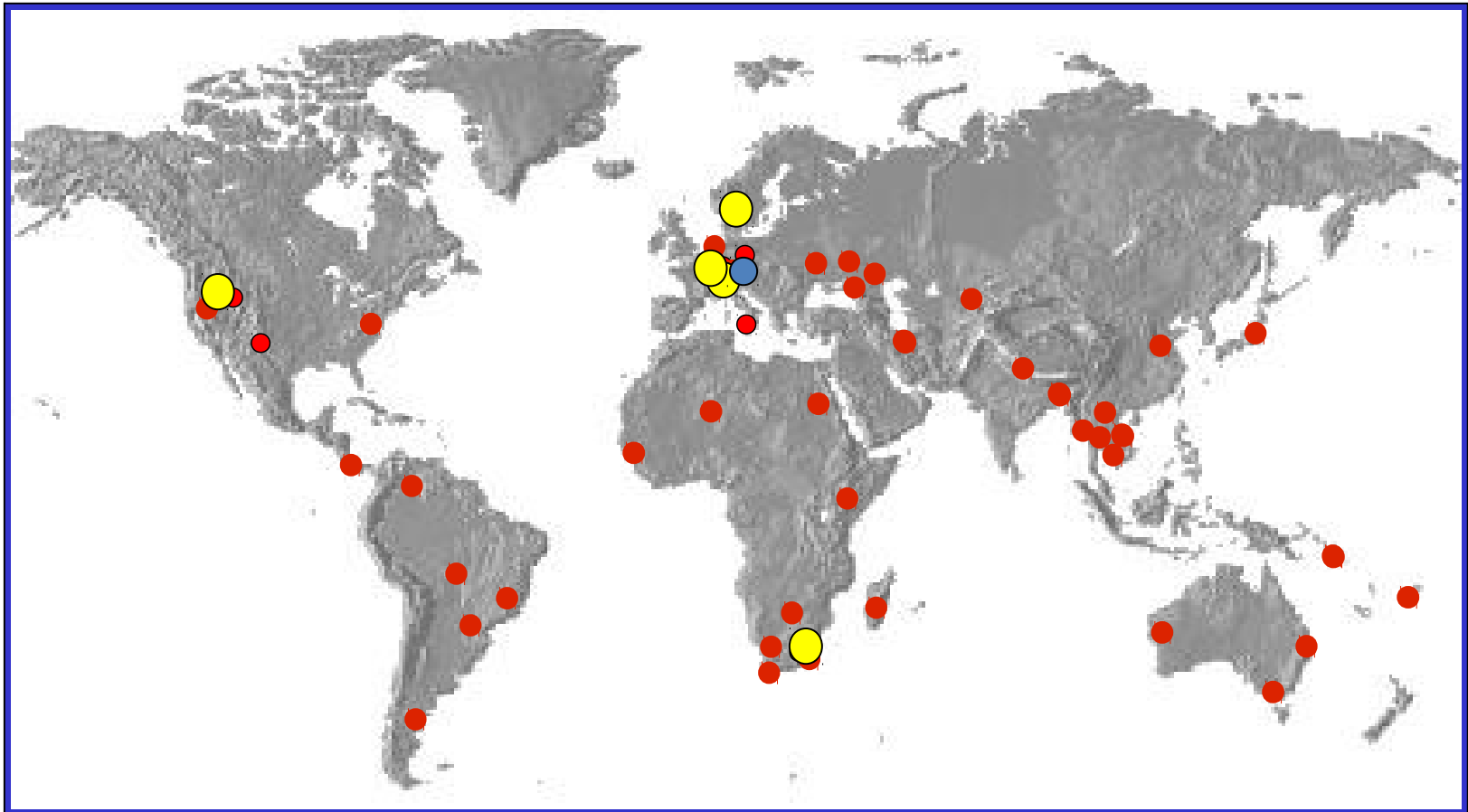
A "news" section is visible, with a sub-heading "New Email Address". The text reads: "Please send all cases to the new email address [ipathmail@ipath-network.com](mailto:ipathmail@ipath-network.com). The old email address of University of Basel ([ipath@unibas.ch](mailto:ipath@unibas.ch)) is still valid, but will no be continued."

The footer of the page shows the date "2013-01-08".

On the left side of the page, there is a sidebar with several sections:

- Language**: A dropdown menu currently set to "English".
- User block**: A red warning "secure server:" followed by links for "Login" and "Registration".
- iPath**: Links for "Home", "Discussion groups", and "presentations".
- Site statistics**: A table showing "Active users: 3941", "Groups: 165", and a link for "Server statistics".

# iPath Network



- Utilisateurs
- serveurs
- HCE Group

# Community Edition

- New Version of iPath (2.1)
- Community:
  - Collection of groups
  - Custom design and portal page
  - Custom configuration
- Users can work in many communities without separate login.

# Virtual portals

- Sharing one server and one installation of iPath between many institutions
- Custom “corporate identity” (front page, settings and layout)
- Shared database of content and user accounts
- Examples at the moment:
  - <http://www.ipath-network.com>
  - <http://www.ipath-network.com/inctr/>
  - [http:// www.ipath-network.com /tanzania](http://www.ipath-network.com/tanzania)
  - [http:// www.ipath-network.com /raft](http://www.ipath-network.com/raft)
  - <http://www.telemed-ipath.org.ua>

# Example: Tanzania ELCT



**menu**

**User block**  
**secure server:**  
» [Login](#)  
» [Registration](#)

**iPath**  
» [Home](#)  
» [Discussion groups](#)  
» [presentations](#)

**Site statistics**  
Active users: 3941  
Groups: 165  
» [Server statistics](#)


**Welcome to t**  
This service is ba

- Health depa
- Kilimanjaro
- AgaKhan Ho
- Other intere
- Basys Data
- The Swinfe

The goal of Tanza  
Tanzania. The ser  
trained doctors in  
satellite connecti

This co-operatoin  
service.  
We have over 34  
helping with their  
consultants in thi

The simple guideli  
to read the guide



## Tanzania Telemedicine Network

Home | Database | Modules | English

**menu**

**User block**  
**secure server:**  
» [Login](#)  
» [Registration](#)

**iPath**  
» [Home](#)  
» [Discussion groups](#)  
» [presentations](#)

**Site statistics**  
Active users: 3941  
Groups: 165  
» [Server statistics](#)

## ELCT (Tanzania)

The goal of Tanzanian Telemedicine project is to provide specialist consultations to doctors in Tanzania. The service can be used at all levels from small clinics to university hospitals. We have trained doctors in 40 church hospitals to use iPath, most of them work in rural hospitals with satellite connection. It is possible to use the service also with mobile modems all over in Tanzania.

### community groups

**Tanzania Center of Telemedicine**  
moderators: [Mauri Niemi](#), [John Hillary](#),

**Tanzania Cytology Group**  
moderators: [Mauri Niemi](#), [John Hillary](#),

**Tanzania Dental**  
moderators: [Mauri Niemi](#), [John Hillary](#),

**Tanzania Dermatology**  
Consultation group for dermatogy  
moderators: [Mauri Niemi](#), [John Hillary](#),

**Tanzania ENT**  
moderators: [Mauri Niemi](#),

**Tanzania General Medicine**  
moderators: [Mauri Niemi](#), [John Hillary](#),

this site is powered by

# Example: INCTR

Sign up | Log in | About

**INCTR** Developing Countries *iPath*

dashboard

<b>Language</b>
English ▾
<b>User block</b>
<b>secure server:</b> <a href="#">Login</a> <a href="#">Registration</a>
<b>iPath</b>
<a href="#">Home</a> <a href="#">Discussion groups</a> <a href="#">presentations</a>
<b>Site statistics</b>
Active users: 3941 Groups: 165 <a href="#">Server statistics</a>

## INCTR

iPath community for INCTR

### community groups

**INCTR - Branches and Offices**  
This Group is used for INCTR\_Branches and Offices Conference calls  
**moderators:** [Julie Estal](#) , [Monika Hubler](#),

**INCTR - Burkitts Lymphoma Trial Diagnostic Review**  
**moderators:** [Nina Hurwitz](#), [Biying Liu](#),

**INCTR - Ethiopian Pediatric Oncology Project**  
**moderators:** [Nina Hurwitz](#), [Biying Liu](#),

**INCTR - High grade B-cell Lymphoma GFAOP clinical trial**  
**moderators:** [Nina Hurwitz](#), [Martine RAPHAEL](#), [Biying Liu](#),

**INCTR - Lithuanian Pathology Forum**  
The main purpose of the group is international consultations for specially selected non-hemato cases of lithuanian pathology.  
**moderators:** [Ugnius Mickys](#), [Darius Dasevičius](#), [Nina Hurwitz](#), [Monika Hubler](#), [Julius Drachneris](#), [Biying Liu](#),

**INCTR - Nephroblastoma GFAOP clinical trial**  
**moderators:** [Nina Hurwitz](#), [Martine RAPHAEL](#), [Biying Liu](#),



# Independent Installation

<http://www.telemed-ipath.org.ua/>

# Future

- **Community Administration Tools**
- **New Referral Module**
  - Personal referral, referral by email
- **Mobile Application**
  - Support for mobile devices, smartphone, etc
  - «iPath App»
- **Realtime conferencing**
  - Video conference
  - Interactive grand rounds
- **iPath 3:** Porting the functionality to a modern framework
  - «Zend-Framework» or «Yii-Framework»

# THANK YOU

**WEB:** [HTTP://IPATH-NETWORK.COM](http://IPATH-NETWORK.COM)

**EMAIL:** [Monika.Hubler@basysdata.ch](mailto:Monika.Hubler@basysdata.ch)

**EMAIL:** [Monika.Hubler@unibas.ch](mailto:Monika.Hubler@unibas.ch)