

Plan for dissemination and exploitation - *deliverable D1.2*

THROMBUS, A quantitative model of thrombosis in intracranial aneurysms

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Partners involved

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Introduction

The objective of THROMBUS is the theoretical understanding of the complex thrombosis process in intracranial aneurysms, its cause in terms of the local flow properties and the biology of the wall and of the blood. This knowledge will then be exploited to implement validated multiscale numerical simulations of Thrombosis, and to dedicate those simulations for the characterisation of optimal patient specific stents. The associated technological aim of the project is to deliver software with an interactive end-user interface, providing a virtual simulation of the thrombosis leading to the optimal stent for a specific patient's aneurysm.

The realisation of the objective will lead to:

1. Providing stent manufacturers with a reliable numerical model of intra-aneurismal thrombosis mechanisms based on biological experiments, using patient specific medical images coupled with recorded parameters.
2. Providing clinicians with a virtual tool to help in choosing between different characteristics of stents based on relevant criteria issued from image processing and multiscale numerical simulation.
3. Providing clinicians and scientists with an interactive end-user tool coupled to a medical collaborative system.

Expected Results & Impacts:

A new 4D aneurysm and thrombosis model developed by the THROMBUS project will have a direct impact on more predictive, effective and safer healthcare. It will allow the radiologists and surgeons to take faster and more accurate decisions. Therefore the foreseen outcomes of the project will lead to reinforced leadership of European industry and strengthened multidisciplinary research excellence in supporting innovative medical care.

As the results expected will have a wide impact, it is important to communicate about the project since the beginning. The dissemination strategy is done with a view to optimising the value of the project and strengthening its impact in order to continuing to build upon the project after its lifetime. The communication's aim is to inform and involve the general public as well as the specific clinical and scientific targets potentially interested in the Project.

This document is the deliverable D1.2, the Plan for dissemination and exploitation based on the dissemination strategy, the target groups and the exploitation (use) of the results by the consortium as

a whole or individual partners or groups of participants. The Governing Board and Coordinator will implement and execute this plan.

Dissemination strategy

Dissemination is contractual in THROMBUS project as it is mentioned in the DoW: “Thrombus consortium has foreseen to devote a special budget (about 30 kEuros [distributed between partners]) for dissemination activities: It will comprise promotional material (website, leaflets, etc), for organization of the final conference and advertorials in magazines and Peer Revived Journals (such as e.g. the parliament magazine, or more targeted to e.g. clinicians or bioengineers). Finally, all the partners will devote about 2 PM (not founded) during the life of the project for the dissemination activities on their local institutional level. Another 30 kEuros (shared between CNRS, UNIGE and EPFL) will be added to the travel budget in order to cover the participation of the project representative in one FP7- ICT consensus meeting per year, and in order to cover the costs of invited external experts and key note speakers for the final conference.”

Dissemination has taken place from the beginning of THROMBUS project and will intensify as results will become available. The dissemination will be performed by the Consortium as a whole. The dissemination strategy is flexible in order to take into account the development of the project and the current dissemination plan aims to present our action in broad outline. The flexibility of the strategy will allow the addition of any further opportunities of communication about the project and the Dissemination plan will be updated yearly.

Dissemination plan

Who?

The Project use a dissemination plan adapted to each category of its target audience. The GB (Governing Board) establishes at the beginning of the Project the dissemination strategic plan and addresses internal (belonging to the project) and external target groups by specific instruments. The list of target groups will be discussed and regularly updated.

The following target groups have been identified:

- Universities/Research Institutions/Academies working in topics related to the Action: THROMBUS project involves research in various fields (medical imaging, biomechanics, numerical

simulation, computational bioengineering, images processing and software application). The consortium will disseminate the developments and results of the project to the research community through THROMBUS scientific partners. The participation to international conferences and the publication of scientific papers will be useful to discuss about THROMBUS results and area of research. A first contact has been taken with a research team in ETHZ of Zürich to exchange point of view on the modelling of the thrombosis.


- Clinical community: Neuroradiologists and Neurosurgeons are direct actors as user of THROMBUS achievements; It is essential to communicate THROMBUS developments and accomplishments to clinicians. Today in addition to the CHUV and HCL, several collaborations with hospitals are being initiated: HUG (Hôpital Universitaire de Genève) of Geneva, CHU of Montpellier, Hirslanden Hospital in Zürich.
- Industries in related-fields to the project: The stents manufacturers' community is directly concerned and involved in THROMBUS project and represents a very important stakeholder. During the first six months of THROMBUS, meetings were held with various manufacturers of stents, collaborations and confidentiality agreements are being negotiated.
- Other European projects (FP7 projects, COST, INTERREG...)
- Opinion formers, European-level and regional-level Research Policy decision-makers
- Media: scientific and non-scientific press, digital media (for example YouTube is a video-sharing website using today by scientific community) and TV
- Early stage researchers (PhD students, young researchers working in the field of the Project)
- General public: The general public is the potential beneficiary of THROMBUS project and should get information about scientific progresses and results within THROMBUS. By informing the general public the consortium will highlight that the European Community is supporting quality medical projects in European research. At this step, the dissemination to the general public in our project is performed via the academic institutions and through non-scientific publications.

What?

The dissemination plan is designed to achieve a maximum transfer of new knowledge. To maximise the dissemination of the results and progress of this Project several distinct routes will be used:

A dedicated interactive website with two levels of access

The World Wide Web has become a major information channel and it is now indispensable for producers of information – particularly in the scientific and technical domains – to publish on the web. Since the first days of the consortium a website has been started. In order to develop an efficient communicating tool, the services of a professional web interface designer have been used. The creation of the website has been entrusted to the local company Kinesphere and THROMBUS website is available at <http://www.thrombus-vph.eu>, since 17th of May 2011.



The screenshot shows the THROMBUS website home page. At the top is the THROMBUS logo and a navigation menu with links: Home, Our Project, About us, News, Agenda, Documents Manager, and Contact. Below the menu are three large images: a medical professional in a lab, a 3D model of a blood vessel, and a person pointing at a screen displaying medical data. The main content area features an 'AGENDA' section with dates 05/09/2011 and 04/10/2011, a 'USER MENU' with links like 'My account' and 'Log out', and a 'Scientific Coordinator' section listing Guy Courbebaissie. The central headline reads 'A quantitative model of thrombosis in intracranial aneurysms' with the subtitle 'A challenging project for our European scientific network'. Below this are two featured articles: 'A successful kick-off meeting' and 'THROMBUS: A quantitative model of thrombosis in intracranial aneurysms'. The footer contains contact information, copyright notice, and logos for the European Union and the project's funding sources.

Figure 1 - THROMBUS website home page

An e-mail address has also been set up to enable visitors to contact THROMBUS management team.

The website is a key tool to provide information about the project and news of its activities and results, with a clear and easy-to-navigate interface. But the website is also a working tool with a private area allowing THROMBUS members to share confidential data in order to improve communication between consortium partners. In consequence, it includes a private area, accessible to the Project partners only and a public area.

(a) Public accessible level

The public area will allow broad dissemination of the Project outcomes in form of common scientific publication database and information on past and upcoming events. This will contain information about the management structure, contact points and activities of the Projects including conferences, workshops, symposia, list of potential host groups for technical visits. Links to publications and articles in scientific and technical journals, proceedings, job opportunities, project opportunities, PhD and MSc studentships will also be available.

(b) Password-protected level

This access-level will allow private information exchange about available facilities and work in progress for members in Work Groups only. It will contain information about GB meetings, and general meeting with all partners, scientific reports, non-technical interim and annual reports, financial reports, working papers, guidelines and manuals.

The website will be maintained by the EPM (Frederique Foulon) and supported by the coordinator and the GB of THROMBUS.

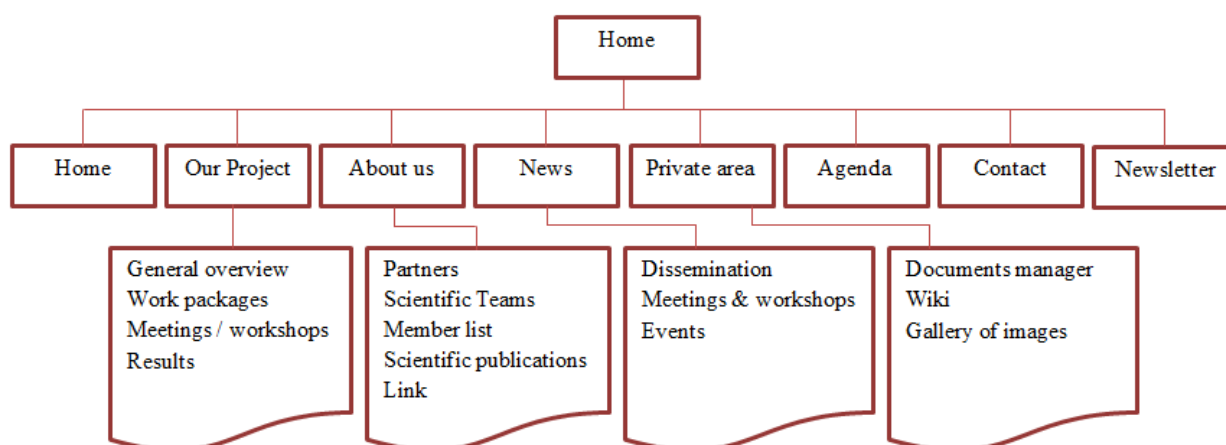


Figure 2 - THROMBUS website structure

The website will be updated on a regular basis and currently contains a description of the project, general information about the objectives and the work to be performed within THROMBUS, as well as a presentation of THROMBUS partners and contact details for the project Coordinator.

Dissemination actions that have already been performed and meetings organized have also been published on the website. Information on progress will be updated throughout the project.

The website will be maintained after the lifetime of the project in order to ensure the sustainability of the project and to enable researches continuing their work on the subject with an interactive communication tool. We expect that this project will open the door to a new collaborative community.

Logo

In order to develop a corporate identity as well as to provide an efficient communication tool to support dissemination action, it was important to define a strong and identifiable logo for THROMBUS project. To maximise its impact, the services of a professional designer have been used and the creation of the logo has been entrusted to the local company Kinesphere.

The logo has been voted and selected among several propositions; the following logo was chosen:



Figure 3- THROMBUS logo

All partners agreed to use it, representing the project in all official documents and presentations of the project as well as on the website and elsewhere as necessary.

Dissemination mailing list

A dissemination mailing list has started to be established gathering those who have expressed interest in the project (website visitors subscribing to the newsletters, regular collaborators, colleagues, supporting researchers and institutions and legal representatives) but also private and public institutions such as:

- Balt, Boston Scientific and other stent societies

- Hirslanden Private Hospital in Zurich, Switzerland, Clínica Sagrada Familia in Buenos Aires, Argentina, University hospital of Geneva Switzerland (HUG) and others private and university hospitals
- medical doctors members of ESMINT (European Society for Minimally Invasive Neurological Therapies)

E-newsletter every 6 months

An e-newsletter describing in detail all actions undertaken by the project and indicating relevant events worth of interest will be issued every 6 months and distributed at the same time through the THROMBUS dissemination mailing list and through the newsletter via the website. This action will allow reaching the closest scientific community but also institutions and private companies of interest for the project.

Cooperation with all kind of media

The visibility of our project depends on how we promote it. Initial dissemination actions need to be taken by all partners. A general action of communication is done at the project level by the coordinator and the management team, but THROMBUS members also have to address people in their national or local settings and make links both locally and nationally (see Appendix 1 to see first results).

Communication to the scientific community

- Participation to conferences, workshops or scientific meetings

Lectures are an important and useful method for spreading the THROMBUS activities to research and medical community. There are several ways to give a lecture: either during an event organized by THROMBUS consortium or at conferences, workshops or seminars initiated by other organizers (see Appendix 2 to see the first results).

- Scientific articles, reviews and other publications

Publishing is one of the most important actions related to research activity within THROMBUS project. It will allow the consortium not only to disseminate the results, but also to get a fast and competent feed-back from the targeted community. Publishing and presenting the results of the project in the most well-known conferences and relevant journals will give THROMBUS partners

the opportunity to reach the other researchers focusing on the same or similar problems. (see Appendix 2 to see the first results).

Links with others FP7 projects or actions, projects with proximity and/or complementarily objectives

Networking is necessary and efficient to promote a project. Thus, we aim to set up collaborations with other projects with proximity and/or complementarily objectives; this will be fruitful for both projects.

Visits to partners' laboratories and companies.

One of the key of the success of THROMBUS project is the cohesion of the consortium and the strong implication of each member. This will be strengthened by working visits of project's participants amongst teams.

Active involvement with the European VPH community

THROMBUS project is involved in the European VPH community via the VPH Network of Excellence.

- An article about THROMBUS project for the 6th VPH NoE has been published in the newsletter in July 2011.
- Some of THROMBUS partners are directly involve in the VPH community, Partner 7 – UvA member of the VPH-NoE, member of the VPH-Institute and active participant in VPH-FET project (A.G. Hoekstra ...) and Partner 1 – CNRS – CREATIS, member of VPH-NoE, in particular of medical Imaging group, expert engineer for medical images processing and interoperability problems (F. Cervenansky)

The consortium will make contact with similar VPH European projects in order to get mutual advantages of collaborations. This will increase the impact and the visibility of each project. A first contact has been taken in February 2011 with the RT3S (<http://www.rt3s.eu>) project piloted by POLIMI (Scientific coordinator: G. Dubini). In addition, meetings and/or call conferences have been organised with few of the actors of the FP6 @neurist project, such as Michel Rochette from ANSYS Company, Prof. Daniel A. Rüfenacht, Hirslanden Klinik of Zürich, Dr. Philippe Bijlenga, University Hospital of Geneva.

Final International conference

A final International conference will be organised at the end of the project in order to capitalise and disseminate gathered knowledge. Collocate with some major VPH, Biomech, Comput Biol. Conferences will be purchased. World recognized players in the field of aneurysms will be invited. It will allow the project researchers and external participants to have a complete view of the project outcomes and to make personal contacts which may result in the continuation of the project's work.

How?

The dissemination strategy is the following:

- End-user oriented: The Project commits to the end-user by focusing on end-user friendly and end-user active communication.
- Innovative yet appropriate: messages and communications activities will be aligned with the promise they will deliver.
- Feedback-oriented: Feedback tools will be implemented in all applicable dissemination activities. The dissemination strategy will be adapted to arising needs and internal and external communication processes can be improved.

The GB will produce a revised dissemination plan and will include it in the annual report. Therefore, the Project integrates a continuous monitoring of the dissemination by checking the following indicators:

- (a) Increased number of European scientific workshops and conferences in the field by scientists in the Project.
- (b) Increase in the collaborative work and joint publications between partners of the 'network'.
- (c) Increase in distribution of information and documentation of scientific data and materials via the dedicated Web site.
- (d) Increase number of available PhD and Post-Doc students in the Project.

Exploitation of results

In addition to the dissemination plan the consortium has started to plan how the consortium will exploit, transfer or use the results obtains within the project. Exploitation embodies the act of

employing results to the greatest possible advantage. To get a good exploitation of the results it is essential to identify precisely the target groups and stakeholders

Actions have been planned in the Dow for the exploitation of results, details of partners' contributions are summarized in tables.

All software developed in THROMBUS concerning Multiscale Numerical Simulation and Image Processing will be open source and linked to VPH toolkit

But some parts could be private codes due to the confidentiality of results when working with a private company (EV3, ...)

Action	Palabos software with THROMBUS packs (www.palabos.org)
Date	2013-2014
Partners involved	UNIGE, GRS, UvA
WP concerned	4
Description	Software based on the Lattice Boltzmann method with functions dedicated to the simulation of the thrombosis for intracranial aneurysms
Target groups and stakeholders	Research teams, stent designers, hospitals...

Image Processing software will be registered under CeCILL B licence

Action	Release of the motion tracking code
Date	Jan 2013
Partners involved	EPFL
WP concerned	3
Description	The open-source, validated code of the wall motion quantification algorithm
Target groups and stakeholders	Researchers and users of this method

Action	Release of the CREATOOLS – THROMBUS code
Date	Jan 2013
Partners involved	CNRS
WP concerned	3
Description	The open-source, validated code of the THROMBUS algorithms dedicated to segmentation and advanced images processing. These codes allow reconstructing geometries of vessels and aneurysms from medical images sequences.
Target groups and stakeholders	Researchers and users of this method

The European market of IA stents will be targeted

Due to the problems encountered with the flow diverter, the project will be a head bridge to help to determine which companies are able to optimize their stents in order to solve the case of mortality... The major involved company concerning the flow diverter, are today EV3 (US and Europe) partner of THROMBUS and the European market of IA stents is a real challenge in regards with the benefits for the patients.

Action	Established rules concerning the optimal stent named 'Flow Diverter'
Date	2011-2014
Partners involved	ULB, CNRS
WP concerned	2, 3
Description	Estimation of the parameters of a flow diverter suitable for a considered patient.
Target groups and stakeholders	Manufacturers of stent (EV3...)

By the way the challenge is to target the international market of IA stents (US and Israeli companies).

Deploying the solution from the project in at least 2 hospitals (HCL, CHUV)

Action	Installation of the aneurism wall motion tracking at CHUV
Date	2013
Partners involved	EPFL & CHUV
WP concerned	3
Description	Collection of cases and systematic wall motion analysis
Target groups and stakeholders	Medical users

Creation of a viable and attractive commercial base

This action could be done via industrial partners of the project (Covalia, EV3, Strokellab); Covalia could be a relevant commercial base for an innovative collaborative system:

Action	Development of the concept of collaborative system – generation of prototypes
Date	2013-2014
Partners involved	Covalia, CNRS, EPFL and sub-contracting Strokellab
WP concerned	3 and 5
Description	Collaborative system linked to CREATOOLS (CNRS-CREATIS) and integrating an electronic observation notebook of the treated patient.
Target groups and stakeholders	Hospitals and companies such as Strokellab sub-contracting of UNIGE

Action	Development of optimize code for the segmentation of vessels and aneurysms
Date	2013-2014
Partners involved	CNRS, EPFL
WP concerned	3
Description	Algorithms for advanced images processing coded in C++ and using the libraries developed by the company Kitware (VTK...)
Target groups and stakeholders	Commercial base with companies such as Simpleware limited (UK) http://www.simpleware.com .

Relation with European organisations in Telemedicine

THROMBUS will establish a solid relation with European organisations such as the European Society of Telemedicine / Cooperation with European organisations promoting telemedicine such as LEAD ERA (e-health Market), INTERREG Programs, etc.

Action	Successful termination of an INTERREG IV (France – Switzerland) project
Date	June 2011
Partners involved	EPFL, CHUV, Covalia
WP concerned	3 & 5
Description	A proof of concept of the infrastructure for integrating remote image processing and simulation on medical images, that will be developed by Covalia in THROMBUS, has been successfully developed and validated in an INTERREG IV project (France – Switzerland) called SERVASTIC, involving Covalia, EPFL and CHUV, in the context of another medical indication, namely strokes.
Target groups and stakeholders	INTERREG Programs

Clinical exploitation - End-User interface and the collaborative telemedicine system

HCL and CHUV will be responsible of the clinical exploitation of THROMBUS by promoting and using the End-User interface and the collaborative telemedicine system

Action	Routine data collection and analysis – medical exploitation
Date	2013
Partners involved	CHUV and HCL
WP concerned	3
Description	Wall motion will be systematically collected and analysed as a key prediction factor for aneurism wall rupture
Target groups and stakeholders	Neuroradiologists

Other

One suggestion concerns the exploitation of the medical database implemented during the THROMBUS project and the synthesis with others existing or coming databases.

Action	Create a network 'Aneurysm_Database'
Date	2012 or 2013
Partners involved	THROMBUS partners
WP concerned	All
Description	The idea is to federate the existing database and to enriched this database with new cases and new nature of data (ethical, ...)
Target groups and stakeholders	European network (maximum of countries)

A project of foundation could be studied concentrating data (medical, biologic, genetic) and medical imaging not only coming from THROMBUS, but the data provided by project such as @neurist project. In this direction, in order to study the feasibility, several possibilities will be proposed to the consortium in October 2011 in EPFL (Lausanne - CH) during THROMBUS Plenary Meeting – month 6. In order to finance the start of this project, two kinds of European call will be studied: ESF and COST in order to create a European network, allowing providing researchers an enriched database.

Conclusion

To summarize the timing of the dissemination action and of the exploitation of results, 3 essential periods are considered in regard with the final objectives of THROMBUS:

1st year: the collaboration with hospitals (public and private) and stent manufacturers is reinforced in order to collect the maximum of relevant data and to adjust the scientific strategy of THROMBUS. This period is the time to develop complementary collaborations and to take advice from international experts. After activation of the THROMBUS website, the action of dissemination is principally limited to the advertising of THROMBUS by all partner institutions and the development of link with the other projects evolving around the VPH NoE.

2nd year: This period is essentially dedicated to the development of methods and software codes, devoting first to the understanding of the thrombosis phenomena and second to the building of an 'expert system' leading to an adapted choice of stent for a patient specific. This period is the critical

one, in the sense that the implemented methods and codes will take in consideration the scientific results of each work package. It is also the time for collaboration with other companies (ANSYS, Simple Ware ...) and institutions (ETHZ...). The idea is to compare results with others codes or method of simulation, and by the way to prepare the phase of exploitation.

3rd year: This period will allow optimizing the first prototypes of generated codes. Also it will lead to the development of the HMI (Human Man Interface) and of the ‘expert system’ which must help the neuroradiologist and/or the neurosurgeon towards an optimal solution for the patient taking in consideration all relevant parameters. The exploitation of results will be first realised by hospital; then according to the feedback and medical benefits, a second step will be started concerning the exploitation of results by private companies (Stent manufacturers, Software companies...) within the framework of collaboration agreements.

Appendix 1 - Cooperation with all kind of media

Press releases

The coordinator has already issued an official press release at the launch of THROMBUS project in order to advertise the project to a large audience. To reach the objective, the coordinator has been assisted by a professional communication's agency. The press release has been sent to targeted media, journalist at newspapers, news agencies, etc. on 22/03/2011. It has been a basis for other dissemination activities listed below.

Similar activities of communication with news media are planned by the consortium at every important step of the project and at least at mid-term and at the end of the project time. Consortium members will also promote THROMBUS through papers, articles, promotional material and publication on specialized journals or magazines (see appendix 2). To promote THROMBUS project partners can also broadcast information via their institution's website or contact the local and national press.

- In France, on CNRS - Partner 1's initiative a press released has been published on 22/03/2011 which led to other media contacts and articles:
 - An article published on the website of "INSA" on 22/03/2011: <http://www.insa-lyon.fr/fr/media/-/presse/cp22032011/laboratoire-creatis-lancement-d-un-projet-europeen-scientifique-pour-les-a>
 - An article published on the website of "La Gazette du Laboratoire" on 22/03/2011: <http://www.gazettelabo.fr/breves/breves.php?id=1498>
 - An article published on the website of "medical-news" on 24/03/2011: <http://www.medicalnews-blog.fr/2011/03/traitement-des-anevrismes-intracraniens/>
 - An article published on the website of "Maxisciences" on 24/03/2011: http://www.maxisciences.com/an%E9vrisme-intracr%E2nien/thrombus-nouvelle-etude-sur-le-traitement-des-anevrismes-intracraniens_mrm63722.html
 - An article published on the website of "CNRS" on 28/03/2011: <http://www.dr7.cnrs.fr/spip.php?rubrique1318>
 - An article published in the weekly newsletter "La lettre du CNRS Rhône-Alpes" on 01/04/2011, sent to subscribers and published on CNRS' website.
- An article "Mieux guérir l'anévrisme intracrânien" has been published in the magazine "Manip info" in issue 39 of May 2011. Manip info is a paper and web magazine in radiology: <http://www.manip-info.com/>

- An article “Lancement d’un Projet Européen Scientifique pour les anévrismes intracrâniens” has been published in France in the e-magazine “L’Hospitalier” in issue of May 2011 which has been sent to 12000 hospital contacts: <http://www.zyyne.com/zf3/5968#/85/zoom>
- In France, on CNRS - Partner 1’s initiative the launch of THROMBUS website has been announced in the weekly newsletter “La lettre du CNRS Rhône-Alpes” on 20/05/2011, sent to subscribers and published on CNRS’ website.
<http://www.dr7.cnrs.fr/spip.php?rubrique1333#article6570>
- An advertisement has been published in the magazine Innovation & Industrie, issue 44, June 2011.
- In Switzerland, on EPFL - Partner 3’s initiative Thrombus Project start news on EPFL webpage and on-line news channel: <http://actu.epfl.ch/news/new-european-project/>
- In Belgium, on ULB – Partner 4’ s initiative an article “Le Projet Thrombus: Modéliser les anévrismes intracrâniens” was published in “Le Journal du Médecin” on 08/02/2011.
- On the website of COVALIA – Partner 5, THROMBUS project is announced and a link to THROMBUS website is available <http://www.covalia.com/>
- The project will be announced on the website of Stroke Laboratories, subcontractor of Partner 2, and the collaboration with THROMBUS project will mentioned anytime it will be possible.

Appendix 2 - Communication to the scientific community

Participation to conferences, workshops or scientific meetings

Joerg Bernsdorf, GRS – Partner 6, already presented the ideas of Thrombus at an international level in June 2011 in Japan:

- Kyoto University Graduate School of Engineering Department of Aeronautics and Astronautics (Seminar presentation)
- Tohoku University, Sendai (M.Ohta)
- EU-Japan Centre for Industrial Cooperation (T.Ichioka)
- Research Center for Advanced Science and Technology, The University of Tokyo (K. Nishinari)
- International Conference on Computational Science (ICCS 2011), International Conference in Singapore, June 1.-3. 2011. Oral Presentation "Two Complementary Approaches for Integrating a Lattice Boltzmann Flow Solver into Simulation Frameworks" (Joerg Bernsdorf, Dinan Wang, Guntram Berti).

<http://www.sciencedirect.com/science/article/pii/S1877050911001657>

- Eighth International Conference for Mesoscopic Methods in Engineering and Science, International Conference in Lyon, France, July 4-8, 2011. Oral Presentation "Outline of a Coupled Multi-Scale Approach for the Numerical Simulation of Early Stage Aneurysm Development"

Bastien Chopard, UNIGE – Partner 2, presented or will present THROMBUS project to several international conferences:

- [BC]2, Basel (Computational Biology Conference), June 23-24, 2011, invited talk (B. Chopard) on multiscale modeling, with the mention of the THROMBUS project. Audience: scientists
- ICS11, (IntraCranial Stent meeting), Sep. 8-11 2011, Shanghai, Talk (by Hitomi Anzai) on a possible approach to do stent optimization. Audience: medical doctors and scientists

- CADMOS Day, Geneva, Sept 14, 2011, THROMBUS project will be mentioned as an example of an application for which computer modeling is important. Audience: General public and scientists

Participation to other conferences on simulations and/or on biomedical applications is planned for the future, depending on the results. We aim to attend relevant international conferences and workshops for THROMBUS project such as:

- European Signal Processing Conf. (EUSIPCO), 27-31 August 2012 in Bucharest, Romania organized by the European Association for Signal and image Processing (EURASIP), this is the reference European conference in the field ; <http://www.eusipco2012.org>. Partners 3 – EPFL & CHUV (subcontractor) will be involved for Work Package 3

Scientific articles, reviews and other publications

Articles already published:

- An article mentioning THROMBUS research has been published by Dr. Joerg Bernsdorf from GRS (partner 6) in the ICCS 2011 <http://www.iccs-meeting.org/>:
 “Two Complementary Approaches for Integrating a Lattice Boltzmann Flow Solver into Simulation Frameworks”, Jörg Bernsdorfa, Dinan Wangb, and Guntram Bertic, Procedia Computer Science, Volume 4, 2011, Pages 1014-1020
<http://www.sciencedirect.com/science/article/pii/S1877050911001657>
- Guy Courbebaisse, CNRS – Partner 1, Coordinator of the project, has received an invitation to submit an article about THROMBUS project for the 6th VPH NoE newsletter in July 2011: http://www.vph-noe.eu/vph-repository/doc_download/216-vph-noe-6th-newsletter-july-2011-
- Guy Courbebaisse, CNRS – Partner 1, Coordinator of the project, has submitted a factsheet about THROMBUS, to communicate and disseminate to the Community of the e-Health projects of the European Commission. The THROMBUS ID-card will be posted on the Europa website (ICT for Health pages) and distributed at events, etc.
- Bastien Chopard, UNIGE – Partner 2, submitted the article: “Optimization of flow diverters for cerebral aneurysms”, Hitomi Anzai, Makoto Ohta, Tohoku University, Japan, Jean-Luc Falcone, Bastien Chopard, University of Geneva, Switzerland, Submitted to Journal of Computational Science, July 2011

More papers are planned on the thrombosis model, or simulations results. Journals will depend on results. Some journals will be targeted for publications such as:

- American Journal of Neuroradiology, AJNR ; <http://www.ajnr.org/>
- Neurosurgery ; <http://journals.lww.com/neurosurgery/pages/default.aspx>
- IEEE Transactions on Medical Imaging ; <http://www.ieee-tmi.org/>
- IEEE Transactions on Biomedical Engineering ; <http://tbme.embs.org/>
- Nature Methods, <http://www.nature.com/nmeth/index.html>:

Publication about: Methods to determine the platelets behaviour in an in vitro model of aneurysm by digital holographic microscope, submission planed in 2012

- Blood, <http://bloodjournal.hematologylibrary.org/>:

Adherence of platelets on whole blood in relation to shear rate: role of laminin, collagen and fibronectin, submission planed in 2012

Note: All the publications resulting from the work carried out in the project will be available or at least mentioned (in case of copyright issues) on THROMBUS website.