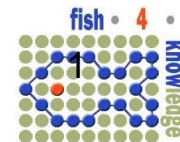


WP6 F4K Project

Final Year Review Presentation

Jessica Chen-Burger
University of Edinburgh
Nov 29, 2013
Luxembourg



3 Years Ago...



What we have promised

- Project web site, inc.
 - publications
 - on-line data repositories
- Organise 4 scientific workshops
- Develop public data exploration interfaces
- Promote methodology and work to the marine biology community



Overall Achievements of WP6

Dissemination

- **Journal publications: 7**
- **Conference publications: 41**
- Organised **scientific workshops and special sessions: 6**
- Organised **journal special issues: 6**
- Invited talks, posters & exhibitions at scientific conferences: 15
- Fostered collaborations: 10
- MSc thesis completed: 6
- PDEng completed: 1
- PhD in progress: 4
- F4K web site: 7800+ hits
- **F4K book** in preparation – contract negotiation stage



Overall Achievements of WP6 Project Resources Made Public

- Software
 - Shared source codes: via SourceForge
- Datasets and Ground Truth
 - 24 hour and 3 year data samples
 - Image dataset contribution to CLEF
- Public UIs



Efforts during the 3rd year



*Leadership in Scientific
Communities
&
Project Dissemination*



F4K Led Special Issues in Scientific Journals

- Special Issue “**Large Scale Data-Driven Evaluation in Computer Vision**” of Computer Vision and Image Understanding Journal
 - Dr. C. Spampinato (University of Catania, Italy), Dr. B. Boom(University of Edinburgh, UK) and Prof. B. Huet (EURECOM, France)
- Special Issue “**How Can Multimedia Help Ecology?**”, Multimedia Systems Journal, Springer
 - Dr. Concetto Spampinato (University of Catania, Italy), Dr. V. Mezaris (CERTH-ITI, Greece) and Dr. Jacco van Ossenbruggen (CWI, The Netherlands)

Led Scientific Workshops 1

- **The Intelligent Workflow, Cloud Computing and Systems** workshop, KES-AMSTA conference, Dubrovnik, Croatia, June 2012.
 - Dr. Yun-Heh (Jessica) Chen-Burger (Univ. of Edinburgh, UK), Prof. Lakhmi Jain (Univ. of S. Australia, Australia), Dr. Fang-Pang Lin (NCHC, Taiwan), Prof. Ching-Long Yeh (Tatung Univ, Taiwan)
- **Video and Image Ground Truth computer vision Applications** workshop, St. Petersburg (Russia), July, 2013
 - Dr. Concetto Spampinato (University of Catania, Italy), Dr. Bas Boom (University of Edinburgh, UK) and Prof. Benoit Huet (EURECOM, France).



Led Scientific Workshops 2

- **ACM International Workshop on Multimedia Analysis for Ecological** workshop, Barcelona Spain, October, 21, 2013.
 - Dr. Concetto Spampinato (University of Catania, Italy), Dr. Vasileios Mezaris (CERTH-ITI, Greece), Dr. Jacco van Ossenbruggen (CWI, Netherlands).
- Special session, **Image Processing and Pattern Recognition for Ecological Applications**, Int. Conf. of Image Processing, Melbourne, Australia, September 15th-18th, 2013.
 - Dr. Concetto Spampinato (University of Catania, Italy), Dr. Vasileios Mezaris (CERTH, Greece) and Dr. Alexis Joly (INRIA, France).



Led Scientific Workshops 3

- **Live F4K UI demonstration** workshops, Taiwan, 2013.
 - Audience inc.
 - Systematics and Biodiversity Information Lab, Academia Sinica, Taipei
 - Inst. Of Cellular and Organismic Biology lab, Academia Sinica, Yilan,
 - National Museum of Marine Biology and Aquarium, Kenting, Taiwan
 - More than 30 participants attended the workshops.
 - Led by:
 - Emmanuelle Beauxis-Aussalet, Centrum Wiskunde & Informatica, Netherlands
 - [Lynda Hardman](#), Centrum Wiskunde & Informatica, Netherlands
- Direct engagement with the Marine Biology and Biology communities



Talks, Posters and Exhibitions at Scientific Conferences 1

- Part of talk on **Introduction of Fish4Knowledge project**, Development of Earth Science Observational Data Infrastructure of Taiwan, GLIF (Global Lambda Integrated Facility), Oct 4, 2013, Singapore.
- Presentation on **F4K development** in the Telescience Working Group of PRAGMA, Pacific Rim Applications and Grid Middleware Assembly, March 20-22, 2013, Bangkok, Thailand.
- Presentation on **F4F results** in the Telescience working group of PRAGMA, Pacific Rim Applications and Grid Middleware Assembly, October 16-18, 2013, Beijing, China.
- Talk on **Business Process Modelling, Logic, Semantics based Reasoning and Intelligent Workflow**, Bridging Big Data Infrastructures - Expedition on the Network Science Landscape workshop, December 3-6, 2012, NCHC, Taichung, Taiwan.



Talks, Posters and Exhibitions at Scientific Conferences 2

- Talk on **Workflow Management and Fault Tolerance** at NCHC, Taiwan, March, 2013.
- Poster of F4K project, the 21st European Association of Fisheries Economists (EAFE) 2013 conference, Heriot-Watt University, Edinburgh, 15-17 April, 2013.
- Planned poster, Scottish Informatics and Computer Science Alliance (SICSA), annual DEMOfest, Nov 5, 2013, Glasgow, 2013
 - A technology showcase for industry and academia
 - Anticipated 100+ delegates



Talks, Posters and Exhibitions at Scientific Conferences 3

- Poster and video, 48th Annual European Marine Biologist Symposium (EMBS 2013), video at: <http://groups.inf.ed.ac.uk/f4k/>.
- Exhibition on **Data Infrastructure for Fish4Knowledge** International Supercomputing Conference, 17-19, June, Leipzig, Germany.
- Joint exhibition on **Demo of Fish4Knowledge** and with Wailalak University, Thailand on live video streaming from Racha Yi Island to Denver Supercomputing Conference, 17-22, November, Denver, Colorado, USA.



Fostered Collaboration



- Submitted proposal by Dr. Fang-Pang Lin, NCHC, jointly submitted with marine biology researchers from National Museum of Natural Science and Aquarium to NSC, Taiwan.
- Published co-authored conference paper
 - University of Cardiff, UK, and Universidad de Zaragoza, Spain, on workflow performance analysis and fault tolerance
 - Planned journal paper
 - Planned proposal for Horizon 2020



- Organizing the video-based fish identification task within the LifeCLEF 2014 lab (part of the ImageCLEF competition)
- Part of the organization of the Background Modeling Challenge workshop 2014, with Prof. Antoine Vacavant, Univ. d' Auvergne
- Submitted proposal, Marie Curie Outgoing fellowship programme, by Prof. Giordano, Prof. Betke and Dr. Spampinato, on the generation of large-scale ground truth for object detection.

- Funded AQUACAM Research Programme (2012-2015)
 - Fish4Knowledge Research Consortium (F4K), The University of the West Indies (UWI) and The CARIBSAVE Partnership.
- In talk with Dr. Tung-Yung Fan, a marine biologist at the National Museum of Marine Biology and Aquarium, Taiwan, regarding future collaboration on coral reef observation and growth

Public Web Interfaces

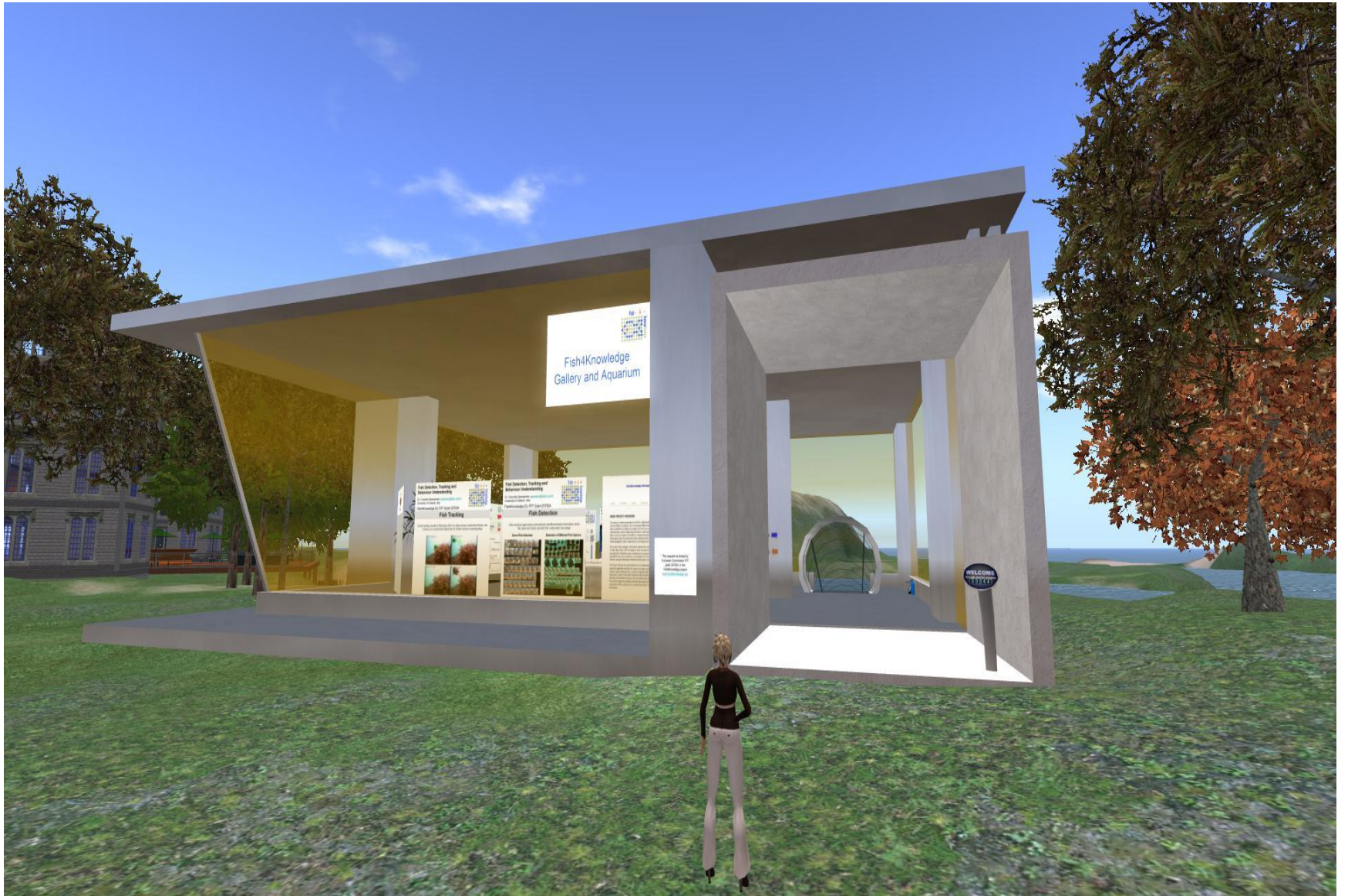


- **UI to F4K System:**
 - Asia: <http://gleoncentral.nchc.org.tw> (April '14)
 - Europe: <http://f4k.project.cwi.nl> (now)
- **Flash the Fish game:**
- **Fish Labelling Game for non-experts**
- **Cluster the Fish - a Crowd Sourcing UI**
- **F4K Underwater Aquarium and Exhibition Hall in Second Life**

F4K Underwater Aquarium and Exhibition Hall in Second Life

- Have coral reef fish recording, 11 research posters and animated/interactive underwater fish aquarium on display
- Development is matured and good for use at its current stage and no further plan is made
- 172 visitors to date (Nov 29, 2013) since it was firstly built.





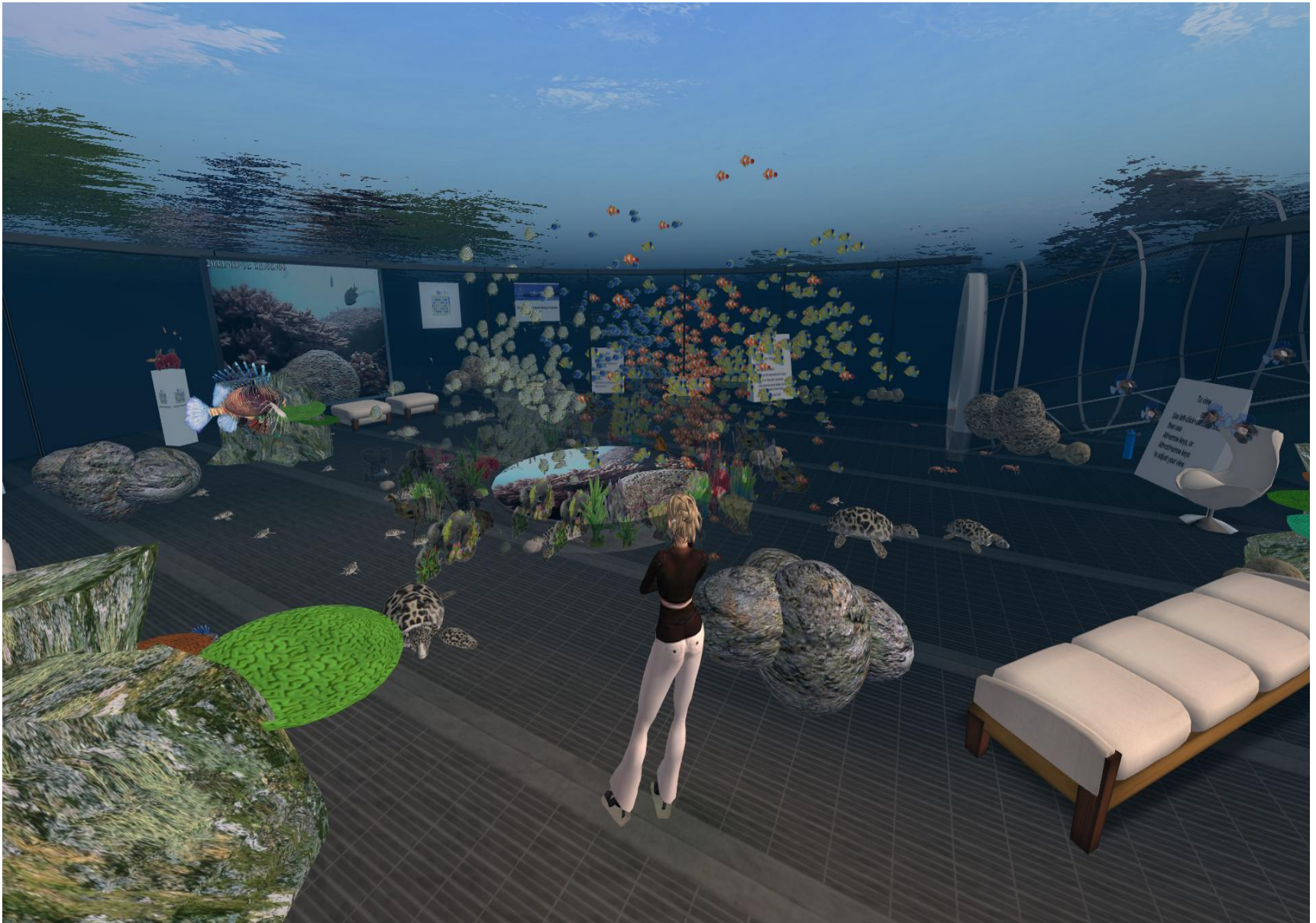






Welcome to
F4K Under-water Aquarium

- Welcome to our Virtual Under-water Aquarium
- Here you will be able to
 - Watch our fish videos taken from Taiwan
 - Talk to our "talking fish" via text chat
 - Learn about the natural habitats, food and behaviours of several marine fishes
- We hope you enjoy your visit !



Overall Efforts in Engaging Communities

	Scientific conferences: via papers, invited talks, workshops, demos, posters, exhibitions	Scientific Journals: via paper publications
Eco, Marine Bio, Bio	8	1
WF, HPC	12	2
HCI, Multi-media	6	1
VIP	22	3
Total	48	7

The F4K Book

A Journey of Our F4K Lives



Motivation

- To promote F4K project work
- To provide a platform to allow all related work to be presented in one place
- To establish F4K after-project legacy
- To fulfil F4K project proposal ambition



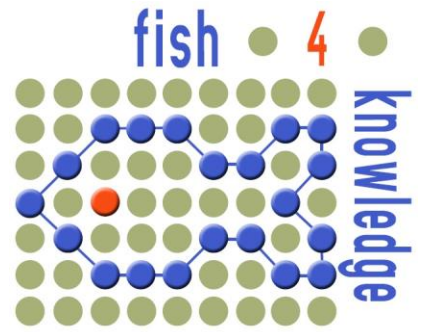
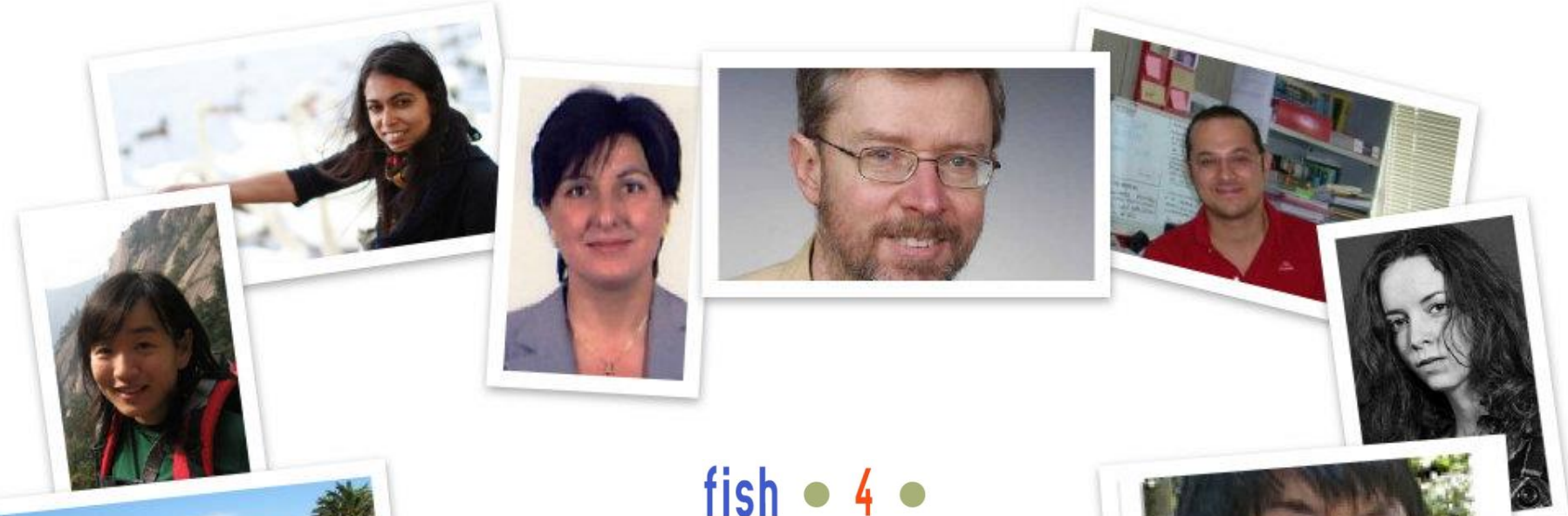
Progress Sofar

- Title: *Fish4Knowledge: long-term fish observation using video processing and visual analytics*
- "Intelligent Systems Reference Library" book series, Springer
- 19 chapter outlines, 200 pages: inc. 70 images/graphs, 5 appendices on resources
- Received contract from Springer, to negotiate IPR issues
- All royalty to be donated to FishBase.org



Thank you for listening !!





Team F4K



Credits

- [Robert Fisher](#) (coordinator), Univ. of Edinburgh, UK
- [Daniela Giordano](#), Università di Catania, Italy
- [Lynda Hardman](#), Centrum Wiskunde & Informatica, Netherlands
- [Fang-Pang Lin](#), National Applied Research Laboratories, Taiwan
- [Jessica Yun-Heh Chen-Burger](#), Univ. of Edinburgh, UK
- Emmanuelle Beauxis-Aussalet, Centrum Wiskunde & Informatica, Netherlands
- [Stefano Bertolo](#), European Commission, Luxembourg
- [Bas Boom](#), Univ. of Edinburgh, UK
- Yi-Hsuan Chen, National Applied Research Laboratories, Taiwan
- Jia-Shin Cheng, National Applied Research Laboratories, Taiwan
- Jiyin He, Centrum Wiskunde & Informatica, Netherlands
- [Xuan Huang](#), Univ. of Edinburgh, UK
- Sun-In Lin, National Applied Research Laboratories, Taiwan
- Shi-Wei Lo, National Applied Research Laboratories, Taiwan
- [Gaya Nadarajan](#), Univ. of Edinburgh, UK
- [Jacco van Ossenbruggen](#), Centrum Wiskunde & Informatica, Netherlands
- Simone Palazzo, Università di Catania, Italy
- Roberto Di Salvo, Università di Catania, Italy
- Yi-Haur Shiau, National Applied Research Laboratories, Taiwan
- [Concetto Spampinato](#), Università di Catania, Italy
- Kuo-Tai Tseng, National Applied Research Laboratories, Taiwan

EU Fish4Knowledge Project

<http://Fish4knowledge.eu>

<http://groups.inf.ed.ac.uk/f4k/>

