

#### Data+Service Office <info.office@data-service-alliance.ch>

### [Data+Service] Newsletter 10/2018

Swiss Alliance for Data-Intensive Services <newsletter-editors@data-service-alliance.ch> 17 October 2018 at 17:10 Reply-To: Swiss Alliance for Data-Intensive Services <newsletter-editors@data-service-alliance.ch> To: info.office@data-service-alliance.ch



## Newsletter #11 17.10.2018

Welcome to this month's Newsletter!

We are extremely happy to announce the next Swiss Data Science Conference, SDS2019, with this issue of the newsletter.

Additionally here, as our core function and objective of fostering Innovation in Switzerland, we would like to inform you about the new initiative of Innosuisse, mentioned in detail below.

Please find below some upcoming events, organised by our members. Please send your events if you would like them to be included in the next issue.

Data+Service is happy to sponsor and participate in one of our Academic member's (ZHAW Institute of Applied Information Technology) organized conference, 5th IEEE/ACM International Conference on Big Data Computing, Applications & Technology. Please find information below.

Lastly, do not miss the upcoming events & Expert Group meetings mentioned below.

Questions, remarks or contributions for the newsletter? Reach out to the editors.

Happy reading! The Editors

Make sure to scroll all the way down -- don't-miss-it-goodie at the end!



### SDS2019 - 6th Swiss Data Science Conference

We are extremely happy to announce the 6th Swiss Conference on Data Science, SDS2019, to be held on 14th of June 2019, at Kursaal Bern.

The conference will again bring together data scientists and practitioners from across Switzerland and abroad. This year we are taking the conference slightly more towards the academic realm by having separate Academic and Business tracks and opening it up internationally. Academicians are encouraged to submit their research papers to the conference where the accepted papers shall be published in conference proceedings.

We also take this opportunity to invite sponsorship for the conference. We thank our sponsors from the previous years to bring across a quality conference in Data Science in Switzerland. We will be thrilled to have you on-board again as a sponsor for SDS2019. Apart from the booth presence (in some packages), there is now possibility of hosting a session, sponsoring an award, etc. Needless to remind, you can use your Flex Budget to sponsor!

Last but not the least, as a member please benefit from the 30% discount (15% for Individual members) while registering. We will be sending the discount codes shortly in a separate email. Or inform us if you wish to use your Flex Budget to register!

Find all information at the conference official website <a href="https://sds2019.ch/">https://sds2019.ch/</a>, or write to us should you have any questions. We look forward to your participation!

# Innosuisse Call: New Innovation program "Manufacturing Technologies"

On October 17, 2018, Innosuisse officially announced a new Innovation program "Manufacturing Technologies" with CHF 12 Mio funding per year for 2019 and 2020 (details are available at www.innosuisse.ch/digitalisierung). Many of our members are active in the field of manufacturing digitalization and Industrie 4.0, for them this program offers a great opportunity!

We want to actively support the creation of such projects and help to build project teams. The goal is to start one or more projects with members of the Swiss Alliance for Data-Intensive Services. If you are considering the option of a project in this area, please contact **Gundula**. She will help to find partners and to mobilize other resources of the Alliance that might be helpful. The deadline is coming soon - if you are interested, act fast!

Some details of the program in the following:

There will be two parallel calls:

Project Duration	18 Months	12 Months
Public call	17.10.2018	17.10.2018
Deadline submission	21.01.2019	20.05.2019
Decision	Early March 2019	Early August 2019
	Early Maron 2010	Larry Magast 2010
Project start	01.05.2019	01.10.2019

The same funding conditions and processes apply as are with regular Innosuisse projects.

Those projects will be supported that can provide the Swiss economy with quantitative advantages such as increased productivity, production flexibility (eg. shorter changeover times) or higher availability. The call for proposals focuses on projects at the interface between basic research and technology transfer, in which larger consortia or research collaborations work together with interdisciplinary teams from research and industry.

For each project are desired (not mandatory):

- more than one implementation partner, including at least one SME
- the coverage of a value added chain by several implementation partners
- more than one research partner, including at least one University of Applied Sciences

Key technologies supported (and are not limited to):

- Automation technologies / robotics
- Quantum computing
- Simulation
- · Vision, image processing
- Digital twin
- Virtual / Augmented reality
- Artificial Intelligence
- Big data
- Machine learning
- Internet Of Things
- Blockchain
- MtoM
- · Cyber security
- Cloud computing
- Wireless communication, etc.

Markets/Businesses (and are not limited to):

- MEM-Industry (mechanical engineering and electrical engineering)
- Life Science: Food/Medtech/Pharma
- Building industry
- Chemical Engineering
- others where digitization and manufacturing technologies bring a relevant benefit for the industry

Innosuisse is partnering with SwissMEM, Industry 2025 and SATW to organize two special events to support partner search and project initiation: November 27, 2018 (at 4:30 pm. at FHNW, Campussaal, Brugg Windisch) and December 04, 2018 (location: tbd). The events are aimed at representatives from industries and Swiss research institutions entitled to contribute.

# **Topic Leader: Swiss Center for Electronics and** Microtechnology (CSEM), Dr. L. Andrea Dunbar

**Topic: Interconnected Intelligence and Smart Vision Systems** 



Dr. L. Andrea Dunbar is Head of the Vision Embedded Systems group at CSEM. CSEM is a non-for-profit Research and Technology Organization.

Her technical expertise was originally on photonics crystals and plasmonics before turning to multispectral and vision system. She has published more than 60 papers in international journals and conferences and is a guest lecturer at EPFL.

Andrea got an eMBA from EPFL in 2017. She received her PhD in Optics in 2002 from Trinity College Dublin, Ireland. Andrea did her BSc in Physics at St-Andrews University Scotland, and was educated at Charterhouse School in England.

Her current research areas include Vision systems, Machine Learning, Hyperspectral Imaging systems especially in constrained e.g. Ultra-Low Power environments. She is leading the Expert Group "Machine Learning Clinic" within the Alliance.

### **Research Topics**

Embedded Machine Learning, The Challenge of Labellization, Hierarchical system, Ultra-Low Power Vision Systems and Smart Optics

#### **Selected Projects**

- NewBorn Care (Nano-Tera project Budget 550 kCHF), 2013-2017 Reducing the false alarms of neonate vital sign monitoring via a computer vision-based approach to accurately measure heart and respiratory rates in a contactless way
- Biowave (CTI project Budget 1.0MilCHF), 2016-2018 Biometric device reading of vein pattern for access control. Made possible through extremely thin, low power intelligent vision systems.
- Magento (CTI project Budget 1.1MilCHF), 2017-2019 Platform for magnetically oriented optical features which will be investigated using deep neural networks for the machine learning.
- GrainView (CTI project Budget 850k CHF), 2017-2019 Project on Machine learning to look at mass flow of grains using advanced machine vision algorithms, deep neural networks among others will bring optimization of the milling process.

#### Selected Publications

- 1. Ross P. Stanley; Amina Chebira; Alireza Ghasemi; Andrea L. Dunbar, Hyperspectral imaging using a commercial light-field camera <a href="Proceedings">Proceedings</a> Volume 10110, Photonic Instrumentation Engineering IV; 10111013, (2017).
- 2. Pedram Pad, Nemanja Niketic, Amina Chebira, Edo Franzi, Ross P. Stanley, and L. Andrea Dunbar, Versatile, intelligent multispectral imaging camera made with off-the- shelf components. Proceedings Volume 10539, Photonic Instrumentation Engineering V; 105390M (2018)
- 3. L. A. Dunbar, R. P. Stanley, M. Lynch, J. Hegarty, R. Houdré, U. Oesterle and M. llegems, "Excitation-induced coherence in a semiconductor microcavity", Physical Review B (Rapid Comm.) (19), 195307 2002.
- 4. L. A. Dunbar, R. Houdré, G. Scalari, L. Sirigu, M. Giovannini, J. Faist "Small optical volume terahertz emitting microdisk quantum cascade lasers", Applied Physics Letters 141114, 2007.
- 5. M. Guillaumée, L. A. Dunbar and R. P. Stanley, "Description of the modes governing the optical transmission through metal gratings", Optics express 19 (5) 4740 (2011).

### Data+Service General Assembly, 08.11.2018

The next Data+Service General Assembly (GA) is going to take place on the 8th of November 2018, 16:00 - 19:00, at OBC Suisse Europaallee 41, 8021 Zurich.

Like the previous times, the GA will not only be a place for the members' main contacts to exercise their official voting rights, but also place for everyone else from our Alliance to get into the details of what makes up our network, and to get in touch. The GA will be followed by a networking Apero at the end.

We encourage everyone interested in joining us by registering themselves via email to the office.

You can use the following text:

Email Sub: GA registration

Email Text: Register following: myself, guest (details of the guest if anyone of your organization is joining you).

In case of questions, contact us for clarifications.

## **BDCAT 2018 - When Data Science meets Big Data**

by Josef Spillner, ZHAW

BDCAT 2018 - the 5th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies - will highlight the latest advances in big data science in Zurich from December 17 to 20. Over 100 submissions from 31 countries were screened for quality and the best 24 were chosen for presentation. Several highprofile speakers have already confirmed their participation. They deliver keynotes on scientific research on the CERN cloud infrastructure, on predictive maintenance in machines and factories and on anomaly detection in complex systems among other big data topics. A poster session, a panel discussion and a workshop on using big data for sustainable environments complement BDCAT 2018.



Josef Spillner, senior lecturer at the ZHAW and general chair of BDCAT 2018, stresses the industry involvement which leads to high-impact results. Several findings were made possible by the dedication of staff in Amazon, the Singapore Health Services, SAP Labs, Banco Bilbao Vizcaya Argentaria (BBVA) and IBM. With his team at the Service Prototyping Lab, at the InIT (Institute for Applied Information Technology) group of ZHAW School of Engineering (an academic member of the Data+Service Alliance), Josef Spillner is regularly involved in cloud application migration projects and knows about the needs of companies. The lab staff have specialised in data processing methods in clouds which combine privacy, performance and availability aspects as needed for each application domain, yielding "cloud-native" applications which integrate into the predominant pay- peruse environments. Through his teaching on scripting for data science, the lecturer also knows of the advantages of cloud-hosted data analytics and recognises how industry trends such as Jupyter notebooks eventually also affect the workflows of researchers. Consequently, the conference panel discussion will evolve around the interaction between academia and industry.

Registration to BDCAT 2018 is already available. Thanks to the sponsoring by the Swiss Alliance for Data-Intensive Services, reduced daypasses are available for its member companies. The discount codes will be sent in a separate email. More information can be found at the event website:

http://bdcat-conference.org/category/registration.html

## **Use-Case Talk Series on Artificial Intelligence!**

by Alexander Grimm, Aspaara

We cordially invite you to the Use-Case Talks Series on Artificial Intelligence!

Prof. Dr. Thilo Stadelmann (ZHAW School of Engineering) will share his insights on the DeepScore Project, Dr. Lucas Fievet will show an application that automatically translates computer code, and Dr. Christian Spindler will present recent progresses in assessment techniques for black-box systems to build trust in Al.

We enjoy in-depth technical discussions and exchange information about interesting technical challenges among industry, academic and individual members in our Use-Case Talks Series. In a relaxed atmosphere we will discuss about progresses and challenges in Artificial Intelligence projects, Use-Cases and applications.

#### **Event**

The participation is free of charge — interesting discussions at the networking apéro are included! The Use-Case Talks Series will take place in ZHAW Lagerstrasse on Wednesday, 31.10.2018, at 16:00. The Use-Case Talk Series is organized by Aspaara Algorithmic Solutions AG on behalf of the Swiss Alliance of Data-Intensive Services.

#### Registration

For registration please write an email (Name, affiliation and position) to <u>alexander.grimm@aspaara.com</u>. The number of places is limited!

Find more information <u>here</u>.

# **Expert Group "Data Integration, Sharing and** Governance"

by Christian Spindler, PwC & David Wannier, HES-SO

We are happy to announce the next meeting of the expert group on Data Integration, Governance and Sharing, to take place on the 4th of Dec at Zurich. We like to take

the opportunity of a newsletter to announce a major focusing of the group's topics and sharpening of its value proposition.

During the group's lifetime, we hosted several panel meetings, conducted corporate events, and facilitated workshops. In many discussions with participants and clients about great data applications possible today, we always also learnt about the difficulty of getting sufficient volumes of high-quality data at one place. Data, which is crucial for realizing true value for organizations. As you may experience yourself, there are many technical, organizational and cultural hurdles to allow for seamless data access even within an organization, not talking about shared data from other places.

With the focus on data integration, we think to address the most relevant piece of our previous three-topic mission. Any other topic downstream the data value chain must be founded on a meaningful and accessible data input layer. We like to support organizations with building that foundations – by means of technological solutions, but also by addressing the organizational hurdles.

We like to invite you to block your calendar on two upcoming events:

Nov 22nd will see a workshop on Knime, a very popular tool for data integration and handling. The workshop will take place in Lausanne.

On Dec 4th, our next expert group meeting will take place, where we will work on an overview of data integration tasks within companies and how to tackle them. The meeting will take place in Zurich.

Both events will also be announced in separate invitations. Looking forward to seeing you there!

## Survey "Data Science for SME"

by Jürg Meierhofer, ZHAW

One of our members ZHAW is conducting a survey about the status and opportunities of data science specifically in SMEs. For this we need about 15 minutes of your time to answer some questions under this link: https://dundalk.zhaw.ch/index.php/678676?lang=de

Please find below some background information:

A central characteristic of digitalisation is the abundance of data available to companies. "Big data", "data science" or "data analytics" can become a decisive element in competition, especially for SMEs, if used skilfully. However, many companies are only at the beginning of the targeted acquisition, analysis and use of data. We would therefore like to know more:

What opportunities and challenges are associated with data?

And how can companies use them in a target-oriented way?

As a thank-you for your answers and for your time, ZHAW will send you a summary of the results after the end of the study if you are interested. The results will be evaluated anonymously.

The project is conducted in the German speaking area, i.e., also the survey is in German. However, we appreciate answers from any region.

### **Announcing 2 new services for members**

We are excited to announce 2 new services that are offered by our new Industrial member Semweb. If you are interested in any of these workshops, please write to us or Mr. Fabio Ricci, so that we can organise it.

- 1. Workshop: RDF Thesaurus Lifecycle Management:
- the workshop offers exercises and theories with demos for different topics like:
  - Term extraction out of text corpora
  - Creation of a thesaurus with extracted terms
  - Thesaurus Maintenance with SKOS Shuttle
  - Thesaurus Operating for Search Refinement
  - Advantages of RDF thesauri Knowledge Governance
  - RDF and Blockchain Practical Use Case
- 2. Workshop: RDF technology stack:
- the workshop offers exercises and theories with demos for different topics like:
  - Legacy Data vs. RDF Data
  - RDF vs Linked-Data vs Knowledge Graphs
  - RDF and Logics (data and inference)
  - RDF creation tools (a selection)
  - Linked-Data workshop Create RDF
  - Data-gaps / Thesauri

Please take a look at the various <u>services offered</u> at the Alliance by our member Industries. If you are interested in any of these activities, write to us for more details.

### **Upcoming Events**

- 24.10.2018 - Service Lunch "Towards a Data-Driven Company". At ZHAW School of Engineering, Lagerstrasse 41, Zurich, Room ZL E0.11. More information here. Register here.
- 31.10.2018 Use case talk series on Artificial Intelligence. At ZHAW School of Engineering, Lagerstrasse 41, Zurich. More information here.
- <u>08.11.2018</u> Data+Service Alliance General Assembly. At OBC Suisse Europaallee 41, 8021 Zurich. More information <a href="here">here</a>.
- 22.11.2018 Expert Group Data Integration, Governance & Sharing workshop. At Lausanne. More information coming soon here.
- 11.12.2018 Expert Group "Data Ethics" seminar on Algorithmic **Fairness.** More information coming soon <u>here</u>.
- 17.-20.12.2018 5th IEEE/ACM International Conference on Big Data Computing, Applications and Technology. At Technopark Zurich. Find more information here. Register here.

### **Upcoming Member Events**

Please send us your events information to <a href="mailto:info.office@data-service-alliance.ch">info.office@data-service-alliance.ch</a>. We include your events in the newsletter issues.

Please find the events below:

### 17.10.2018 - Machine Learning in Enterprise Applications: A Perspective from SAP

Location: Au Premier, Bahnhofplatz 15, Zurich Find more information <u>here.</u>

24.10.2018 - re.formation 2018.

Location: Samsung Hall, Hoffnigstrasse 1, Zurich Several of our members are present here as speakers. Find more information here.

### 30.10.2018 - Government Data - welche Daten braucht die Schweizer Wirtschaft von der Verwaltung? by Swiss Data Alliance

Location: Loft Corner (4. Stock), Impact Hub, Sihlquai 133, 8005 Zürich

Find more information here.

### 14.11.2018 - - **SAP Process Mining Infoday 2018**

Location: Stade de Suisse, Papiermühlestrasse 71, 3000 Bern

Find more information here.

### **Upcoming Expert Group Meetings**

### 25.10.2018 - "Machine Learning" Expert Group meeting

16:00 to 19:30

Location: Bern, at the premises of la Mobilière, <u>Bundesgasse 35</u>

Find more information here.

### 14.11.2018 - "Data-Driven Business Models" Expert Group meeting: Insights from Business Practitioners

16:30 to 18:00

Location: Au Premier, HB Zurich

Find more information <u>here</u>.

#### 04.12.2018 - Data Integration, Governance & Sharing Expert Group meeting

Location: Zurich, TBD

Find more information here.

### 07.12.2018 - Software & Tools Expert Group meeting

14:00 - 17:00

Location: PwC, Birchstrasse 160, 8050 Zurich

Find more information here.

#### **Data Science Read of the Month**

Das Beste zum Schluss

Now anyone can train Imagenet in 18 minutes - by Jeremy Howard http://www.fast.ai/2018/08/10/fastai-diu-imagenet/

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