Proposal to Host the International Conference on Frontiers in Handwriting Recognition 2020 (ICFHR 2020)

in
Dortmund, Germany
September 8-10, 2020

October 10, 2016

Conference Committee

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1 Introduction

The International Conference on Frontiers of Handwriting Recognition (ICFHR), formerly called International Workshop on Frontiers of Handwriting Recognition (IWFHR), is the most important scientific venue in the field of handwriting recognition. The aim of this conference is to bring together international experts from academia and industry to share their experiences and to promote research and development in all aspects of handwriting recognition and applications.

ICFHR is a major event supported by the IAPR Technical Committee TC-11 (Reading Systems). Previous venues of this series were IWFHR'90 (Montreal), IWFHR'91 (Chateau de Bonas), IWFHR'93 (Buffalo), IWFHR'94 (Taipei), IWFHR'96 (Colchester), IWFHR'98 (Taejon), IWFHR 2000 (Amsterdam), IWFHR 2002 (Niagara on the Lake), IWFHR 2004 (Tokyo), IWFHR 2006 (La Baule), ICFHR 2008 (Montreal), ICFHR 2010 (Kolkata) ICFHR 2012 (Bari), ICFHR 2014 (Crete) and ICFHR 2016 (Shenzhen). The 16th ICFHR has been will be held in Rochester, USA, in 2018.

The 17th ICFHR (ICFHR 2020) is proposed to be held in Dortmund, Germany, and to be hosted by TU Dortmund University.

2 Location and Venue

2.1 The City of Dortmund

Dortmund is a major European city located in the western part of Germany.

Figure 1: Location of Dortmund within Germany and Europe

Dortmund is an independent city in North Rhine-Westphalia, Germany. It is in the middle part of the state and is considered to be the administrative, commercial and cultural centre of the eastern Ruhr area. Its population of 581,612 (2015) makes it the 8th largest city in Germany. Moreover, Dortmund is the largest city by area and population in the Ruhr Area, an urban area with some 5.1 million (2011) inhabitants which is the largest urban agglomeration in Germany.

(Photo: Stadt Dortmund, Olaf Heil)

Figure 2: Skyline of Dortmund

The city was one of Germany's most important coal, steel and beer centres until the 1970s. The region has adapted since the collapse of its century long steel and coal industries and shifted to high technology, biomedical technology, micro systems technology and also services.

Dortmund is home to many cultural and educational institutions, including TU Dortmund University, many museums, such as Museum Ostwall, Museum of Art and Cultural History and the recently founded German Football Museum, as well as theatres and music venues like the Concert Hall or the Dortmund Opera House. The city is known as Westphalia's "green metropolis". Nearly half the municipal territory consists of waterways, woodland, agriculture and green spaces with spacious parks such as Westfalenpark and Rombergpark. This stands in a stark contrast with nearly a hundred years of extensive coal mining and steel milling within the city limits.

Dortmund is also home to the *Ballspielverein Borussia 1909 e.V. Dortmund*, commonly known as Borussia Dortmund, a very successful club in German football.

2.2 TU Dortmund University

Since its founding 48 years ago, TU Dortmund University has developed a special profile, encompassing 16 faculties ranging from science and engineering – including one of the largest computer science departments in Germany – to social sciences and cultural studies. The university currently has approximately 33,500 students and 6,200 staff members, including 300 professors. The curriculum is comprised of around 80 programs of study, both traditional and innovative, some even unique to this university. A broad

(Photo: TU Dortmund, Roland Baege)

Figure 3: On the Campus of TU Dortmund University

teacher training program is also offered for all school types. The various scientific disciplines share a common university spirit in which interdisciplinarity, communication and cooperation are not only taught, but lived and experienced. This interaction creates an environment conducive to technological innovation and fosters advances in methods and knowledge.

2.3 Conference Venue

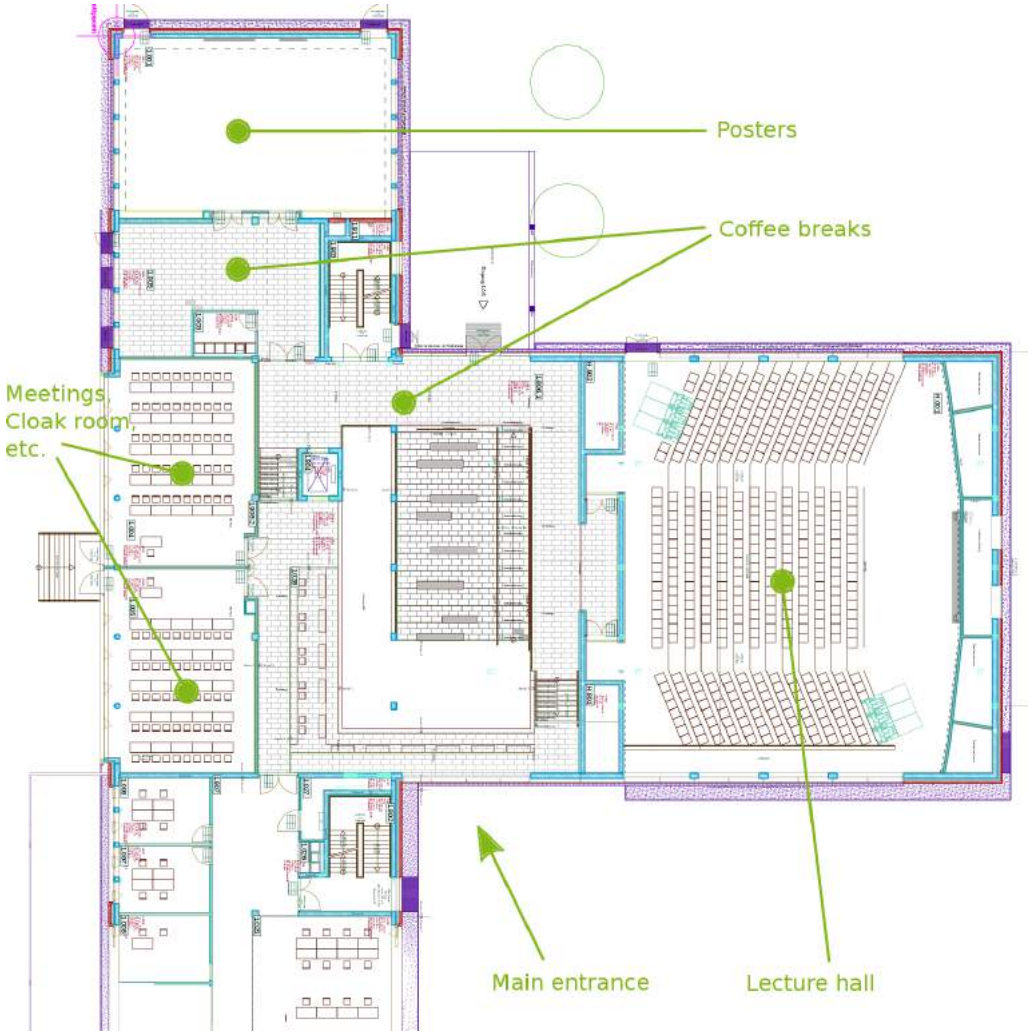
ICFHR 2020 is proposed to be held on the North Campus of TU Dortmund University in a recently built complex (see Fig. 4) comprising a large lecture hall, a spacious lobby and a number of seminar rooms (see Figures 5 to 6 for a floor plan and interior views).

All plenary sessions as well as oral sessions can be held in the large lecture hall which has a capacity of more than 400 seats (almost 500 m^2). It features audiovisual equipment with two large screens and respective data projectors. Poster sessions can be held in a large seminar room (more than 160 m^2) close by. The spacious lobby makes it possible to use the first-floor parts together with an anteroom to the room devised for poster sessions for coffee breaks[1]. Furthermore, there are additional medium-size seminar rooms that can be used for meetings, as a cloak room, or as additional space if necessary.

[1]This has been done in a similar way multiple times already for the “Dortmunder Informatik-Tag”, which is the computer science department’s graduation ceremony that welcomes between 150 to 250 participants.

(Photo: TU Dortmund, Roland Baege)

Figure 4: Lecture hall and seminar room building



(Source: TU Dortmund)

Figure 5: Floor plan with indication of usage during the conference

(Photo: TU Dortmund, Jürgen Huhn)

Figure 6: Lecture hall for plenary and oral sessions

3 Conference Dates

Similar to previous instances of ICFHR, we propose to organize the conference in early September 2020. Further details of the conference schedule are given below.

Tentative Schedule

Final composition of committees	April 30, 2019
Website online	June 20, 2019
1st “Call for Papers” published	July, 2019
CfP publicized	Autumn to Winter 2019/2020
Paper submission	February 15, 2020
Notification of acceptance	April 30, 2020
Camera ready papers	May 31, 2020
Tutorials	September 7, 2020
Conference	**September 8-10, 2020**

4 Travel Information

4.1 Climate

Dortmund is situated in the temperate climate zone. Winters are comparatively mild and summers are rather cool. The average annual temperature lies at approximately 9 to 10 °C (48 to 50 °F), the total average annual amount of precipitation lies at approximately 800 mm (31 in). Precipitation evenly falls throughout the year; steady rain (with some snow), prevails in the wintertime, isolated showers dominate the summer season.

In Germany in general and in Dortmund in particular, September offers a very enjoyable

Figure 7: Location of Dortmund and major airports nearby

autumn-season climate. The average daily high and low temperatures in Dortmund are 19 °C (66 °F) and 10 °C (50 °F), respectively with little rain to be expected.

4.2 Accessability of Dortmund

The city of Dortmund is well connected to international destinations via major German airports. Germany's most important international hub, Frankfurt Airport, is only a two-hour train ride from Dortmund. Even closer-by is Germany's third-largest Airport in Dusseldorf. The small international airport of Dortmund itself serves German tourist destinations.

Dortmund is also well connected to European destinations via the high-speed trains of the Deutsche Bahn.

4.2.1 Arrival by Plane

Frankfurt Airport (FRA) is a major international airport located in Frankfurt, the fifth-largest city of Germany and one of the world's leading financial centres. Frankfurt Airport is by far the busiest airport in Germany as well as the 4th busiest in Europe.

Connections to Dortmund

From Frankfurt Airport there are frequent connections via Cologne[2] (German: "Köln") to Dortmund by high-speed trains (the ICE trains of the Deutsche Bahn) with an average travel time of approximately 2 hours. As of 2016, train tickets from Frankfurt Airport

[2] The city of Cologne dates back to the times of the Romans. As the fourth-largest city of Germany, Cologne is a major cultural centre for the Rhineland today which is especially famous for its cathedral.

Station to Dortmund Main Station cost approximately EUR 90. When a specific train is pre-booked in advance (so-called “Sparpreis”) the fare reduces to approximately 60 euros.

Dusseldorf Airport (DUS) is the international airport of Düsseldorf, the capital of the German state North Rhine-Westphalia. It is the largest and primary airport for the Rhine-Ruhr metropolitan region - the largest metropolitan region in Germany and among the largest metropolitan areas of the world.

Connections to Dortmund

From Dusseldorf Airport both high-speed and local trains of the Deutsche Bahn connect to Dortmund Main Station (Dortmund Hbf) with travel times between 45 minutes to 1 hour. The suburban train (German: S-Bahn) “S1” even connects Dusseldorf Airport directly to the campus of TU Dortmund University (stop “Dortmund Universität”) with a travel time of little more than an hour. As of 2016, prices for a train ride from Dusseldorf Airport Station to Dortmund range from approximately EUR 15 (ticket excluding high-speed trains) to about EUR 25.

Dortmund Airport (DTM), is a minor international airport. It serves the eastern Rhine-Ruhr area, the largest urban agglomeration in Germany, and is mainly used for low-cost and leisure charter flights.

Connections to the City

The AirportExpress connects Dortmund Airport directly to Dortmund Main Station. This bus connection runs every hour and takes approximately 25 minutes.

4.2.2 Arrival by Train

Dortmund is a major stop within the high-speed railway network of the Deutsche Bahn (see Fig. 8). This network is also connected to the respective high-speed railway systems of The Netherlands, Belgium (via Thalys), France (via TGV), Switzerland, Austria, and Denmark.

4.3 Local Transport

The city of Dortmund and the whole Ruhr area is connected via a dense network of public transport integrating buses, streetcars and local trains. This system is managed by the Transport Network Rhein-Rhuhr (German: Verkehrsverbund Rhein-Ruhr, VRR, www.vrr.de) such that a single ticket system for local public transport is used within the Ruhr area and the major part of the state of North-Rhein-Westfalia. Tickets are available in 5 categories (A to E) depending on the distance to the destination. Tickets of category A cover trips within a city. Tickets of type D cover, for example, a trip from Dusseldorf Airport to Dortmund. All tickets are available at numerous vending machines throughout the VRR network.

4.4 Passport and Visa

Germany is a member state of the European Union (EU). Therefore, EU citizens will not require a visa to travel to Germany. Additionally, Germany has visa waiver agreements

(Source: de.wikipedia.org)

Figure 8: The German network of high-speed (“ICE”) trains.

with countries associated to the EU as well as with many other countries worldwide including Argentina, Australia, Brazil, Canada, Chile, Colombia, Croatia, Israel, Japan, Korea, Malaysia, Mexico, New Zealand, Nicaragua, Palau, Peru, Singapore, Switzerland, Taiwan, United States of America, Uruguay, and Venezuela.

More information on and details of visa requirements can be found on the official web pages of the German Foreign Office.

4.5 Accomodation

Dortmund offers a wide range of conveniently located quality accomodation at highly competitive rates. Table 1 gives an overview of the hotels where attendees of ICFHR 2020 will receive special university rates ranging from around EUR 70 per night to approximately EUR 100 per night. All prices are as of 2016 for a single-room accomodation of a single person including breakfast. Therefore, rates per person will be even lower when rooms when rooms are shared between several participants.

At these hotels a block of rooms will be reserved for conference participants. It can be expected that with pre-reservation even better prices can be negotiated.

Hotel	Address	Price (EUR)	Website
Hotel Drees****	Hohe Str. 107	66.00	www.riepe.com/dortmund
Ibis Dortmund West***	Brennaborstr. 2	70.92	www.accorhotels.com
Ibis Dortmund City***	Märkische Strasse 73	74.13	www.accorhotels.com
Steigenberger Hotel ****	Berswordtstraße 2	76.00	www.steigenberger.com
Mercure Dortmund Centrum****	Olpe 2	79.55	www.mercure-hotel-dortmund.de
Top Hotel Esplanade****	Burgwall 3	77.00	www.esplanade-dortmund.de
The Grey Hotel***	Schmiedingstrasse 11-13	79.00	www.thegrey-hotel.de
TRYP Hotel***S	Emil-Figge-Str. 41	79.00	www.tryphotels.com
Der Lennhof****	Menglinghauser Straße 20	85.00	www.der-lennhof.de
Arcadia Grand Hotel Dortmund****	Lindemannstr. 88	86.00	www.arcadia-hotel.de
NH Dortmund****	Königswall 1	87.00	www.nh-hotels.de
Mercure Dortmund City***	Kampstr. 35 - 37	88.62	www.accorhotels.com
Mercure Hotel Dortmund Messe****	Strobelallee 45	89.69	www.accorhotels.com
l'Arrivée Hotel****	Wittbräucker Str. 565	99.00	www.larrivee.de

Table 1: Tentative list of hotels with prices for single-room accomodation

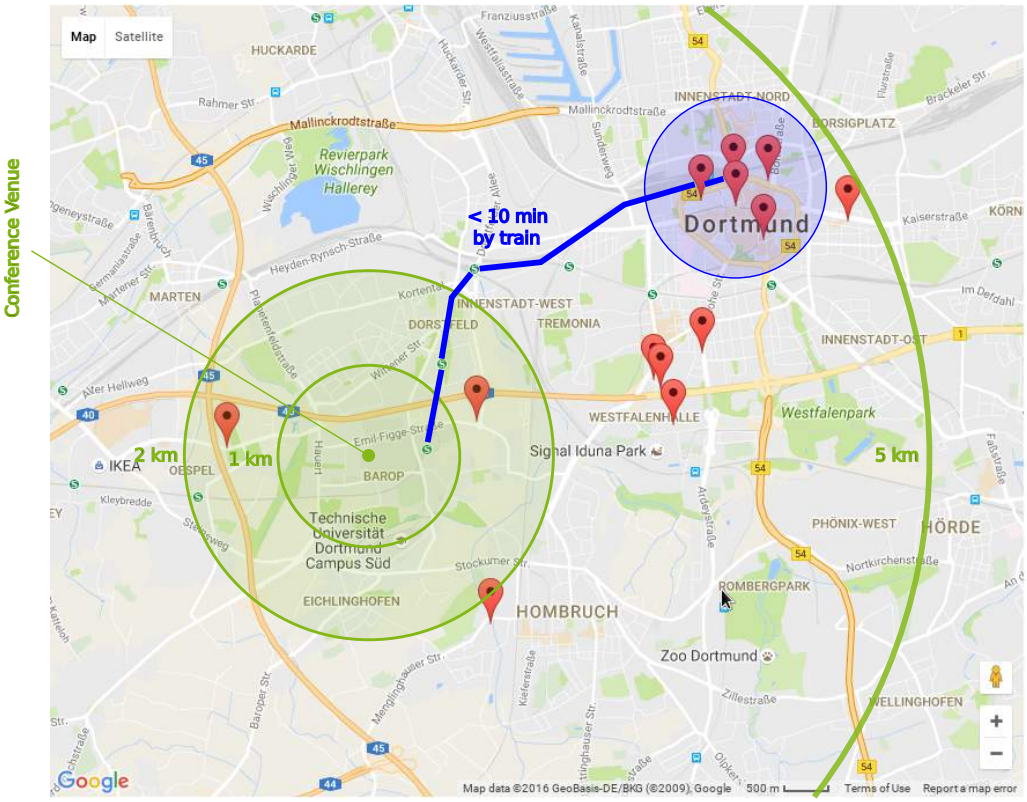


Figure 9: Location of conference venue and major hotels

Figure 9 shows the location of the major hotels in Dortmund with respect to the conference venue. There are three hotels in the vicinity of the university campus. Many more can be found in the city centre (see blue one-kilometer radius in Fig. 9). In this area also numerous restaurants, bars, and night clubs can be found. Therefore, this is actually the recommended area to stay. From the city centre the campus can be reached via the local train "S1" (marked in blue) in less than 10 minutes (approx. EUR 2.50 per ride).

5 Technical Program

As in the past, we plan for ICFHR 2020 to be a single track conference run over four days. Tutorials will be offered the day before the main conference, on Monday Sep. 7. This will be followed by the main conference, running from Tuesday Sep. 8 through Thursday Sep. 10. As a new element for ICFHR conferences, we want to explore the possibility of co-locating workshops with ICFHR.

The technical portion of the conference will include oral and poster presentations, invited talks, competitions, and awards (for Best Paper, Best Student Paper, and Best Poster). Following recent ICHFRs, the conference proceedings will be published by the IEEE Computer Society in time for the conference. Proceedings will be provided to participants on USB sticks along with a printed booklet containing paper abstracts.

A free system for online paper submission (i.e. EasyChair) will be used for paper submission. This system has been used for many conferences in the Document Analysis community.

6 Conference Budget

6.1 Registration

The regular registration fee for ICFHR 2020 will be EUR 650. Discounts will be offered to IAPR members, students, and for advanced registration. Based on registration statistics of ICFHR 2014[3] an average registration fee of approximately EUR 500 per participant can be expected.

Registration of conference participants and payment of registration fees will be handled by an online system provided by a professional conference management service which will offer payment by credit card.

Registration Fees (EUR) and estimated percentage (%) of participants per category									
	IAPR Member		*Non-Member*		*Student*		*Invited etc.*		
	EUR	%	EUR	%	EUR	%	EUR	%	
early	550	20	600	30	350	20	0	7	
late	600	5	650	13	400	5	0	0	
on site	650	0	700	0	450	0	0	0	
	Average registration fee per participant:				**494.5**				

Registration will include:

- Conference kit (conference bag, USB drive with proceedings, conference booklet)
- All coffee breaks and lunches[4]
- Welcome reception
- Excursion (including bus trip and guided tour)
- Gala dinner[5]

[3] ICFHR 2014 registration statistics kindly provided by Vassilis Katsouros.
[4] Lunches will always also include a vegetarian dish.
[5] Several main courses will be served including vegetarian options.

6.2 Sponsorship / Financial Support

We will strive to raise additional support for the conference in order to be able to offer low registration rates for students and to also offer a enjoyable social program. It can be expected that the following bodies provide sponsorship for ICFHR 2020: The German Pattern Recognition Association (DAGM) – EUR 2,500; The Association of the Alumni of Computer Science, Dortmund (AiDo) – EUR 3,000; The Association of the Friends of TU Dortmund University.

Furthermore, we will approach both local as well as international companies for financial support of the conference. We will also apply to IAPR for being able to use part of the IAPR levy for financing keynote-speakers and awards.

6.3 Tentative Budget

For ICFHR 2020 we expect 150 participants. However, due to unforseen circumstances this number might vary. Therefore, we provide budget estimates for the expected number of participants as well as for scenarios with lower and higher attendance.

As of Fall 2016 the IAPR levy for IAPR-sponsored events is US$ 20 per participant. Therefore, we assume a levy of EUR 20 per person in all budget estimates.

Tentative budget for 150 participants.

Budget item		*fixed*	*variable*
Income			
	Registration fees		74175
	Sponsorship DAGM (tentative)	2500	
	Sponsorship AiDo (tentative)	3000	
	Sponsorshop (other, industry)	3000	
Total income			**82675**
Expenses			
	IAPR levy		3000
	Proceedings:	10000	
	Conference Booklet:		1500
	Registration:		
	- Conference management service	500	450
	- Credit card processing (3% of registration fees):		2226
	- Registration kit (Bag, USB proceedings, etc.)		7500
	Student support	3500	
	Technical program:		
	- Venue (Rooms, WI-FI, audio-visual support, etc.)	5500	
	- Keynote speakers:	6000	
	Social program:		
	- Welcome reception:		6000
	- Subsistance (3x lunch, 6x coffee break)	1200	11250
	- Excursion:		4500
	- Conference dinner (”luxury” version):		15000
	Subtotal:		78126
	Contingency (approx. 5% of estimated expenses):		3907
Total expenses:			**82033**
Balance:			**642**

Tentative budget for 125 participants: In case of reduced attendance due to some unforseen issues, the expenses can be easily adapted to guarantee a balanced budget for this situation. In the tentative budget below, the costs for the conference dinner are reduced by choosing a "economy" version with lower cost per participant.

Budget item		*fixed*	*variable*
Income			
	Registration fees		61812.5
	Sponsorship DAGM (tentative)	2500	
	Sponsorship AiDo (tentative)	3000	
	Sponsorshop (other, industry)	3000	
Total income			**70312.5**
Expenses			
	IAPR levy		2500
	Proceedings:	10000	
	Conference Booklet:		1250
	Registration:		
	- Conference management service	500	375
	- Credit card processing (3% of registration fees):		1855
	- Registration kit (Bag, USB proceedings, etc.)		6250
	Student support	3500	
	Technical program:		
	- Venue (Rooms, WI-FI, audio-visual support, etc.)	5500	
	- Keynote speakers:	6000	
	Social program:		
	- Welcome reception:		5000
	- Subsistance (3x lunch, 6x coffee break)	1200	9375
	- Excursion:		3750
	- Conference dinner ("economy" version):		9375
	Subtotal:		66430
	Contingency (approx. 5% of estimated expenses):		3322
Total expenses:			**69752**
Balance:			**560.5**

Tentative budget for 175 participants: In case of increased attendance, there will be a surplus according to the budget calculation as used for the expected number of 150 participants. In this case it is, therefore, possible to, e.g., reduce registration fees for students, or compensate for possible reduced sponsorship.

Budget item		*fixed*	*variable*
Income			
	Registration fees		86537.5
	Sponsorship DAGM (tentative)	2500	
	Sponsorship AiDo (tentative)	3000	
	Sponsorshop (other, industry)	3000	
Total income			**95037.5**
Expenses			
	IAPR levy		3500
	Proceedings:	10000	
	Conference Booklet:		1750
	Registration:		
	- Conference management service	500	525
	- Credit card processing (3% of registration fees):		2597
	- Registration kit (Bag, USB proceedings, etc.)		8750
	Student support	3500	
	Technical program:		
	- Venue (Rooms, WI-FI, audio-visual support, etc.)	5500	
	- Keynote speakers:	6000	
	Social program:		
	- Welcome reception:		7000
	- Subsistance (3x lunch, 6x coffee break)	1200	13125
	- Excursion:		5250
	- Conference dinner (”luxury” version):		17500
	Subtotal:		86697
	Contingency (approx. 5% of estimated expenses):		4335
Total expenses:			**91032**
Balance:			**4005.5**

7 Social Events

Welcome Reception at a Local Brewery

We propose to organize the traditional welcome reception scheduled for the first evening before the main conference at Hövels Brewery (Hövels Hausbrauerei) in the city center of Dortmund.

(Source: www.golocal.de, media-cdn.tripadvisor.com, www.der-stadtfuehrer.com)

Figure 10: Hövels Brewery: Main entrance, brewery, beer garden and interiors

Hövels Brewery offers excellent traditional-style indoor rooms and a spacious beer-garden. As the beer on tap at Hövels Brewery is still brewed locally, we plan to also have a tour of the brewery site. The official Video gives an overview of the premises.

Though breweries tend to be more interesting for beer-lovers, there will definitely be non-alcoholic beverages available as well as vegetarian food options.

Note: A more economic version of the Welcome Reception could be organized in case of unforseen budget limitations. There are nice opportunities on the campus of TU Dortmund University.

Excursion to “Zollverein” UNESCO World Heritage Site

As a social event on the afternoon of the second day of the conference, we propose an excursion to the UNESCO World Heritage Site of the “Zollverein” coal mine in the city of Essen (approx. 30 minutes by bus from the conference venue).

Zollverein is part of the substantial industrial heritage preserved in numerous sites throughout the Ruhr area. Among these it can be considered the most impressive with its char-

(Foto: www.essen.de / Prengel)

Figure 11: Zollverein: View on to the characteristic double pit-head

acteristic double pit-head (see Fig. 11), the spectacular coking plant, and many more places to visit. Industrial heritage preserved at such scale makes the Ruhr Area and the Zollverein site unique in the world. Here you can see the visually most striking colliery in the world on an exhibition space that once was the largest cole mining site in Europe:

The "most beautiful coal mine in the world": the UNESCO World Heritage Site Zollverein

Hundreds of coal mines produced coal in the Ruhr area, but only one was declared a UNESCO World Heritage Site in 2001. For good reason: the Zollverein Coal Mine is a masterpiece of mining architecture, created by the visionaries Fritz Schupp and Martin Kremmer. The symmetrical arrangement of buildings is still impressive today: The facilities, which were designed to the last detail, are a completely preserved synthesis of the arts.

Until 1986, the coal mine had produced a total of 240 million tons of coal and up to 8,000 miners worked around the clock above and below ground. Today, the industrial monument is a lively cultural location with museums for industrial history and design, numerous recreational offers and events. The famous twin pithead frame impressively represents the change of a whole region.

(Press release, Stiftung Zollverein, March 2016)

Conference Dinner on the Zollverein Site

In order to breathe in even mor the unique atmosphere of the Zollverein site, we plan to have the conference dinner in the Erich-Brost Pavillion. This is a unique event location situated on top of the Ruhr Museum with a spectacular view on the Zollverein site. The Erich-Brost Pavillion can easily accomodate the expected ICFHR delegates and their accompanying persons (maximum seating capacity 300 people). With the upscale catering services provided, this conference dinner will become a memorable event for everybody attending.

Note: A more economic version of the Welcome Reception can easily be organized in case of unforseen budget limitations. One option would be to go to the *Working World Exhibition* which is located in close vicinity to the campus of TU Dortmund. With reasonable catering, the price per person could be limited to approximately

(Foto: © Stiftung Zollverein)

Figure 12: Tentative dinner location: Interiors and view on the Zollverein site

50 EUR. This “economic” version of the Gala Dinner is used in the budget estimate for limited attendance figures.

8 Nearby Attractions

Attractions in Dortmund and the Ruhr Area

Numerous sites related to the Industrial Heritage of the Ruhr area, e.g.:

- *Zollern Colliery*

  Zollern colliery in Dortmund, the probably most beautiful colliery in the Ruhr area, is famous for the art nouveau entrance of its plant floor.

(© J. Schumacher)

- *Hansa Coking Plant*

  The Hansa coking plant in Dortmund is one of the highlights of industrial heritage in the Ruhr Area.

  (Source: www.ruhr-tourismus.de)

(© M. Zerres)

- *German Mining Museum*

  The Deutsches Bergbau-Museum Bochum is the most important mining museum in the world and, at the same time, a highly regarded research institution for mining history.

  (Source: www.bergbaumuseum.de)

(Source: flickr.com)

- *The Krupp Villa* (“Villa Hügel”)

  As the former ancestral home of the Krupp family, the villa can be considered a “castle of modern times” – meant to impress even Maharajas!

(© Hist. Archiv Krupp, Essen)

Numerous museums and exhibitions, e.g.:

- *Museum Ostwall*, Dortmund – modern art
- *Working World Exhibition*, Dortmund – Germany’s largest exhibition on the world of work
- Museum Folkwang, Essen – contains an internationally significant collection of 19th-century German and French painting and sculpture
- Gasometer Oberhausen, Oberhausen – exhibition hall for unforgettable works of art

Several theaters and opera houses, e.g.:

- *Concert Hall*, Dortmund
- *Theatre and Opera House*, Dortmund
- *Aalto Opera House*, Essen

Attractions in the Rhein-Ruhr Area

The Rhein-Ruhr Area includes a number of must-see cities, e.g.:

- *Cologne*

(source: www.bilderbuch-koeln.de)

(approx. 95 km, 70 min by train)

- *Düsseldorf*

(source: www.thoennessenpartner.de)

(approx. 70 km, 60 min by train)

- *Münster*

(source: teddybaer-total.de)

(approx. 70 km, 30 min by train)

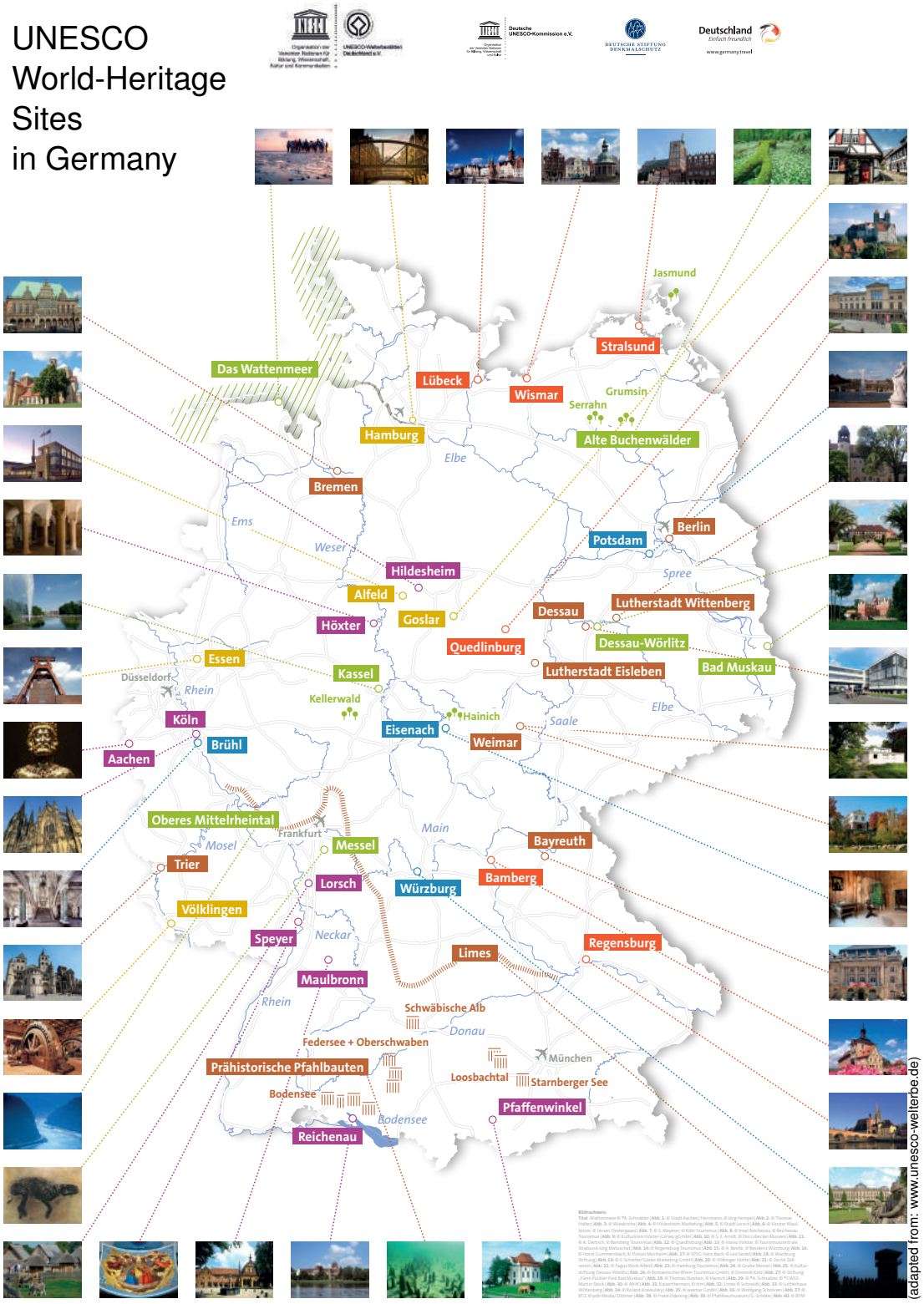
- *Aachen*

(source: www.sixt.de)

(approx. 160 km, 120 min by train)

Attractions in Germany

Among others, numerous UNESCO World-Heritage Sites:



(adapted from: www.unesco-welterbe.de)

A CVs of Core Team Members

Réjean Plamondon

Biography

Réjean Plamondon received a B.Sc. degree in Physics, and M.Sc.A. and Ph.D. degrees in Electrical Engineering from Université Laval, Québec, P.Q., Canada in 1973, 1975 and 1978 respectively. In 1978, he joined the faculty of the École Polytechnique, Université de Montréal, Montréal, P.Q., Canada, where he is currently a Full Professor. He has been the Head of the Department of Electrical and Computer Engineering from 1996 to 1998 and the President of Ecole Polytechnique from 1998 to 2002. He is now the Head of Laboratoire Scribens at this institution.

Over the last twenty-five years, Professor Plamondon has been involved in many pattern recognition projects, particularly in the field of on-line and off-line handwriting analysis and processing. He has proposed many original solutions, based on exhaustive studies of human movement generation and perception, to problems related to the design of automatic systems for signature verification and handwriting recognition, as well as interactive electronic pen-pads to help children learning handwriting and powerful methods for analyzing and interpreting neuromuscular signals. His main contribution has been the development of a kinematic theory of rapid human movements which can take into account, with the help of a unique basic equation called a delta-lognormal function, the major psychophysical phenomena reported in studies dealing with rapid movements. The theory has been found successful in describing the basic kinematic properties of velocity profiles as observed in finger, hand, arm, head and eye movements. In the last ten years, he has also been deeply involved in the generalization of his kinematic theory to the study of emerging phenomena in physical systems with the goal of bridging the gap between Quantum Mechanics and General Relativity.

Conference Organizing Experience

Professor Plamondon has been a co-founder of the International Graphonomics Society (IGS) in 1985 and President of this association from 1995 to 2007. He held in Montréal, in 1987, the first multidisciplinary conference, sponsored by IGS and IEEE, dedicated to handwriting analysis, grouping not only psychologists, education specialists and neuroscientists but also a strong delegation of researchers from computer sciences, engineering, forensic sciences and robotics. Elected chair of TC-11 in 1988, he played a crucial political role in coordinating the emergence the two major conferences in our field: IWFHR in 1990 and ICDAR in 1991. He established the democratic tradition of having all members of our community voting for the organization of the forthcoming conferences. He also contributed to the development of the French language ICDAR community by the promoting the establishment of the CNED/CIFED conferences for the francophone. He also played an important role in the creation of the Unipen foundation, the first large on-line database available for benchmarking tests. After his TC mandate in 1995, he was named chair of the IAPR conferences and meeting committee, where he coordinated the TC-1,-2,-10and 11 activities to stimulate the expansion of the ICDAR community within IAPR. He has been involved in the organization of all IWFHR/ICFHR, ICDAR, and IGS conferences (except for the period when he was president of his own institution) at least as a member of the program committee and often with more important roles (general co-chair IWFHR 1994; general co-chair ICDAR 1995, ICDAR 2001 and ICPR 2002; general chair, CIFED 1998) as well as a regular keynote speaker (recently at CIFED 2008, ICPR 2008, ICFHR 2010, ICFHR 2012, IGS 2015).

Gernot A. Fink

Biography

Gernot A. Fink received the diploma in computer science from the University of Erlangen-Nürnberg, Erlangen, Germany, in 1991 and the Ph.D. degree (Dr.-Ing.) also in computer science from Bielefeld University, Germany, in 1995. In 2002 he received the *venia legendi* (Habilitation) in Applied Computer Science from Bielefeld University. From 1991 to 2005 he was with the Applied Computer Science Group at the Faculty of Technology of Bielefeld University. Since 2005 he is professor for Pattern Recognition in Embedded Systems within the Department of Computer Science at TU Dortmund University, Dortmund, Germany.

His research interests lie in the development and application of pattern recognition methods in the fields of man machine interaction, multimodal machine perception including speech and image processing, statistical pattern recognition, and handwriting recognition. Gernot Fink has published over many years on the use of Markov-Model based techniques for pattern recognition problems including a textbook on the subject. In the field of document analysis, he has worked extensively on problems of handwriting recognition.

Dr. Fink is a member of IAPR and a Senior Member of IEEE. He currently serves on the Leadership Team of IAPR's TC-11 *Reading Systems* as TC-11 Newsletter Editor as well as TC-11 Education Officer.

Conference Organizing Experience

Gernot A. Fink has served as co-chair for FAHR 2020 (First Int. Workshop on Frontiers of Arabic Handwriting Recognition, Istanbul, Turkey, 2010) as publicity chair for DAS 2016 and ICDAR 2017, as a co-chair for the ICDAR 2015 Doctoral Consortium, and as program committe member for ICFHR (since 2006), ICDAR (since 2011), and several other conferences in the field of pattern recognition including ICPR, CAIP, and GCPR.

Lambert Schomaker

Biography

Lambert Schomaker received his M.Sc. degree in psychophysiological psychology in 1983 (cum laude), and his Ph.D. degree on "Simulation and Recognition of Handwriting Movements" in 1991 at Nijmegen University, The Netherlands. Since 1988, he has been working in several European Esprit projects concerning the recognition of on-line, connected cursive script on the basis of knowledge on the handwriting movement process. He was the project coordinator of a large European project on multimodality in multimedial interfaces (project MIAMI), and has enjoyed collaborative research projects with several industrial companies. Current projects are in the area of image-based retrieval, on-line and off-line handwriting recognition, forensic writer identification, and cognitive robot navigation models.

He has contributed to over 160 peer-reviewed publications in journals and books. Per 1/1/2001 he has accepted the position of full professor in AI at Groningen University, The Netherlands, as director Research & Education. As the ALICE department (Artificial Intelligence & Cognitive Engineering) grew from 5fte in 2001 to 35fte in 2009, he is now the scientific director of this research institute at the faculty of Mathematics and Natural Sciences. He is currently active in a 30 MEuro multidisciplinary research-valorisation project ('Target') in mass-storage, high-performance computing and datamining, in order

to implement the Monk generic search engine for handwritten historical archives. The Monk system is unique, world wide, due to its huge scale, genericity and its use of live ('24/7') machine learning.

Conference Organization and Service to the Community

Lambert Schomaker has been involved in the organization of several conferences on handwriting recognition and modeling. He has organized the Seventh International Workshop on Frontiers in Handwriting Recognition (IWFHR) in the year 2000 in Amsterdam and has served as a Co-Chair for the twelth International Conference on Frontiers in Handwriting Recognition (ICFHR) in Kolkata, India. He has been the chairman of TC-11/Reading Systems of the Int. Association for Pattern Recognition (IAPR), chairman of the Int. Unipen Foundation for benchmarking of on-line handwriting recognizers, member of the IAPR TC5 committee on Benchmarking and Software. He is member of the IEEE Computer Society, the IAPR and the BNVKI. Within the Netherlands he has been member of Advisory Board of the NICI institute Nijmegen, is member of the Advisory Boards of the J.F. Schouten School for User-System Interaction, Eindhoven, and the USI postgraduate school of the TU/e. He is member of the ToKeN2000 programme committee of the Netherlands Organization of Scientific Research (NWO).

Elisa Barney Smith

Biography

Elisa Barney Smith is a professor in the Electrical & Computer Engineering department at Boise State University in Boise Idaho. She started at Boise State in 1999 after receiving a B.S. in Computer Science and the M.S. and Ph.D. degrees in Electrical, Computer and Systems Engineering all from Rensselaer Polytechnic Institute, Troy, NY, USA.

Professor Barney Smith's main research interests are image processing and machine learning. She applies these to document imaging as well as to facilitate image processing for disparate areas from biomedical image processing to materials science research to soil remediation evaluation. Her research in document analysis has been primarily focused around developing models of the degradations produced during document image acquisition, and analyzing the defects that can be produced by the models. Other work in this area includes image comparison for defect detection, ballot image processing, and non-linear image pre-processing to improve binarization and recognition, and historical document image processing. She has applied machine learning to optical character recognition applications, as well as designing automatic target classification algorithms and systems that utilize passive acoustic data. She co-authored a textbook on machine learning. Professor Barney Smith has worked on numerous cross-disciplinary, multi-institutional, and national and international project teams. Elisa Barney smith is a member of IAPR and a Senior Member of IEEE and SPIE. She is past chair of the IEEE Boise section and IEEE Region 6's North East Area. She is currently an associate editor for Springer's International Journal on Document Analysis and Recognition.

Conference Organizing Experience

Professor Barney Smith has served as a program chair and on conference program committees for many top international conferences.

- Conference Co-chair - SPIE Document Recognition and Retrieval X, XI and XII, January 2003, 2004 and 2005, (San Jose, CA).
- Program Committee Co-Chair - ICDAR 2013 (Washington DC)

- Member program committee:
  - International Conference on Document Analysis and Recognition: ICDAR 2007, 2009, 2011, 2015, 2017,
  - International Workshop on Document Image Analysis for Libraries: DIAL 2004, DIAL 2006
  - IEEE International Symposium on Computer-based Medical Systems: CBMS 2006, CBMS 2007, CBMS 2008.
  - IAPR International Workshop on Document Analysis Systems: DAS 2010, DAS 2012, DAS 2014, DAS 2016.

Cheng-Lin Liu

Biography

Cheng-Lin Liu is a Professor at the National Laboratory of Pattern Recognition (NLPR), Institute of Automation of Chinese Academy of Sciences, Beijing, China, and is now the director of the laboratory. He received the B.S. degree in electronic engineering from Wuhan University, Wuhan, China, the M.E. degree in electronic engineering from Beijing Polytechnic University, Beijing, China, the Ph.D. degree in pattern recognition and intelligent control from the Chinese Academy of Sciences, Beijing, China, in 1989, 1992 and 1995, respectively. He was a postdoctoral fellow at Korea Advanced Institute of Science and Technology (KAIST) and later at Tokyo University of Agriculture and Technology from March 1996 to March 1999. From 1999 to 2004, he was a research staff member and later a senior researcher at the Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan. His research interests include pattern recognition, image processing, neural networks, machine learning, and especially the applications to character recognition and document analysis. He has published over 220 technical papers at prestigious international journals and conferences. He won the IAPR/ICDAR Young Investigator Award of 2005. He is on the editorial board of Pattern Recognition Journal, Image and Vision and Computing, International Journal on Document Analysis and Recognition, and Cognitive Computation. He is a Fellow of the IAPR and the IEEE.

Conference Organizing Experience

Cheng-Lin Liu served as general chair/co-chair for CCPR2012, GbR2015, ACPR2015, and ICFHR2016; program chair/co-chair for ACPR2013, CCPR2014, and ICPR2018; organizing chair for ICDAR2011 and ACPR2011.

Marcus Liwicki

Biography

Marcus Liwicki received his M.S. degree in Computer Science from the Free University of Berlin, Germany, in 2004, his PhD degree from the University of Bern, Switzerland, in 2007, and his habilitation degree at the Technical University of Kaiserslautern, Germany, in 2011. Currently he is an apl.-professor in the University of Kaiserslautern and a senior assistant in the University of Fribourg. His research interests include machine learning, pattern recognition, artificial intelligence, human computer interaction, digital humanities, knowledge management, ubiquitous intuitive input devices, document analysis, and graph matching. From October 2009 to March 2010 he visited Kyushu University (Fukuoka, Japan) as a research fellow (visiting professor), supported by the Japanese

Society for the Promotion of Science. In 2015, at the young age of 32, he received the ICDAR young investigator award, a bi-annual award acknowledging outstanding achievements in pattern recognition for researchers up to the age of 40.

Conference Organizing Experience

Marcus Liwicki has served as Workshop-Chair for the 11th International Workshop on Document Analysis Systems (DAS 2014), the Second International Workshop on Automated Forensic Handwriting Analysis (AFHA 2013) and the First International Workshop on Automated Forensic Handwriting Analysis (AFHA 2011).