

Final Report for SKD Scholarship
EXPANDING HORIZONS:
TRACING HEAVENLY MACHINES
FROM THE ARAB-ISLAMIC WORLD

From 2th October to 12th November 2016

**Based on the international cooperation between the
British Museum and the
Staatliche Kunstsammlungen Dresden**

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Introduction

I am going to discuss the above-listed points in this report, which illustrate the many experiences I had with my colleagues in **2016 Research Fellowship at Staatliche Kunstsammlungen Dresden (SKD)**, from October 2 to November 12, 2016¹, on an international exchange program.

In fact, the training in SKD was impressive and enriching for me because I learned many different kinds of experience with new experiments inside and outside Dresden.

I have already had many chances to take part in professional workshops and trainings in the wide world, the SKD scholarship was particularly eye-opening for me.

What is the research fellowship in Dresden?

The Staatliche Kunstsammlungen Dresden (SKD, or Dresden State Art Collections) share the interests of the British Museum (BM) in cultural heritage. Like the collections of the BM, the collections of the SKD are manifold and their history shows an early fascination and appreciation for cultures, art and objects from around the globe which has lasted until today. During previous centuries objects in the collections based in Dresden and in Leipzig have

¹ The Staatliche Kunstsammlungen Dresden are one of the oldest and largest museum organizations in Germany, overseeing no fewer than fourteen well-established and renowned museums. Their diverse collections are divided between art, science and ethnography, with a great deal of research possibilities for the right candidate. Previous ITP fellows at the SKD have included Sun Yue (China, ITP 2010), Antonio Ntombanga (Mozambique, ITP 2009), Constantinos Vasiliadis (Greece, ITP 2014) and Ayman Al-Shweiki (Palestine, ITP 2012), and I followed them in this year **Mohamed Ahmed Mohamed (Egypt, ITP 2013)**.

been studied, examined and recorded mostly from a European angle. However, to assess the meaning of the works of art and objects in their entirety, it is necessary to open up to new perspectives. It is therefore important to ask scholars from all over the world to share their points of view and their experience.

The Staatliche Kunstsammlungen Dresden would like to bring together colleagues from different cultural backgrounds and encourage an exchange of ideas between them. The encounter of professionals from Dresden or Leipzig in Germany with their counterparts from other countries and their discussions on collections for which they have a common interest could bring new insights for both sides.

Therefore, they are very happy to offer one fully-funded research fellowship in Dresden and Leipzig to former participants of the British Museum's International Training Programme (ITP). The museums have selected a variety of projects for fellows to join during their stay in Dresden or Leipzig.

(Fig 1) My first day in the beautiful and magical city "Dresden"



1- Istanbul conference (September 26-30, 2016)

In the week before beginning my project in Dresden, I took part in the XXXVth Symposium of the Scientific Instrument Commission (SIC), “Instruments between East and West”, which took place for the first time in Istanbul, Turkey. Attending this conference was so useful for me, and it will help me in my scientific research after go back to Egypt. In fact, we have many historic scientific instruments at the Museum of Islamic Art that are unpublished and needs more focused research.

In fact, Dr. Michael Korey invited me to attend this international conference in Istanbul to give a poster presentation pointing to three unpublished instruments from the Museum of Islamic Art collection in Cairo. I am grateful to the SKD for covering half of my accommodation in Istanbul and allowing me to include a stopover in Istanbul on my way from Cairo to Germany, and also to Dr. Korey for arranging for me to be able to apply for and then receive a stipend from the Scientific Instrument Commission to cover the other half of my expenses.

Actually, it amazing for me in Istanbul to come in contact with great scholars from several corners of the world (there were 74 participants from 18 countries), while I was one of the youngest researchers there.

Finally, it was a useful introduction before my traveling to Dresden. I send best wishes and many thanks for all colleagues in Turkey and at the SIC about the successful organization.



(Figs 2, 3) My poster at the XXXVth SIC Symposium, "Instruments between East and West", and some Islamic objects in the Pera Museum visited in Istanbul.

After that, I moved to Germany with my supervisor Dr. Michael Korey, senior curator at Mathematisch-Physikalischer Salon (MPS) of the SKD, to participate with him and the other colleagues in Dresden on the specific project entitled **"EXPANDING HORIZONS - Tracing heavenly machines from the Arab Islamic World"**.

EXPANDING HORIZONS: TRACING HEAVENLY MACHINES FROM THE ARAB-ISLAMIC WORLD



Eberhard Baldewein et. al., Astronomical clock, Marburg/Kassel/Gießen, 1563-68: full view and detail of the Venus dial (MPS Dresden)



Muhammad ibn Mu'ayyad al-Dīn al-'Urdī, Celestial globe, Maragha, ca. 1300 (MPS Dresden)
Ibrahīm b. al-Sahīfī, Astrolabe, Andalusia, ca. 1100 (APK, Kassel)



A current international research project based in Dresden is examining what may be the most complex - and beautiful - machines surviving from Renaissance Western Europe: magnificent planetary automata held in Dresden, Kassel, Paris, and Vienna. Our team includes members skilled in treating early-modern astronomical practice, Latin manuscripts, and antiquarian horology, but we lack the ability to study Arabic sources. Tantalizing hints suggest that being able to do so would better situate the project in a broader setting. For instance, at both the German princely courts in Dresden and Kassel, astronomical instruments from the Islamic world - the globe and astrolabe shown at left - were collected already in the 16th century. It would be tremendously enriching for us to be able to work with an ITP fellow who has the language skills, interest, and perhaps also proficiency in historic astronomy to examine related Arabic sources. Our review of the secondary literature points to various machines and devices to model and study planetary movement in Arabic-language circles; a critical examination of these accounts, especially in light of original sources that have recently come to light, would be most useful.

The fellowship would take place during the residency of a visiting historian of science, offering further possibilities for interaction and exchange.

Project manager: Dr. Michael Korey (senior curator)

(Fig 4) Announcement of the project sent to all ITP alumni who might be interested in applying to take part

2- My time inside the Mathematisch-Physikalischer Salon (MPS), one of the SKD museums.

At first, let me thank all of you here, all colleagues in the SKD who I met – you were all very welcoming and helpful.

In addition, I would like bring my best wishes and many thanks for my “small family” here: Dr. Michael Korey, Dr. Samuel Gessner, and Ms. Dana Korzuschek.

By the same token, I would like bring all best wishes and thanks for Dr. Anke Scharrahs, she is a head of restoration project of "*Damascus Room in Dresden*".



(Figs 5, 6) Lovely evening session with my small family in Dresden, to celebrate with Michael's birthday.

In fact, all the time in MPS was so useful for me; I saw many things and attended lots of discussions relevant to several patterns of the history of science. Therefore, I got an impressive experience in this field, which will help me to analyze and understand the instruments in our collections in Cairo after I go back. Indeed, our Museum possesses one of the richest collections of historic scientific instruments in the Islamic world. While there are many scholars in Egypt who can read the inscriptions on these instruments and judge their engravings and style from an art-historical or archeological perspective, there is hardly anyone who understands their function and use. During my time in the MPS I learned a great deal in this regard, which will help me better understand and communicate the collection in Cairo.

Summary of my work in the MPS:

- Dr. Korey (or “Dr. Michael”, as I like to say) explained the exhibition galleries for me in two in-depth tours. Actually, it was a perfect introduction to come to know a general idea and then specific information about the masterpieces of the MPS galleries and their presentation.
- We have discussed suggestions around the story line of display at MPS.
- I made a general review of several books relevant to the history of science in Islamic history and the collections here, both in the MPS library and in the central SKD art library.

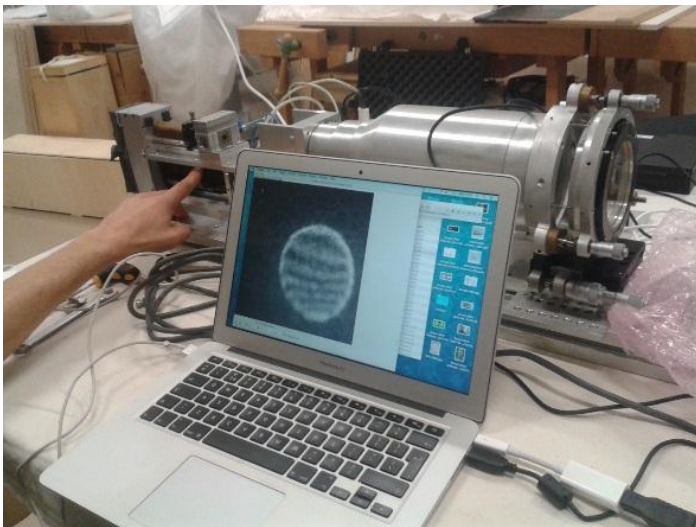
- I visited the SKD workshops for conservation & restoration of, and also I saw the conservation studio of the MPS.
- I attended a very impressive session for examination of lenses of telescope, which attributed to 350-370 years ago, one of the oldest surviving telescopes in the world. This was part of an ongoing research project of Dr. Korey, and on this day two of his research colleagues from the US and the Netherlands were also present to conduct the analysis.
- I attended a joint MPS-HTW public presentation explaining the making of a new video film for one object on display. I found it an amazing way of sharing with our audience how we make the supporting materials for our exhibitions.
- I sat with Dr. Korey and Dr. Gessner in many sessions to learn how an astrolabe, a celestial globe, and other astronomical and mathematical instruments work. Where possible, I also shared with them my knowledge of some of the details on instruments with Arabic inscriptions which they showed me from other collections, as well as on the celestial globe from Maragha in the MPS. This aspect was one of the greatest features for me during my SKD scholarship.



(Figs 7, 8, 9) Several historic experiments demonstrated to the public inside the MPS galleries.



(Figs 10, 11) A computer-science student talking about how to make a video as supporting interpretative material for the museum and about his collaboration with the MPS.



(Figs 12, 13) Examination of lenses of an early telescope (at left is the interferometry apparatus of Tiemen Cocquyt)

3- My time in the other SKD museums

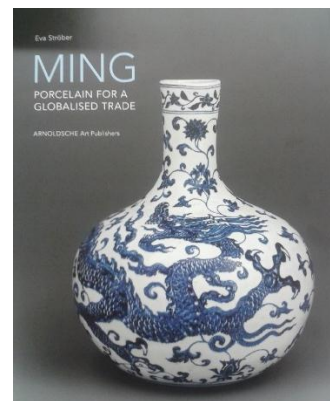
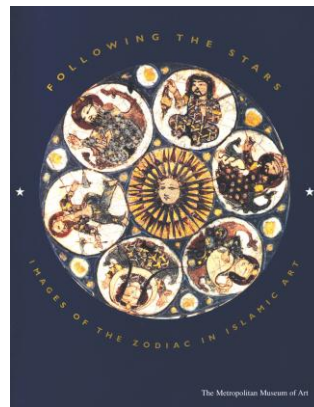
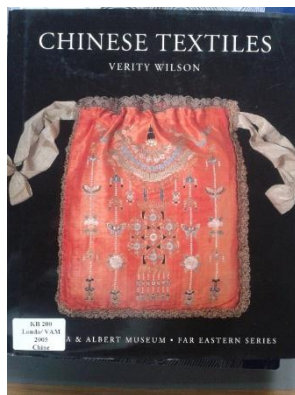
During my stay, I visited nearly all of the SKD museums as well as their temporary exhibitions inside Dresden. It was amazing to see many Islamic objects in different museums and galleries there. On the other side, I discovered a new ways of display, for example the display of coins and medals within the Münzkabinett and of Ottoman textiles in the Turkish Chamber in the Palace.



(Figs 14, 15) Preparing Indian objects for a special exhibition in the SKD (at left is Conservator Olaf Simon of the SKD's Kupferstich-Kabinett, or Prints and Drawings Collection)

4- My research goals

The research goals for me are divided along two axes: the first one relevant to the topic of this scholarship, which is the history of science and scientific instruments as artifacts. The second one belongs to the ongoing research related to the final phase of my dissertation, which is entitled "**Islamic Chinese Art and Islamic influences on Japanese and Korean Art**". So I studied many books from the central SKD art library and the MPS reference library which targeted both axes.



(Figs 16, 17, 18) Some references that I checked in Dresden.

5- Translation works for SKD objects

One of the most things useful I did in Dresden was helping my colleagues there in several SKD museums to understand and translate many Islamic art objects which are decorated with Arabic and Persian inscriptions and which were made of different materials from different periods within Islamic history.

A – Planned special exhibition of Indian miniatures

I helped my colleagues Dr. Kuhlmann-Bodick, Ms. Neha and Mr. Olaf Simon on a special exhibition project on Indian miniatures. I was able to translate a number of paintings which included Arabic and Persian text into English, and we had many discussions and several meetings around this project in order to exchange our experience. In fact, it was so lovely: I greatly appreciate that and I am now look forward to working together in the near future to discover more secrets of Indian Mughal paintings.



(Figs 19, 20) Discussion with Dr. Petra around her Project.



(Figs 21, 22) Example of my translation works in Indian paintings.

Translation for this text

۱- به چه آمده ای وز کجا ... آمدی موسی علیه السلام گفت من به جستن تو آمده-ام

1-When Moses (peace be upon him) returned he said, I have come to you to learn.

۲- خضر گفت اگر ... موسی گفت ترا سلام کنم و ... بیاموزم

2-Khadr said greeting and peace for you, and I will teach you.

۳- خضر گفت ای موسی نوربست به تو آمده و خدای تعالی با تو سخن گفت

3- Khadr said that "O! Moses, you are Prophet, the light of revelation come for you, and Allah speak with you.

۴- از من چه آموزی گفت فی

4- What do you want to learn from me?

۵- حضرت خضر گفت ان فداک ... نسیانها العین

5- The holy man Khadr said "bless you, what did you forget?"

۶- گفت ... نان نیافت ماهی نیافت ... یوشع گفت

6- Said ... I forget the bread and fish ... As Yoshua said.

۷- خضر تبسم کرد وگفت قل احیایا الله

7- Khadr smiled and said, "Say Allah restored its life". (Gave the life for it again).

۸- تعافی العین ... موسی تعجب کرد ما سیان بید

8- As you can see, Moses was surprised when he saw that.

۹- ماهیان پیدا شدند و گفتند ما را خدای تعالی زنده گردانید

9- Almighty Allah created the fish and gave us the food.

۱۰- اکنون ما را بخور که روا داریم پس هر دو ماهی پیرون آمدند

10- Anyway, fish from and to the water.

B- “Green Vault” museum

This renowned treasury-art museum includes some Islamic objects from Syria and India. I helped my colleagues there to translate Arabic inscriptions on a Mamluk Syrian goblet, made of glass and decorated with enamel.



(Figs 23, 24) Example for my translation works in Mamluk glass.

عز لمولانا السلطان الملك العالم العادل المجاهد المرابط المثاغر المقر المظفر

IZZ LMAWLANA AL-SULTAN AL-MALAK AL-AALAM AL-ADEL AL –MUGAHED
AL-MURABET AL- MOTHAGER AL-MAQAR AL- MUZAFFAR

Glory for Our Leader: the Sultan, the King, the Wise, the Equitable, the
Warrior, the cleats. **"It means one of the heroes of Islam"**

al-Mothager **"It means the person who remains on the border to
defend the homeland"** The headquarters The winner.

c- Porcelain Collection

It was amazing to see the objects in this world-renowned display, and also I visited the storage area to check many objects relevant to my PhD. topic.

On the other hand, I helped my colleagues in this department to translate some ceramic objects decorated with Arabic and Persian inscriptions.

The higher Arabic inscriptions refers to The first *Surat* in the Holy Quran, which is be *Surat Al-Fatihah* (The Opening). :

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ (١)

1. In the of Allah, the Most Beneficent, the Most Merciful.

الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ (٢)

2. All the praises and thanks be to Allah, the Lord of the 'Alamin (mankind, jinns and all that exists).

الرَّحْمَنِ الرَّحِيمِ (٣)

3. The Most Beneficent, the Most Merciful.

مَالِكِ يَوْمِ الدِّينِ (٤)

4. The Only Owner (and the Only Ruling Judge) of the Day of Recompense (i.e. the Day of Resurrection)

إِيَّاكَ نَعْبُدُ وَإِيَّاكَ نَسْتَعِينُ (٥)

5. You (Alone) we worship, and You (Alone) we ask for help (for each and everything).

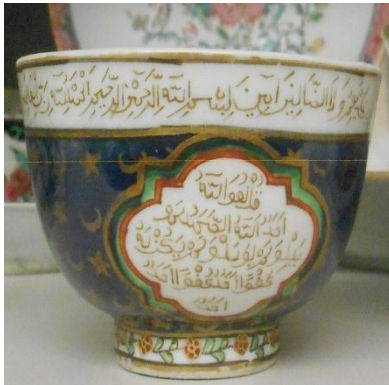
اهْدِنَا الصِّرَاطَ الْمُسْتَقِيمَ (٦)

6. Guide us to the Straight Way

صِرَاطَ الَّذِينَ أَنْعَمْتَ عَلَيْهِمْ غَيْرِ الْمَغْضُوبِ عَلَيْهِمْ وَلَا الضَّالِّينَ (٧)

7. The Way of those on whom You have bestowed Your Grace, not (the way) of those who earned Anger, nor of those who went astray.

أمين ... (Amen)



In the central medallion, *Surat al-Eghlas* "The sincerity" or "Faith", *Surat No: 112* in the Holy Quran:

قل هو الله احد (١)

1-Say (O Muhammad (Peace be upon him)): "He is Allâh, (the) One"

الله الصمد (٢)

2-Allâh-us-Samad (The Self-Sufficient Master), Whom all creatures need, He neither eats nor drinks

لم يلد ولم يولد (٣)

3-He begets not, nor was He begotten

ولم يكن له كفوا احد (٤)

4-And there is none co-equal or comparable unto Him

Text in Persian

"ساقی کوثر جهان این خوان گرم پیرو ورق روز می موشن توشی این عمق
ثیف پرکن ولت مشق حانوت بخانه کوثر"

Translate in Arabic

"يشرب صاحب هذا الخوان من جنة الدنيا هو واتباعه، موشى بزخارف الأوراق والطيور، ويدخله تحل البركة محل الخبائث، يضعه بمنزله
ومتجره"

Translate in English

The owner of this bowl and his family took blessing in them life. It is bearing leaves and birds decoration, and inside this bowl the blessing replace the bad things. It was used at his home and in his shop alike.



(Figs 25,26) Example for my translation works in the Porcelain Collection.

6- Suggestion for registration & documentation of the Islamic objects within the SKD

The Suggestion

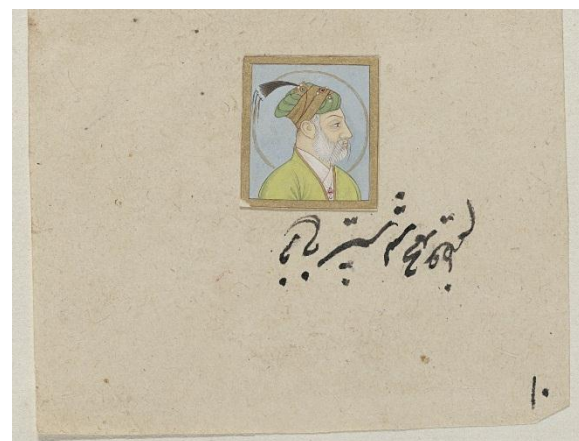
I propose developing a special database collection in the SKD museums. In fact, I found many Islamic objects in the holdings of the SKD lacking all information; others had some mistakes in their description; in addition there were many objects having Arabic and Persian inscriptions without translations. So, I am sure that the Islamic art works in the SKD museums need more research to reveal their secrets. Altogether, the SKD holds a wonderful collection of Islamic objects made of diverse materials from different ages within Islamic history – but at the moment these are not perceived together, as they are scattered across several museums.

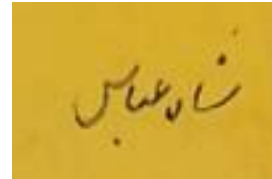
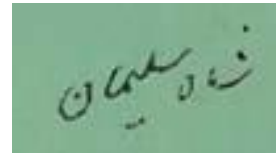
The concept and goals

My project proposal is entitled “Discover Islamic Art in the Museums of the SKD”, which is targeted at these aims:

- 1- Register & document of all objects of Islamic art in the SKD.
- 2- Correct old mistakes in SKD database and catalogs.
- 3- Translate all Arabic and Persian inscriptions on the decoration of the SKD’s Islamic objects.

- 4- Compile and publish scientific catalogs in Arabic and in English, focus on and masterpieces and rare objects of Islamic art at SKD with Islamic collections in the world.
- 5- Publish these collections on line for researchers and general visitors alike. They should be searchable in different categories. At present, nearly all researchers in Islamic art worldwide cannot access the SKD's holdings in this area.
- 6- Open up new ways for marketing and international cooperation with different institutions and museums that are interested in Islamic art.
- 7- Target new categories of audience such as Arabic speakers, Muslim citizens in Germany, students from abroad, Syrian refugees, Muslim people from the Far East and Africa, and the researchers in Islamic art worldwide.
- 8- Spread awareness about Islamic art and civilization.
- 9- Build up strong relationships with local Islamic communities in Dresden.







(Figs 27- 38) Example for Islamic objects in **Pillnitz Museum of Applied, MPS Salon, and other SKD Museums**, made of different material, decorated with Arabic and Persian inscriptions, some of them without any information. So, it will be useful if we rediscover Islamic art in SKD.

The operational plan

We can manage this project in one year. However, maybe we need more time if we hope that publish all data online.

The first stage: "3 months"

-Survey & Collecting data of Islamic objects in SKD museums like objects photos, dimensions, condition reports, and preparing it to start the project.

The second stage: "3 months"

-classification the data as recording the materials, and complete shortage information for these objects.

The third stage: "6 months"

-Making the catalog and preparing full database for Islamic collections in SKD.

These are three stages for this project, it will still one year. On the other hand, we can add more one year to prepare specific website and marketing this collection and spread that for the world.

Finally, it is clear that, if we discover the Islamic art in SKD collection, it will be useful to Islamic collection management there and open new windows for cooperation. In addition to, prepare new topics for temporary exhibitions relevant to Islamic art from Islamic collections in SKD.



الشدة أودت بالمهج يا رب عجل بالفرج

*Die alte Not will unsre Herzen quälen, O Herr, drum schaff den schnellen
Ausweg her!*

Adversity abolished the hearts, O Lord, hasten relief!²



والأنفس أضحت في حرج وبيدك تفريج الحرج

In bitterer Bedrängnis sind die Seelen. Nur du allein weißt, wo der Ausweg
wär'.

The souls awoke in affliction, And relief of the affliction is in your hands

(Figs 39, 40) Example for Arabic inscriptions on Ottoman ceiling of Damascus Room.

²Thanks a lot for Dr. Anke Scharrahs, head of restoration project of "Damascus Room in Dresden", for supporting me to get this data.

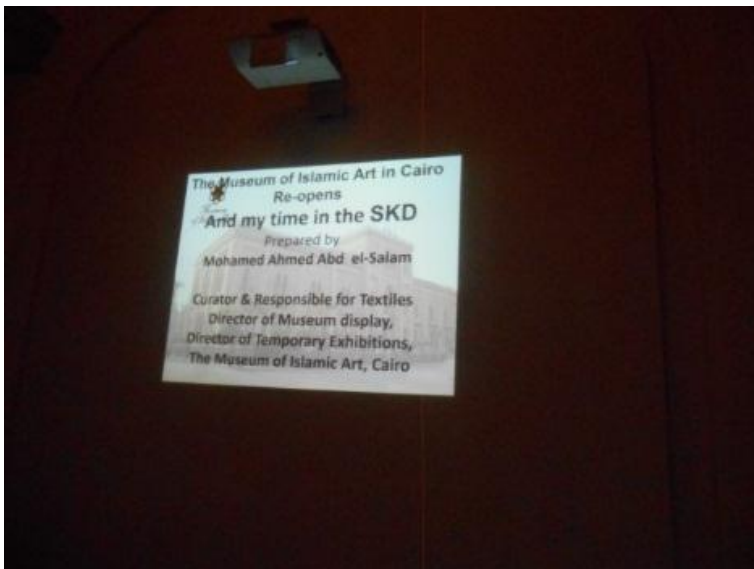
7- My final lecture

I gave talk in the last week for me in SKD, inside MPS galleries for my colleagues there.

This presentation was entitled "**The Museum of Islamic Art in Cairo Re-opens & My time in the SKD**". I did focus in these points:
1-Islamic Art Museum reopens. History of the museum – collections – activities- The damage on 24 Jun 2014, what has happened? How to fix it? Examples of galleries and objects before and after restoration- the Future Plans.

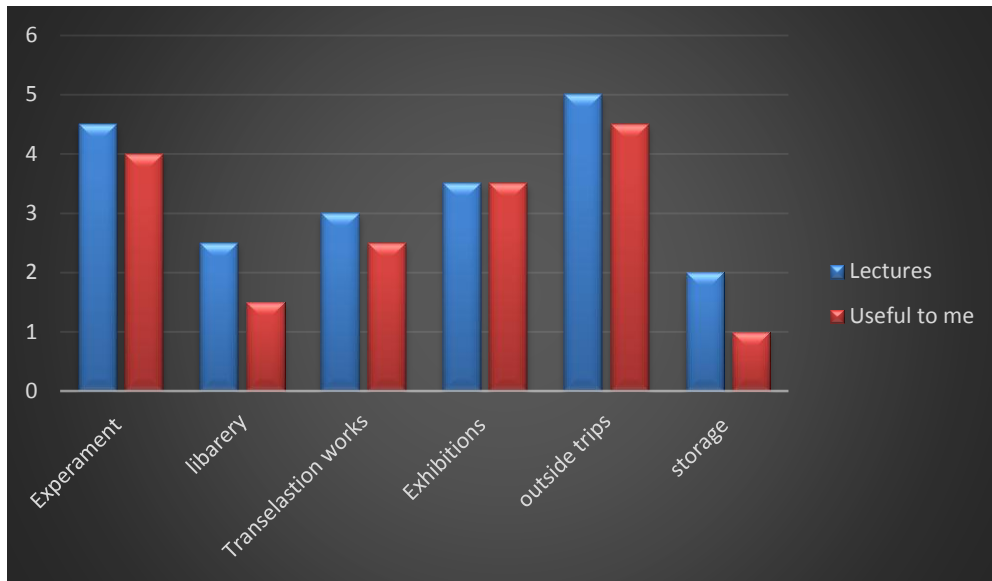
2-SKD Scholarship.

Reasons, Goals, achievements, and what next? It was so useful and great discussions with my friends.





(Figs 41- 46) Photos for my final lecture in Dresden: explain who the people are
(Anke, Wolfram Dolz, me)



(Fig 47) It is clear the important lectures in the training according to which more useful for me.

Impressve

Friendly

A new
experiment

(Fig 48) If I want to describe this training in Dresden in three words, I will say that.

8- Trips to other museums outside Dresden

An excursion to leading museums in three other German cities was one of the most beneficial portions for me of my SKD scholarship, during the last week of which, Dr. Michael Korey managed to arrange and fund an intense three-day trip enabling me to visit selected museums in Berlin, Cologne, and Kassel.

It was a very creative idea to be able to see and compare different ways of museum display in Germany. I visited many places on this successful trip:

Dresden – Berlin (November 7, 2016)

I met Dr. John-Paul Sumner and his colleagues at the Museum of Islamic Art (SMB) in Berlin, and they prepared a private viewing for me to see the Islamic galleries.

We also discussed a project for developing the story line of display there, It was very useful to share some ideas together, and I saw how furniture was being prepared for display at the museum. In addition, it was a good chance for me to take many photos and to have a first look at all the Islamic art objects inside the gallery within a limited time.

Beyond this, I visited the adjacent ancient Egyptian Museum (SMB), which includes many objects reflecting the great Egyptian civilization.



(Figs 49, 50) Inside Islamic Museum in Berlin.

Berlin – Köln (Cologne)

After that, I travelled to Cologne, which one of the nicest cities that I visited here. I viewed the "*Kölner Dom*", the biggest cathedral in Germany, as well as a temporary exhibition inside the Cathedral entitled "Christ sitting in a refugee boat". In my opinion, we need exhibitions like this in our institutions that relate to current world issues, as these also build up strong relationships among the museums and audience.

Within my one-day stay in Cologne (November 8), I visited six museums in Cologne, which offer a variety of messages types of display, as regards the material, the time period covered, or specific topics from Cologne society.

The main destination for me in Cologne was the East Asian Art Museum. It is a place of fundamental importance and proved to be particularly useful for my PhD research. While there, I compiled much data on objects that I needed to complete my studies.

Finally, in Cologne I also met up with **Carine Juvin**, a curator at the Islamic Department in the Louvre. She was in Bonn and came to meet me in Cologne. We discussed together several topics around our research projects and the cooperation between my museum, the Museum of Islamic Art in Cairo, and the Islamic Department in the Louvre.



(Figs 51, 52) "*Köln Dom*", the temporary exhibition inside the Cathedral.

Köln – Kassel

On the final day of my trip (November 9), I visited the *Astronomisch-Physikalisches Kabinett* in Kassel, where I was guided by our colleague Bjoern Schirmeier.

It was lovely visiting the museum with him, and the museum there includes many instruments related to those of the *Mathematisch-Physikalischer Salon* that are shown in six galleries. By the way, the most attractive thing there for me was the realistic story of display. By this I mean the contact between the objects and their usage in the past, as I think it is very useful for the visitors to understand the function for each instrument. In Kassel I saw many new ways of display for scientific instruments, and I aim to apply some of them when I come back to Egypt.



(Fig 53) Inside *the Astronomisch-Physikalisches Kabinett*, with Mr. Bjoern Schirmeier

Kassel – Dresden

At the end of my three-day trip, I returned to Dresden, satisfied and hugely stimulated from my new experiences, and ready to begin my last days in the MPS.

Finally, I do not know what I can say to thank Dr. Michael, who managed everything and chose these perfect places where I visited to earn a great experience relevant to my research, to my professional position, and to my personal goals alike. This research trip was for me a very important part of the scholarship in the SKD, as I explained above.

I also thank him for his help and many suggestions in editing this text.



(Figs 54, 55) The last day in Dresden

Leaving Dresden is not the end of this scholarship, and I hope that all of you will stay in touch.

That is all, thanks a lot to all of you!

Best wishes,

Mohamed Ahmed Mohamed Mohamed