



## Maritime Networks and Urbanism in the Early Medieval World

11-12 April 2013 at the Viking Ship Museum, Roskilde, Denmark

Organised jointly by the research project ENTREPOT (Aarhus University, Denmark / University of York, UK) and the Viking Ship Museum, Roskilde, Denmark

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The conference is being held in relation to the research project “ENTREPOT: Maritime Network Urbanism in Global Medieval Archaeology”, organised in collaboration between Aarhus University, Denmark, and University of York, UK, funded 2012-2014 by a *Sapere Aude* grant from the Danish Council for Independent Research. The ENTREPOT project explores the expansion of maritime communication and network urbanism in the period c. 500-1200 AD through comparative studies into material flows.

The first day of the conference is intended to review the concept of *network urbanism* (cf. Hohenberg & Lees 1996, *The Making of Urban Europe*): Can this be taken to denote a global pattern in the early Middle Ages, which allows for comparisons to be made between developments in various regions during this period? Is this a pattern that is peculiar to the period, and a significant element in an archaeological and historical characterisation of the period? Contributors are invited to discuss patterns and concepts of urbanism, and the archaeological exploration of material flows within urban networks. The programme is set to explore visions and agendas for further comparative archaeological research into this theme, and to test the ground for future research collaborations.

The second day of the conference, focussed on *maritime networks*, continues the discussion with particular attention to aspects raised in relation to a special exhibition on “The World in the Viking Age”, prepared by the Viking Ship Museum in collaboration with the ENTREPOT project, which will take place in Roskilde 2014-15. The exhibition is intended to compare, contrast and connect the development of seafaring and maritime exchange across the early medieval world through new archaeological finds from ships, ports and markets from Northern Europe and the Mediterranean to the Persian Gulf, Indian Ocean and China. This day’s programme aims to identify key aspects of maritime exchange in global medieval archaeology and to discuss its relevance for the 21<sup>st</sup> century world. How did maritime culture and technology transform society in terms of cultural exchange, economic development, networks and cities? Why were contemporary maritime exchange networks crucial in very different parts of the world?

# Abstracts

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## Thursday 11 April: Network Urbanism

**Søren M. Sindbæk, Aarhus University:**

*Early medieval maritime networks and urbanism: global interdependence or parallel patterns?*

Across many regions of Eurasia and Africa maritime networks expand during the early medieval period. This expansion is complemented by developments of coastal centres, which often mark new departures in their regional histories, yet display convergent and noticeably similar features between distant places. The outline of these developments has been known – if not always fully recognised – to scholarship for generations, yet archaeological detail has augmented significantly in recent years; and thus has the potential for direct comparison. This presentation shall ask if trans-cultural homologues in early medieval maritime networks and urbanism arose from direct global interdependence or as parallel patterns in response to broadly similar world conjunctures. It will seek to assess what now forms the core agendas for enquiry, and what forms of archaeological research is needed to provide answers.

**Chapurukha M. Kusimba, The Field Museum of Natural History:**

*Maritime exchange networks and urban-centered states in ancient East Africa*

Maritime trade played an important role in the development of cultures throughout ancient times. Trade linked diverse peoples and communities in a network of interactions that had a huge impact on advancement of the daily life. Archaeologists and historians have documented evidence of biological, cultural, linguistic, commercial, and technical communication between cultures that are traceable far beyond the Holocene. Today, most of the world is integrated in a global economic system, in which as Adam Smith (1776) stated, the markets set most of the prices and determine the flow of trade and division of labor, but governments play a role closer to the one envisioned by John Maynard Keynes, intervening to try and regulate the business cycle and reduce income inequality. On-going research in East Africa has irreversibly revised early models that proposed migration as the primary catalyst for regional cultural transformations. It now appears that adoption of agriculture, market-based exchange, and urban centered state structures were the main catalyst for building communal and personal wealth. A steady transformation of the villages and hamlets into small towns, cities, and ultimately to city-states that hosted large and diverse citizenry is evident over much of Eastern and Southern Africa. For trade to prosper, relational and sociopolitical stability was crucial. Could bonds, pacts, treaties, and alliances (including opportunistic intermarriages) that bound the cities to their hinterlands and merchants across the sea serve as the kernel upon which global connections, contributions, and complexity arose? My paper will model how trading and trading communities arise and how they may be operationalized archaeologically.

**Sauro Gelichi, Università Ca' Foscari Venezia:**

*A new urban network in the Adriatic Sea during the Early Middle Ages (8th-9th c. A. D.)*

During the High Middle Ages, the entire northern Adriatic area seems to have witnessed very different historical processes to those evident in the rest of the Italian peninsula. These are manifest in the foundation of entirely new urban-type settlements, especially along the coast (in the lagoons or on the estuaries of large rivers). There are certain components that are common to these settlements: they do not seem to have been founded by a central power, and were only related to an

institutional power when they later became episcopal sees; they stand out through their role in economy and trade; their material culture is very similar to each other; and finally, they developed a system of mutual competition.

These settlements were part of an economic system still operating during the 8th and 9th centuries. Yet, many questions still remain: did this system operate on a regional, inter-regional or international scale? In what ways did this system integrate the Adriatic and the Mediterranean with the Po plains, first, and later with the Carolingian Empire? What were the goods that circulated in this system? Were these settlements cities? And how did they compare to the other cities of the ancient world?

This presentation will focus attention on this phenomenon, and attempt to answer these questions through consideration of the archaeological data and the first qualitative description of these new places.

**Dries Tys, Vrije Universiteit Brussel:**

*Urban maritime networks in continental Western Europe in the Merovingian and Carolingian Periods: debates, problems and solutions?*

The rise of the well-known continental medieval towns in the southern North Sea World, like Bruges and Ghent, has since long been one of the key issues in social and economic medieval history. Research has focused on the problem of continuity of Roman centres, the interpretation of trade as a gift-exchange phenomenon and the importance of the *emporium*. The question remains in which disguises the urban phenomenon presents itself in continental Western Europe in the Merovingian and Carolingian Period.

Recent research as well as new excavations has shown an increasing complexity of the phenomenon of urban centres in continental Western Europe in the 2<sup>nd</sup> half of the first millennium AD. More and more, it is becoming clear that early medieval urbanism comprises a wide range of phenomena that have to be understood in their own context and setting. Question indeed is how to understand what is particular versus what is common in the problem of the development of the urban phenomenon.

The discussion of convergent and divergent patterns in urban fabric, environmental setting, social context and maritime connectivity of early towns like Quentovic, Dorestad, Antwerp, Domburg, Bruges and others seems to be of importance in this debate.

**P.J. Cherian, Kerala Council for Historical Research (KCHR):**

*Indian Ocean maritime network and urbanism: the archaeological evidence from Pattanam, India*

Pattanam, a port site on the south-western coast of peninsular India, excavated since 2007, has produced a plethora of artifacts belonging to the Mediterranean, Red Sea and the Indian Ocean littoral exposing one of the most extensive transoceanic, regional and hinterland network in antiquity.

Propelled by trade and technology, the early historic and early medieval peninsular India witnessed the rise of complex societies, new forms of state, urbanism, regional integration (Tamilakam) and heterogeneous cultures. The multiple facets of exchanges at Pattanam were conducive for creativity, acculturation and multiculturalism. Research on the continuities and changes on the patterns of early Indian Ocean maritime network might help in tracing the roots and divergences of contemporary globalization and urban processes.

Pattanam seems to be an integral part of the early historic entrepot Muziris, extolled as the 'first emporium of India'. Fields of incommensurability and co-existence between different logics and levels of trade exchanges from Iron Age to the modern period are evident in the range of material objects excavated at Pattanam. The urban, maritime and industrial features of the site demand a

closer look. The Pattanam archaeological record when correlated with the contemporary sites like Khor Rori (Oman), Qana (Yemen), Berenike (Egypt), Myos Hormos (Egypt) and Arikamedu (India) can pose critical questions on the patterns of urbanism and maritime networks as well as on our hitherto archaeological perspectives on cultural crossings.

**Stephanie Wynne-Jones, University of York and Jason Hawkes, Aarhus University:**

*India in Africa: trade goods and connections of the late first millennium*

Links between the countries of the Indian Ocean rim during the late first millennium are hinted at through archaeological objects—specifically, by ‘foreign’ objects that appear in different contexts. Indian Red Polished Ware, recognised at a number of East African coastal sites is a good example of this. The presence of these ceramics is usually identified and understood, somewhat simplistically, as evidence for trade, the nature of which remains unfixed and ill-defined. They have not been interrogated for the evidence that they might yield on the types of connections between these two regions.

In this paper, we review these finds, and draw out the larger implications of their appearance on the Swahili coast. Comparison of this material in Africa and India leads us to question the chronology assigned to it within India. On the basis of histories, it becomes apparent that these ceramics might be a poor representation of the scale of interaction. Through discussing issues of recognition and representation, we suggest that they are instead indicators of much larger cultural networks of exchange. Clues to which are provided by exploring the shared material practices that might have led to their import.

**Paul Lane, University of York and Ashley Coutu, Aarhus University:**

*Ivory working and flows of raw materials – artefactual and isotopic studies of ivory artefacts from the Atlantic to the Red Sea*

During the early medieval period, ivory was a key commodity flowing through different entrepôts across the globe. What is particularly interesting about this period is that ivory was only available from certain regions of the world and from certain species - namely elephants in sub-Saharan Africa and India, and walrus from the north Atlantic. Different social, economic, political, and technological factors influenced the degree of availability of these different ivories, the scale of extraction, their use for different kinds of objects, the way the ivory was worked and the overall popularity of the different types. Identifying the species from which the ivory used for a specific artefact was made, and determining its geographical origin can therefore help towards understanding the changing patterns of connectivity in different exchange networks.

This paper discusses the initial results of a 6-month project aimed at identifying and sourcing ivory artefacts from both the North Atlantic and Red Sea regions using a variety of biomolecular methods. This will include the preliminary results of isotope analysis of walrus ivory from sites in Greenland and Scandinavia as well as a combined isotope, DNA, and ZooMS (Zooarchaeology by Mass Spectrometry) analysis for identifying and sourcing ivory artefacts found at the early Islamic entrepôt of Aylah, Jordan. The implications of the results will be discussed in a wider context of what they may be able to reveal about trade patterns within two diverse areas of the world, linked by a growing access to ivory as a raw material due to increasingly global maritime networks of the early medieval period.

**Unn Pedersen, Oslo University:**

*Copper alloy working – technological innovations, learning and adoption*

Early medieval copper alloy working is marked by innovations in technologies and materials, among other things the wide-spread adoption of brass, an imported material in most regions. These innovations are focussed on urban sites, which are testified as major production centres.

Combining the study of workshop debris and finished products from non-ferrous metalworking, and supported by metallographic analysis, the project aims to identify the archaeological 'fingerprints' of individual technologies and codes of practice (e.g. types of moulds, models or crucibles, use of alloys or mixers), to trace how these were adopted by groups of artisans, and how these patterns identify the cultural knowledge, learning processes and flows of communication between early urban communities.

The work builds on studies into metalworking in Kaupang, Norway, and seeks to establish a comparative context for the patterns identified in this Viking town. A particular focus for the work within the present project is on the rich workshops assemblages from Ribe, Denmark, thanks to the generous cooperation of Sydvestjyske Museer.

**Steve Ashby, University of York and Ashley Coutu, Aarhus University:**

*Connecting early medieval trade patterns with a combined artefactual and biomolecular approach to the study of antler combs*

Northern Europe's three large cervid species – red deer (*Cervus elaphus*), reindeer (*Rangifer tarandus*), and elk (*Alces alces*) – all produce a product that was invaluable in pre-modern craft and industry: antler. In the early medieval period, this raw material gained a particular currency, as it found a role in the production of a range of valued items including (though not limited to) hair combs. As a result, it began to be exploited on a previously unprecedented scale.

The presentation will provide a short introduction to a recently developed bioarchaeological technique: ZooMS (Zooarchaeology by Mass Spectrometry), which is being utilised in this context to identify the species of deer used for the production of hair combs found at Viking-age sites across Denmark. The results from the analysis of both finished combs and antler workshop debris from sites at Aggersborg, Ribe, and Aarhus will be explored in relation to the importance of finding both local (red deer) and non-local (reindeer) material. Revealing the possible sources of this raw material along with further contextual information regarding the typology, date, and context in which these combs were found allows for a broader understanding of long-distance trade patterns and flows of raw material in southern Scandinavia.

**Mateusz Bogucki, The Institute of Archaeology and Ethnology PAN, Warsaw:**

*Viking Age maritime network, urbanism and monetization in the Baltic Sea area*

The three phenomena mentioned in the title are strongly associated, in the case of Viking period in the Baltic region, basically inseparable. Development of the emporia in the region is closely associated with the development of trade routes that used the North Sea, the Danish straits, the Baltic Sea, Gulf of Finland and the great rivers of Eastern Europe as a natural communication routes. The development of emporia which supported (and in large part created) the local markets, was the impetus for the introduction of the use of universally accepted means of exchange. Over large areas of Northern, Central and Eastern Europe it was the metal money - in the form of coins, more often in the form of ornaments, their fragments, or even cast silver. This system was not uniform. In addition to silver also furs, amber, iron, glass, and other items were used as money. They coexisted and

served diverse functions depending on time and place. Money in the form of coin quickly gained recognition in the major centers of power and large emporia. Monetization of the larger part of the Baltic States should, however, be associated with the formation of stable royal power, which in the majority of cases occurred only in the 11th century.

**Sarah Croix, Aarhus University:**

*Urban life-style in Northern Europe in the early Middle Ages – the case of Ribe*

The early decades of the 8<sup>th</sup> century witnessed the emergence of the first conspicuous urban settlement in Scandinavia, attested archaeologically by the stratified occupation layers of the market place in Ribe (Denmark). In this paper, I will discuss how aspects of an urban style were adopted and adapted by the community in Ribe by examining the functional use of space and the successive workshop phases of one of the plots of the market place. The analysis of the evidence retrieved from single contexts, namely assemblages of artefacts and ecofacts, floor layers and functional features, informs about how a primarily craft-oriented occupation combined specialized activities with domestic life and how practical solutions were found for hosting these various functions. These elements will be discussed in the light of the evidence from Kaupang (Norway), leading to more general considerations about the nature and development of Scandinavian urban sites at their creation in the early Viking Age.

## Friday 12 April: Maritime Networks

**Jeremy Green, Western Australian Museum:**

*Maritime trade, ports and urbanisation between Southeast Asia and the Indian Ocean*

Since ancient times the Indian Ocean has been a major communication pathway between the East and the West. Unlike the Silk Road, travel by sea was fast and efficient and vessels carried enormous cargos from the east to the west. It is known that by the first millennium BC spices and incense were being brought to the west by sea. There are also records of Chinese Buddhist pilgrims visiting India between 380 and 780 AD. So the Indian Ocean, before the arrival of the Portuguese in 1497, was dominantly a trade between Europe, via the Red Sea and the Persian Gulf, India, Southeast Asia and China. The arrival of the Europeans in the 16th century disrupted the trade from the East through the Mediterranean and created the great trading companies of the Dutch, English and Portuguese.

This presentation will outline the archaeological findings that reflect this trade. Surprisingly, the Indian Ocean has, to date, has only produced a small number of wreck sites compared with the Mediterranean, where the coastline is littered with Classical Greek, Roman and Byzantine shipwrecks. However, much can be learned from what does exist, showing active trade networks across the Indian Ocean.

**Ufuk Kocabaş, Istanbul University:**

*Byzantine-era fleet surfaces again in Istanbul*

Thirty-six shipwrecks dated to the 5th-10th centuries AD, have recently been discovered in the Theodosian (Byzantine) Harbour of Constantinople, in the district of Yenikapı, Istanbul. They were

found as part of a programme of rescue excavation carried out by the Istanbul Archaeological Museums that started in 2004. Considered the largest collection of medieval shipwrecks in the world, they were preserved thanks to the sedimentation of the harbour caused by the flow of the Lykos stream.

Following their initial discovery, the Yenikapı shipwrecks have continued to be excavated by the Department of Conservation of Marine Archaeological Objects, Istanbul University. Directed by the Department President, Professor Ufuk Kocabaş, a team comprised of Department assistants, full time specialists and graduate students have spent over seven years painstakingly documenting and recovering the remains of these shipwrecks.

This presentation will review the work of the project so far, and demonstrate the wide range of invaluable information that the Yenikapı wrecks provide regarding Byzantine ship typologies, and the evolution of ship-building technologies—evidence that has caused them to be heralded as one of the most important archaeological discoveries of recent times.

**Dionisius Agius, University of Exeter:**

*Sea stories and Arabian-Persian-Indian sealore of third/ninth century: Buzurg Ibn Shahriyār and the Indian Ocean*

The *ʿAjāʾib al-Hind* (The Marvels of India) is a collection of sea stories compiled by the sea captain, Buzurg Ibn Shahriyār (d. 399/1009). They contain details of life at sea, especially its dangers, shipwrecks, long-distance sea trade, strange creatures, magic, superstition and belief. In addition to their literary value, for the modern researcher they are a source of information about types of water craft, nautical skills, star navigation, and knowledge of winds and currents. Some of the stories make reference to Siraf and its people at a time when Siraf was at the height of its success in the third/ninth century: it was an emporium of the Persian Gulf attracting merchants from diverse regions in the Indian Ocean where they found a thriving market with rich financial rewards. Siraf was home to the most knowledgeable and experienced captains of the Persian Gulf who sailed on their sewn ships as far as the seas of China at a time when the Chinese had in their turn reached Siraf in their junks.

Contemporaneous with Buzurg's *ʿAjāʾib al-Hind* are two maritime works, the *Akhbār al-Šīn wa l-Hind* (Chronicles of China and India) and *Silsilat al-Tawārīkh* (A Chain of Narratives) which provide useful information about the physical and human geography of the Indian Ocean: The first was probably composed by Sulaymān al-Tājir (the merchant) in the second/eighth century while the second was written by Abū Zayd al-Ḥasan from Siraf at a later period. Sulaymān was an eyewitness who probably sailed as far as China, and Abū Zayd, probably also a merchant and captain, seems to have been familiar with early navigational treatises written in Persian and Sanskrit. Buzurg Ibn Shahriyār was an experienced sea captain and a good story-teller, but whereas both Sulaiman's and Abū Zayd's works provide purely factual information on sea routes and the availability of water and trade, Buzurg's significant contribution lies in the data which can be extrapolated from his stories concerning the lives of the people of different cultural, religious and ethnic maritime communities.

Buzurg's *ʿAjāʾib al-Hind* is a collection of disparate stories with no particular structure or theme connecting them, probably reflecting the fact that they were originally meant to be listened to and not read. Why then did he write these oral narratives down and who were they intended for? What basis of truth do they contain and are there any indicators that they are contemporary to Buzurg's time? An attempt is made in this paper to answer these questions and others in the light of third-fourth/ninth-tenth century works and other works of history and geography.

**Işıl Özsait Kocabaş, Istanbul University:**

*A ninth century trading vessel from the Theodosian Harbour: Yenikapı 12*

The timbers of the sunken vessels in the Theodosian Harbour carry hints on the evolution of ship construction technology over a period of four hundred years. The Yenikapı 12 shipwreck exemplifies this gradual change.

The evaluation of the shipwreck has concluded that Yenikapı 12 was a small sailing vessel, and can be dated to the ninth century. The hull, with a smooth bottom and a curvature, was specifically designed to hold the maximum amount of cargo. Her anatomy, with a wide fore-ship and a smooth bottom, increased her capability for navigation in roust, and for sailing in shallow harbours and bays. There was a private quarter closer to the stern, two quarter rudders and a mast close to the middle. It had a half-deck both on the prow and aft while the hold in the centre was open to the sky.

The Yenikapı 12 vessel, which embodies many of the characteristic features of traditional ship design, proves that shell-based technology remained through the ninth century. On the other hand, certain alterations to the design of the vessel made by her shipwright reflect a transitional stage to modern construction practices.

**Tom Vosmer, Government of Oman:**

*Medieval Indian Ocean seafaring: from the Belitung wreck to the Jewel of Muscat*

“As much as the East was plundered for profit, the return cargo was a strangely powerful complex of cultural forces, as heady as the perfumes, as fabulous as the imagined and real treasures, as reproductive as the libidinal fantasies of the exotic.”\*

In the medieval Indian Ocean, commerce and curiosity, source and supply, adventure and avarice were forces that drove the establishment of what was in that period the longest sea-trading route in the world, 6000 miles from the Middle East to China.

As Strabo observed, the sea is not empty, but a place of social and cultural engagement. The early 9<sup>th</sup>-century Belitung wreck, discovered thousands of miles from its western Indian Ocean home, delivered a glimpse into the kinds of ships that enabled that engagement, an engagement of technical, linguistic and economic dimensions as well as social and cultural. Its eclectic cargo clearly demonstrated the cultural amalgam of the time, linking far-flung artistic, cultural, religious and technical traditions.

Belitung’s 21<sup>st</sup>-century reincarnation the *Jewel of Muscat*, offered the chance to explore the techniques of 9<sup>th</sup>-century Indian Ocean shipbuilding, to experiment with life on board, and to record the performance of the vessel on its 4000-mile passage from Oman to Singapore.

This paper will describe the background and some of the discoveries associated with the Belitung wreck, as well as the problems and processes of medieval Indian Ocean shipbuilding highlighted by the reconstruction of the *Jewel of Muscat*, and the surprising performance of the vessel.

\*Ghosh, D. and Muecke, S. eds. 2007, *Cultures of Trade: Indian Ocean Exchanges*. Newcastle: Cambridge Scholars Publishing.

**Jun Kimura, Murdoch University:**

*Historical dynamics of Asian maritime activities*

The substantial growth and expansion of Asia in global economy in the 21<sup>st</sup> century describes the incoming of the Asian Century. This reorganization needs to be linked to the fact that there was the formation of extensive regional networks in the regions since early times, which certainly connect



with the strong presence of contemporary Asia. The successive development of the network has been propelled by social and ideological exchanges as well as political and economic activities. Periods of stable growth in China that occurred before the 10<sup>th</sup> century facilitated Buddhist pilgrims to cross the South China Sea with religious motivation and initiated merchants from the Indian Ocean to voyage to southern China during the Tang Dynasty. Chinese mercantilism began to appear during the 10<sup>th</sup> century, and in the following centuries, the voyage of Chinese traders became to be prominent in the East China Sea and South China Sea. Water transportation played a major role in the dynamics of material distribution and people's movement in Asia over centuries. The aim of this paper is to outline the historical network in Asia sustained by maritime activities with a focus on ships and seaborne commodities.

**Anton Englert, Viking Ship Museum:**

*Ohthere's voyages – traces of an early maritime network in the North*

At some time in the late 9<sup>th</sup> century, a Norwegian seafarer by the name of Ohthere told the West Saxon king, Alfred of his voyages along the coasts of Norway and Denmark. Ohthere's report made such an impression at the court of King Alfred that it was recorded and subsequently inserted into the Old English version of the late Roman world history by Paulus Orosius, accompanied by Wulfstan's account of a voyage across the Baltic Sea.

Apart from being the earliest known description of the North by a Scandinavian, Ohthere's travel account provides details of three sailing routes, an exploring voyage round the North Cape, the route from Hålogaland down the Norwegian coast to a place called *Sciringes heal* (Kaupang), and a third route describing a voyage from *Sciringes heal* to Hedeby. In their sum, these sailing routes cover the entire distance from the south coast of the Kola Peninsula around the North Cape, along the Atlantic Coast of Norway and through the Danish archipelago to Hedeby (Schleswig), totalling some 2,200 nautical miles. This paper examines the nautical details mentioned by Ohthere, drawing on records of comparable voyages made by historic as well as reconstructed vessels. In combination, the geographic and cultural information reported by Ohthere and the near-contemporary travellers Ansgar and Wulfstan provide traces of an early wind-powered network of maritime exchange along the Scandinavian and Baltic Sea coasts.

**Hauke Jöns and Sunhild Kleingärtner, Niedersächsisches Institut für Historische Küstenforschung:**

*Coastal sea trading sites and their harbours on the Southern Baltic shore*

Early medieval urbanisation of the Southern Baltic shore is a non-linear process, characterised by different kinds of settlement types and changing locations. The establishment of coastal sea trading sites based on maritime networks means one aspect in this process. Both political decisions as well as structural developments seem to be responsible for the formation as well as for the downfall of most of them within 100-150 years after their establishment. Although until now only from a few of these sites, remains of jetties or piers are known, undoubtedly it was the harbour that formed the fundament for the economic success, the prosperity and the social setting of these sites. A good example is the coastal sea-trading site of Groß Strömkendorf, located in the Wismar Bight. According to cross-cultural comparisons, it can be interpreted as colony whose harbour plays a major role for its existence. The harbour area of Groß Strömkendorf as well as the waterfront areas of the other sea trading sites located between the German island Fehmarn and the Vistula estuary in Poland are actually in the focus of a six years research project that is funded by the German Research Foundation. In close cooperation between archaeologists, historians, geologists and geophysicists it aims to identify the crucial environmental, social and economic causes for the rise and fall of the trading sites and their harbours.

**Sorna Khakzad, Katholieke Universiteit Leuven/East Carolina University:**

*The forgotten maritime history of Siraf*

According to the historical accounts, ancient Persia – modern Iran – had a significant maritime history with trade ports and sea routes linking the Persian Gulf and Oman Sea to the East and other parts of the world. One of the ports mentioned many times in the historical accounts is Siraf. Siraf is mentioned as a legendary city and the key port between the West and East in the Persian Gulf, destroyed and partly submerged by an earthquake in the 10<sup>th</sup> century, and its prosperous buildings and port were lost beneath water and sand. This paper will introduce a brief historical background on the port of Siraf during its flourishing period before the 10<sup>th</sup> century and its significance as a key port connecting Persia through the Silk Road to maritime routes. In addition there will be a short introduction on the present state of this historic port and the investigation that was undertaken in July 2012. This recent pilot project focused on the historic remains of the city, on land and under water, in order to investigate the evidence of its maritime significance in antiquity.

**Athena Trakadas, Viking Ship Museum:**

*Early medieval maritime networks in the Eastern Mediterranean*

The maritime exchange networks in the Eastern Mediterranean during the Classical and Hellenistic Greek hegemonies, Roman and Byzantine Empires followed very similar routes. Goods that were traded in major Eastern Mediterranean ports such as Alexandria and Constantinople arrived from local markets and subsidiary ports, but also from interregional trade networks that extended into the Western Mediterranean, Northern Europe, and the Indian Ocean world and beyond. In the centuries following Late Antiquity, these routes were affected by the changing political settlements of the Roman Empire's successors, creating discontinuity in some areas and allowing for continuity in others, while new networks, especially over extended distances, developed. The focus of this talk is to present a synthesis of the state of our knowledge of the extant archaeological and textual sources in order to describe the geo-politics, routes, and mechanisms of the maritime network in the Eastern Mediterranean in the early medieval period.



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