

Curriculum Vitae

Name:

Jørgen Albert Bojesen-Koefoed

Nationality:

Danish

Date of birth:

May 7th, 1960, Rønne, Bornholm

Status:

Married to Lisbeth Haahr Pedersen (teacher), no children

Home address:

Brommevej 12, DK-3760 Gudhjem

Education:

- Roskilde University Centre 1980-81
- University of Copenhagen 1981-1988 (M.Sc./Cand.scient., geology/sedimentology/organic petrology and geochemistry, 1988)
- Technical University of Denmark 1989-1992. (Ph.D./Lic.techn., marine geology/organic geochemistry 1993)

Employment record:

1981-88 Assistant, Geological Survey of Denmark (DGU)

1983-88 Secretary, Geological Society of Denmark (DGF)

1985 Field-assistant, Geological Survey of Greenland (GGU), North Greenland

1986 Field-assistant/wellsite geologist, Geological Survey of Greenland (GGU), Northeast Greenland

1987 Field-assistant, Geological Survey of Greenland (GGU), Northeast Greenland

1988 Scientific Assistant, Geological Survey of Denmark (DGU)

1989-1992 Ph.D project, Danish Research Academy and Geological Survey of Denmark (DGU)

1989 "On the Job Training", AGIP Spa. San Donato Milanese, Italy

1991-1992 "On the Job Training" Norsk Hydro F-Senter, Bergen, Norway

1992-96: Research scientist, Geological Survey of Denmark (DGU), presently Geological Survey of Denmark and Greenland (GEUS)

1996- : Senior Research Scientist, Geological Survey of Denmark and Greenland (GEUS)

Field experience:

Extensive field experience from Greenland (North, Northeast and West), Iceland, Faroe Islands, USA, Canada, Vietnam, Cambodia, Africa, Australia, UK, Germany, Greece and Denmark

Key Qualifications and assignments:

- 20+ years of professional experience, working primarily with petroleum geology, and with the application of organic geochemistry and petrology within petroleum exploration.
- Extensive experience with the use of biological marker techniques, in particular for oil-oil and oil-source correlation studies, and interpretation of source depositional environment.
- Extensive experience with both Palaeozoic and Mesozoic marine source rocks and Mesozoic–Cenozoic terrigenous source rocks and their derived oils.
- Experience with the use of organic geochemistry within the field of marine geology.
- Experience with the evaluation of license applications

- Responsible for or contributor to a very large number of studies carried out as consultancy service for the oil industry in Denmark, Greenland, Norway and elsewhere.
- Responsible for the design of, application for, and management of a number of research projects, including studies of Middle Jurassic Coals in the North Sea, Terrigenous Source Rocks, Cretaceous–Tertiary age source rocks in the Arctic and in the Cretaceous Western Interior Seaway of the USA and Canada, Petroleum geochemistry of oils and source rocks of the greater the Faroe Island region.
- Responsible for petroleum geochemical investigations in Greenland since 1996
- Overall project manager of GEUS Petroleum Geology related projects in Northeast Greenland 2007-
- Expedition leader, Northeast Greenland 2008, 2009, 2010, 2011

Miscellaneous:

- 1996-2002: Deputy shop-steward
- 2001-2004 : Employee-representative to the GEUS Board
- Official opponent at Dr.Scient. dissertations (2000, 2007, 2010), University of Bergen, and University of Oslo, Norway
- Supervisor of several B.Sc. and M.Sc. projects
- Ph.D.-supervisor, University of Aberdeen
- Member of "Scientific Committee", 22nd International meeting on Organic Geochemistry, Sevilla 2005
- Instructor of several courses for students, technicians and professionals within both industry and academia in Denmark, Vietnam, China, Uganda, and Brazil
- Involved in "institutional capacity building" (technology transfer and training) in Lithuania, Latvia, Vietnam and Uganda
- Instructor, continuing education course for high-school teachers
- 2007 Visiting professor, Universidade Federal do Rio Grande do Sul, Brazil
- 2011 Visiting professor, Universidade Federal do Rio Grande do Sul, Brazil

Continuing education courses:

1989: "Advanced Organic Geochemistry" (D. W. Waples, IHRDC)
 1989: Project management, Geological Survey of Denmark (DGU)
 1989: Stable isotope geochemistry (B. Buchardt, University of Copenhagen)
 1991: Multivariate statistical analysis using "Sirius", (Olav M. Kvalheim, Pattern Recognition Systems A/S & University of Bergen).
 1991: Professional writing (DGU/Arne Notkin (Weekendavisen))
 1994: "Seals & Shows", AMOCO Houston
 1996: Coal Source-Rock Field/Lecture Seminar (A. D. Cohen, University of South Carolina, USA)
 1998: Basic training for shop stewards (1 + 2), Dansk Magisterforening
 1998: Organisation development. Dansk Magisterforening and CASA
 1999: Personal Power (NLP), AC/Syntax Consult
 1999: Economy/accounting for non-economists, DME/CSU management
 1999: LFA (Logical Framework Analysis), Carl Bro a.s.
 1999: Oral presentation techniques, DME
 2000: Public Administration legislation, AC/Folketingets ombudsmand
 2000: Conflict management, DME
 2000: Leadership, development by dialogue, DM/DME/ psykologist Jógvan Pedersen
 2001: Project management, Fangel projektledelse a.s.
 2002: Conflicts of interests, DM
 2003: Multivariate statistics, K.H. Esbensen

Publications:

Author or coauthor of:

Oral and Poster conference presentations:	Approximately 80
Peer reviewed publications:	Approximately 55
Miscellaneous publications:	7
Industry service reports and other reports:	Approximately 80

Peer reviewed publications:

1. Marcussen, C., F. G. Christiansen, P.-H. Larsen, H. Olsen, S. Piasecki, L. Stemmerik, J. Bojesen-Koefoed, H. F. Jepsen & H. Nøhr Hansen, 1987, Studies of the onshore hydrocarbon potential in East Greenland 1986-87: field work from 72° to 74°N, Geological Survey of Greenland, report no. 135, pp. 72-80
2. Kanev, S. V., L. Margulis, J. A. Bojesen-Koefoed, W. A. Weil, H. Merta & O. Zdanaviciute, 1994. Oils and hydrocarbon source rocks of the Baltic Syncline, Oil and Gas Journal, vol. 92, no. 28, pp. 69-72
3. Bojesen-Koefoed, J. A., F. G. Christiansen, H. P. Nytoft & H. I. Petersen, 1995. Resinite-rich coals of Northeast Greenland - geochemistry of an unusual petroleum source rock. In: Grimalt, J. O. & Dorronsoro, C. (eds.) Organic Geochemistry: developments and applications to energy, climate, environment and human history - Selected papers from the 17th International Meeting on Organic Geochemistry 4-8th September 1995, Donastia - San Sebastian, pp. 195-197
4. Bojesen-Koefoed, J. A., H. P. Nytoft & M. Amin Dejkam, 1995, Hydrous pyrolysis of upper Farsund Formation (Volgian-Ryazanian) "hot shales" from the southern Central Trough, German North Sea Sector. In: Grimalt, J. O. & Dorronsoro, C. (eds.) Organic Geochemistry: developments and applications to energy, climate, environment and human history - Selected papers from the 17th International Meeting on Organic Geochemistry 4-8th September 1995, Donastia - San Sebastian, pp. 530-531
5. Bojesen-Koefoed, J. A., H. P. Nytoft, K. Dybkjær, J. R. Ineson & L. H. Nielsen, 1995. Organic geochemistry of a marine "hot shale" - the early Ryazanian "Hot Unit" from the Danish North Sea. In: Grimalt, J. O. & Dorronsoro, C. (eds.) Organic Geochemistry: developments and applications to energy, climate, environment and human history - Selected papers from the 17th International Meeting on Organic Geochemistry 4-8th September 1995, Donastia - San Sebastian, pp. 232-234
6. Petersen, H. I., J. A. Bojesen-Koefoed & E. Thomsen, 1995. Coal-derived petroleum in the Middle Jurassic Bryne Formation in the Danish North Sea - a new type of play. In: Grimalt, J. O. & Dorronsoro, C. (eds.) Organic Geochemistry: developments and applications to energy, climate, environment and human history - Selected papers from the 17th International Meeting on Organic Geochemistry 4-8th September 1995, Donastia - San Sebastian, pp. 473-475
7. Christiansen, F. G., J. A. Bojesen-Koefoed, G. Dam, H. P. Nytoft, L. M. Larsen, A. K. Petersen & T. C. R. Pulvertaft, 1996. The Marraat oil discovery on Nuussuaq, West Greenland: evidence for a latest Cretaceous - earliest Tertiary oil-prone source rock in the Labrador Sea - Melville Bay region. Bulletin of Canadian Petroleum Geology 44, pp. 39-54
8. Bojesen-Koefoed, J. A., F. G. Christiansen, H. I. Petersen, S. Piasecki, L. Stemmerik & H. P. Nytoft, 1996. Resinite-rich coals of Northeast Greenland - a hitherto unrecognized highly oil-prone Jurassic source rock. Bulletin of Canadian Petroleum Geology 44, 458-473

9. Bojesen-Koefoed, J. A. 1996. Organic matter mineralization and the effects of petroleum pollution in a shallow-marine sediment - a case study from Århus Bugt, Denmark. Proceedings of the 5th MARSKAT meeting, NGU Bulletin 430, 117-127
10. Petersen, H. I., Bojesen-Koefoed, J. A. & Nytoft, H. P. 1996. Depositional environment and burial history of a Lower Cretaceous carbonaceous claystone (Skyttegård Member) Bornholm, Denmark. Bulletin of the Geological Society of Denmark 43, 133-142
11. Petersen, H. I., Bojesen-Koefoed, J. A., Surlyk, F. & Vosgerau, H. 1997. Relative sea-level changes recorded by the organic petrographic and geochemical composition of Jurassic coals. Extended abstract, "Coal geology workshop: sequence stratigraphy applied to coal-bearing strata: quo vadis?", Hasselt, Belgium, March 1997
12. Zdanaviciute, O. & Bojesen-Koefoed, J. A. 1997. Geochemistry of Lithuanian oils and source rocks: a preliminary assessment. Journal of Petroleum Geology 20, 381-402
13. Stemmerik, L., Sønderholm, M. & Bojesen-Koefoed, J. A. 1997. Paleo-oil field in a Silurian carbonate buildup, Wulff Land, North Greenland: project "Resources of the sedimentary basins of North and East Greenland". Geology of Greenland Survey Bulletin 176, 24-28
14. Bojesen-Koefoed, J. A., H. I. Petersen, F. Surlyk & H. Vosgerau, 1997. Organic petrography and geochemistry of inertinite-rich mudstones, Jakobsstigen Formation, Upper Jurassic, northeast Greenland: indications of forest fires and variations in relative sea-level. International Journal of Coal Geology 34, 345-370.
15. Petersen, H. I., Bojesen-Koefoed, J. A., Nytoft, H. P., Surlyk, F., Therkelsen, J., & Vosgerau, H. 1998. Relative sea-level changes recorded by paralic liptinite-enriched coal facies cycles, Middle Jurassic Muslingebjerg Formation, Hochstetter Forland, Northeast Greenland. International Journal of Coal Geology 36, 1-29
16. Petersen, H. I., Andsbjerg, J., Bojesen-Koefoed, J. A., Nytoft, H. P. & Rosenberg, P. 1998. Petroleum potential and depositional environments of Middle Jurassic coals and non-marine deposits, Danish Central Graben, with special reference to the Søgne Basin. Geology of Denmark Survey Bulletin 36, 78pp.
17. Zdanaviciute, O., Khubldikov, A. I. & Bojesen-Koefoed, J. A. 1998. Geology and oil geochemistry of the eastern part of the Baltic Syncline. In: Suveizdis, P. & Zdanaviciute, O. (eds.) Perspectives of petroleum exploration in the Baltic Region – Proceedings of the International Conference, 21-24 october, 1998, Vilnius, Lithuania. pp. 58-65
18. Dam, G., Nøhr-Hansen, H., Christiansen, F. G., Bojesen-Koefoed, J. A. & Laier, T. 1998. The oldest Cretaceous sediments in West Greenland (Umiivik-1 borehole, Svartenhuk Halvø) - record of the Cenomanian – Turonian anoxic event?. Geology of Greenland Survey Bulletin, Review of Greenland activities 1997, 128-137
19. Christiansen, F. G., Boesen, A., Bojesen-Koefoed, J. A., Dalhoff, F., Dam, G., Neuhoff, P. S., Pedersen, A. K., Pedersen, G. K., Stannius, L. S. & Zinck-Jørgensen, K. 1998. Petroleum geological activities onshore West Greenland in 1997. Geology of Greenland Survey Bulletin, Review of Greenland activities 1997, 10-17
20. Bojesen-Koefoed, J. A., Christiansen, F. G., Nytoft, H. P. & Pedersen, A. K 1999. Oil seepage onshore West Greenland: evidence of multiple source rocks and oil mixing. In Fleet, A. S & Boldy, S. (eds.) Petroleum Geology of NW-Europe, proceedings of the 5th Conference, 305-314

21. Nytoft, H. P. Bojesen-Koefoed, J. A. & Christiansen, F. G. 2000. C26 and C28-34 28-norhopanes in sediments and petroleum. *Organic Geochemistry* 31, 25-40
22. Vosgerau, H., J. A. Bojesen-Koefoed, H. I. Petersen & F. Surlyk 2000. Forest fires, climate, and sea-level changes in a coastal plain shallow marine succession (Early - Middle Oxfordian Jakobsstigen Formation, North-East Greenland). *Journal of Sedimentary Research* 70, 408-418
23. Petersen, H. I., Andsbjerg, J. Bojesen-Koefoed, J. A. & Nytoft, H. P. 2000. Source rock evaluation and petroleum geochemistry of the coal-generated Lulita field, Danish North Sea. *Journal of Petroleum Geology* 23, 55-99
24. Petersen, H. I., Andersen, C., Anh, P. H., Bojesen-Koefoed, J. A., Nielsen, L. H., Nytoft, H. P., Rosenberg, P. and Thanh, L. 2001. Petroleum potential of Oligocene lacustrine mudstones and coals at Dong Ho, Vietnam – an immature outcrop analogue to possible terrestrial source rocks in the greater Song Hong Basin. *Journal of Asian Earth Sciences* 19, 135-154
25. Nytoft, H. P. & Bojesen-Koefoed, J. A. 2001: 17 α (H)21 α (H)-hopanes: natural and synthetic. *Organic Geochemistry* 32, 841-856
26. Bojesen-Koefoed, J. A. Dam, G., Nytoft, H. P., Pedersen, G. K. & Petersen, H.I., 2001: Drowning of a nearshore peat-forming environment Atane Formation (Cretaceous) at Asuk, West Greenland: sedimentology, organic petrography and geochemistry. *Organic Geochemistry* 32, 967-980
27. Petersen, H. I., Bojesen-Koefoed, J. A. & Nytoft, H. P. 2002. Source rock evaluation of Middle Jurassic coals, northeast Greenland, by artificial maturation: aspects of petroleum generation from coal. *AAPG Bulletin* 86, 233-256
28. Nytoft, H. P., Bojesen-Koefoed, J. A., Christiansen, F. G. & Fowler, M. G. 2002. Oleanane or lupane - reappraisal of the presence of oleanane in Late Cretaceous - Tertiary oils and sediments. *Organic Geochemistry* 33, 1225-1240
29. Ineson, J. R., J. A. Bojesen-Koefoed, K. Dybkjær & L. H. Nielsen 2003. The Upper Jurassic - Lower Cretaceous "Hot Unit" in the Danish Central Trough. In: Ineson J. R. & Surlyk, F. (eds.), "The Jurassic of Denmark and Greenland"
30. Sivhed, U., Erlström, M., Bojesen-Koefoed, J. A., and Löfgren, A. 2004. Upper Ordovician carbonate mounds on Gotland, central Baltic Sea: distribution, composition and reservoir characteristics. *Journal of Petroleum Geology* 27, 115-140
31. Bojesen-Koefoed, J.A., Nytoft, H. P. & Christiansen, F. G. 2004. Age of oils in West Greenland: was there a Mesozoic seaway between Greenland and Canada? *Geological Survey of Denmark and Greenland Bulletin* 4, 49-52
32. Dahl, B., Bojesen-Koefoed, J. A. Holm, A., Justwan, H., Rasmussen, E. & Thomsen, E. 2004. A new approach to interpreting Rock-Eval S2 and TOC data for kerogen quality assessment. *Organic Geochemistry* 35, 1461-1477
33. Bojesen-Koefoed, J. A., Nielsen, L. H., Nytoft, H. P., Petersen, H. I., Nguyen Thi Dau, Le Van Hien, Nguyen Anh Duc and Nguyen Huy Quy 2005 Geochemical characteristics of oil seepages from Dam Thi Nai, central Vietnam: implications for hydrocarbon exploration in the offshore Phu Khanh Basin. *Journal of Petroleum Geology* 28, 3-18
34. Boldreel, L.O., Nielsen, L.H., Thang, L.D., Huyen, N.T, Huong, D.T., Fyhn, M.B.W., Mathiesen, A. I. Reid, Bojesen-Koefoed, J., Petersen, H.I., Kruse, M., Duc, N.A. & Abatzis, I. (2005): The Phu Khanh

Basin - aspects of structural evolution and hydrocarbon potential. In: 30 years Vietnam Petroleum Industry Science Technology Conference. New Challenges and Opportunities, 24-25 August, Hanoi. CD-Rom.

35. Boldreel, L.O., Fyhn, M.B.W, Reid, I., Kruse, J.M. Nielsen, L.H., Mathiesen, A., Bojesen-Koefoed, J.A., Petersen, H.I., Abatzis, I., Thang, L.D., Huyen, N.T., Houg, D.T. & Duc, N.A 2005: Be Phu Khanh: Qua trinh phat trien cau truc va tiem nang dau khi. In: (Lieu, O.N.D. et al. Eds) 30 Nam Dau khi Viet Nam, Quyen 1, 24-25 August, Hanoi Vietnam p. 287-304.
36. Pedersen, G. K., Andersen, L. A., Lundsteen, E. B., Petersen, H. I., Bojesen-Koefoed, J. A. and Nytoft, H. P., 2006: Depositional environments, organic maturity and petroleum potential of the Cretaceous coal-bearing Atane Formation at Qullisat, Nuussuaq Basin, West Greenland, *Journal of Petroleum Geology* 29, 3-26
37. Bojesen-Koefoed, J. A. & Nytoft, H. P. 2006: The deepened Lopra-1/1A re-entry well: petroleum geochemistry. *Geological Survey of Denmark and Greenland Bulletin* vol. 9. 17-40
38. Johannes, I, Kruusement, K, Palu, V, Veski, R. & Bojesen-Koefoed, J. A. 2006: Evaluation of oil potential of Estonian shales and biomass using Rock-Eval analyzer. *Oil Shale* 23, 110-118
39. Johannes, I, Kruusement, K, Veski, R. & Bojesen-Koefoed, J. A. 2006: Characterization of pyrolysis kinetics by Rock-Eval basic data. *Oil Shale* 23, 249-257
40. Dalhoff, F., Larsen, L. M., Ineson, J. R., Stouge, S., Bojesen-Koefoed, J. A., Lassen, S., Kuijpers, A., Rasmussen, J. A., & Nøhr-Hansen, 2006: Continental crust in the Davis Strait: new evidence from seabed sampling. *Geological Survey of Denmark and Greenland Bulletin* 10, 33-36
41. Bojesen-Koefoed, J. A., Bidstrup, T., Christiansen, F. G., Dalhoff, F., Gregersen, U., Nytoft, H. P., Nøhr-Hansen, H., Pedersen, A. K., and Sønderholm, M., 2007: Petroleum seepages at Asuk, Disko, West Greenland: implications for regional petroleum exploration, *Journal of Petroleum Geology* 30 (3) 219-236
42. Gregersen, U., Bidstrup, T., Bojesen-Koefoed, J. A., Christiansen, F. G., Dalhoff, F. & Sønderholm, M. 2007: Petroleum systems and structures offshore central West Greenland: implications for hydrocarbon prospectivity. *Geological Survey of Denmark and Greenland Bulletin* vol. 13. 25-28
43. Solevic, T, Stojanovic, K., Bojesen-Koefoed, J., Nytoft, H. P., Jovancicevic, B., Vitorovic, D., 2008: Origin of oils in the Velebit oil-gas field, SE Pannonian Basin, Serbia – Source rocks characterization based on biological marker distributions. *Organic Geochemistry* 39, 118-134
44. Fyhn, M. B. W., Nielsen, L. H., Boldreel, L. O., Le D. Thang, Bojesen-Koefoed, J. , Petersen, H. I. Nguyen T. Huyen, Nguyen A. Duc, Nguyen T. Dau, Mathiesen, A., Reid, I., Dang T. Huong, Hoang A. Tuan, Le V. Hien, Nytoft, H. P., Abatzis, I. 2009, Geological evolution, regional perspectives and hydrocarbon potential of the northwest Phu Khanh Basin, offshore Central Vietnam. *Marine and Petroleum Geology* 26, 1-24
45. Petersen, H. I., Nielsen, L. H., Bojesen-Koefoed, J. A., Mathiesen, A., Kristensen, L. & Dalhoff, F. 2008: Petroleum potential of the Norwegian-Danish Basin. *Geological Survey of Denmark and Greenland Bulletin* 16, 66pp.
46. Petersen, H. I., Sherwood, N., Mathiesen, A. Fyhn, M. B. W., Dau, N. T., Russell, N., Bojesen-Koefoed, J. A. & Nielsen, L. H., 2009: Application of integrated vitrinite reflectance and FMM analyses to solve problems in thermal maturity assessment of the northeastern Malay Basin, offshore SW Vietnam: implications for petroleum prospectivity evaluation. *Marine and Petroleum Geology* 26, 319-332

47. Luik, H. Palu, V., Luik, L., Sokolova, J., Bojesen-Koefoed, J. 2009: Peat semicoking and hydrocracking. *Journal of Analytical and Applied Pyrolysis* 85, 497-501
48. Bojesen-Koefoed, J. A., Nytoft, H. P. Nguyen Thi Dau, 2009, Petroleum composition in the Cuu Long Basin (Mekong Basin) offshore southern Vietnam. *Marine and Petroleum Geology* 26, 899-908
49. Petersen, H. I., Nytoft, H. P., Vosgerau, H., Andersen, C., Bojesen-Koefoed, J. A., and Mathiesen, A. *in press.*: Source rock quality and maturity and oil types in the NW Danish Central Graben: implications for petroleum prospectivity evaluation in an Upper Jurassic sandstone play area. In: VINING, B.A. & PICKERING, S. C. (eds) *Petroleum Geology: From Mature Basins to New Frontiers – Proceedings of the 7th Petroleum Geology Conference*, 95–111. DOI: 10.1144/0070095 *Petroleum Geology Conferences Ltd. Published by the Geological Society, London.*
50. Bojesen-Koefoed, J. A., Bjerager, M. & Piasecki, S. 2009: Shallow core drilling and petroleum geology related fieldwork in Northeast Greenland 2008. *Geological Survey of Denmark and Greenland Bulletin (ROSA 2008)* 17, 53-56
51. Petersen, H. I., Bojesen-Koefoed, J. A. & Mathiesen, A. 2010. Variations in composition, petroleum potential and kinetics of Ordovician – Miocene type I and type I-II source rocks (oil shales): implications for hydrocarbon generation characteristics. *Journal of Petroleum Geology*, 33(1), 19-42
52. Fyhn, M. B. W., Petersen, H. I., Mathiesen, A., Nielsen, L. H., Pedersen, S.A.S., Lindström, S., Bojesen-Koefoed, J. A., Abatzis, I., Boldreel, L. O., 2010 Vietnamese sedimentary basins: geological evolution and petroleum potential. *Geological Survey of Denmark and Greenland Bulletin* 20, 91-94
53. Petersen, H. I., Mathiesen, A., Fyhn, M. B. W., Nguyen T. Dau, Bojesen-Koefoed, J. A., Nielsen, L. H. and Nytoft, H. P. 2010: Modeling of petroleum generation in the Vietnamese part of the Malay Basin using measured kinetics. *AAPG Bulletin*, v. 95, 509–536
54. Petersen, H. I., Holme, A. C., Thomsen, E., Whitaker, M. F., Brekke, T., Bojesen-Koefoed, J. A., Hansen, K. H. and Larsen, B. T. 2011: Hydrocarbon potential of Middle Jurassic coaly and lacustrine and Upper Jurassic – lowermost Cretaceous marine source rocks in the Søgne Basin, North Sea. *Journal of Petroleum Geology*, 34, 277 – 304
55. Duc, N.A, Huyen, N.T., Dau, N.T., Mai, L.C., Nielsen, L.H., Abatzis, I., Fyhn, M.B.W, Petersen, H.I. & Bojesen-Koefoed, J.A. 2011: ENRECA Project Phase I, II, III from 2001 to 2011: contributions to geological understanding and petroleum potential assessment of sedimentary basins in Vietnam. *Petro Vietnam Journal*, vol 10 p 10-21.