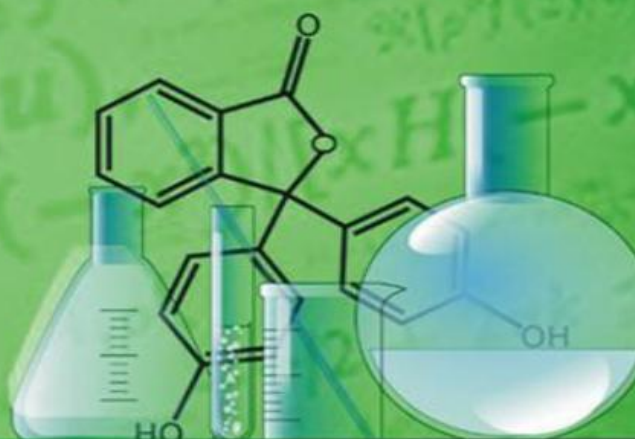
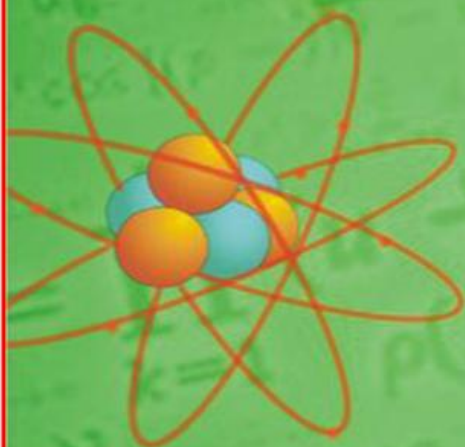


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Website: www.blueeyesintelligence.org

Email: director@blueeyesintelligence.org, blueeyes@gmail.com

Cell #: +91-9669981618, WhatsApp #: +91-9669981618, Viber #: +91-9669981618

Skype #: beiesp, Twitter #: beiesp

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	Paper Title:	Module Allocation for Maximizing Reliability of Distributed Computing Systems using Dynamic Greedy Heuristic	
	<p>Abstract: This paper deals with the problem of module allocation (i.e., to which processor should each task of an application be assigned) in heterogeneous distributed computing systems with the goal of maximizing the system reliability. The module assignment problem for more than three processors is known to be NP-hard, and therefore satisfactory suboptimal solutions obtainable in an acceptable amount of time are generally sought. We propose a new intelligent technique based on dynamic module allocation which uses greedy search algorithm for this problem. Performance of the algorithm depends on number of modules, number of processors, and the ratio of average communication time to average computation time and module interaction density of application. The effectiveness and efficiency of our algorithm is compared with recently proposed module allocation algorithms for maximizing system reliability available in literature.</p> <p>Keywords: Module assignment, Distributed computing, Reliability, Dynamic Greedy heuristic, Module interaction graph.</p> <p>References:</p> <ol style="list-style-type: none"> 1. S Casavant, T., Kuhl, J.G.,1988. "A taxonomy of scheduling in general-purpose distributed computing systems". IEEE Transaction on Software Engineering 14 (2), 141–154. 2. Stone, H.S., 1977. "Multiprocessor scheduling with the aid of network flow algorithms". IEEE Transactions on Software Engineering SE 3 (1), 85–93. 3. Ernst, A., Jiang, H., Krishnamoorthy, M., 2006. "Exact solutions to module allocation problems". Management Science 52, 1634–1646. 4. Chern, M.S., Chen, G.H., Liu, P., 1989. "An LC branch-and-bound algorithm for module assignment problem". Information Processing Letters 32,61–71. 5. Sinclair, J.B., 1987. "Efficient computation of optimal assignments for distributed modules". Journal of Parallel and Distributed Computing 4, 342–361. 6. Tom, A.P., Murthy, C.S.R., 1999. "Optimal module allocation in distributed systems by graph matching and state space search". Journal of Systems and Software 46 (1), 59–75. 7. Chockalingam, T., Arun kumar, S., 1995. "Genetic algorithm based heuristics for the mapping problem". Computer and Operations Research 22, 55–64. 8. Hadj-Alouane, A.B., Bean, J.C., Murty, K.G., 1999. "A hybrid genetic/optimization algorithm for a module allocation problem". Journal of Scheduling 2,189–201. 9. Hamam, Y., Hindi, K.S., 2000. "Assignment of program modules to processors: a simulated annealing approach". European Journal of Operational Research 122, 509–513. 10. Yin, P.Y., Yu,S.S., Wang, P.P., Wang, Y.T., 2006. "A hybrid particle swarm optimization algorithm for optimal module assignment in distributed systems". Computer Standard and Interface 28, 441–450. 11. Zou, D.X., Gao, L.Q., Li, S., Wu, J.H., Wang, X., 2010. "A novel global harmony search algorithm for module assignment problem". Journal of Systems and Software 83 (10), 1678–1688. 12. Jacobs, L.W., Briscoe, M.J., 1995. A local-search heuristic for large set-covering problems". Naval Research Logistics Quarterly 42, 1129–1140. 13. Marcher, E., Steinbeck, A., 2000. "An evolutionary algorithm for large scale set covering problems with application to airline crew scheduling". Lecture Notes in Computer Science 1803, 367–381. 14. Pan, Q.K., Wang, L., Zhao, B.H., 2008. "An improved iterated greedy algorithm for the no-wait flow shop scheduling problem with make span criterion". International Journal of Advanced Manufacturing Technology 38, 778–786. 15. Ruiz, R., Stützle, T., 2007. "A simple and effective iterated greedy algorithm for the permutation flow shop scheduling problem". European Journal of Operational Research 177 (3), 2033–2049. 16. Ying, K.C., Lin, S.W., Huang, C.Y., 2009. "Sequencing single-machine tardiness problems with sequence dependent setup times using an iterated greedy heuristic". Expert Systems with Applications 36, 7087–7092. 17. Dubois-Lactose, J., López-Ibáñez, M., Stutz, T. "A hybrid TP + PLS algorithm for bi-objective flow-shop scheduling problems". Computers and Operations Research, in press. 18. T.D. Braun, D. Hansen, R.F. Freund, H.J. Siegel, N. Beck, L.L. Boloni, M. Maheswaran, A.I. Reuther, J.P. Robertson, M.D. Theys, B. Yao, "A comparison of eleven static heuristics for mapping a class of independent modules onto heterogeneous distributed computing systems", Journal Parallel and Distributed Compute. 61 (6) (2001) 81–837. 19. G. Ritchie, J. Levine, "A hybrid ant algorithm for scheduling independent jobs in heterogeneous computing environments", in: Proceedings of the 23rd Workshop of the UK Planning and Scheduling Special Interest Group, 2004. 20. Qin-Ma Kang, Hong He, Hui-Min Song, Rong Deng. "Module allocation for maximizing reliability of distributed computing systems using honeybee mating optimization". Original Research Article Journal of Systems and Software, Volume 83, Issue 11, November 2010, Pages 2165-2174. 		1-4
2.	Authors:	Kshetrimayum Raseshwri Devi, Nagulan Venugopal, Lal Bihari Singha	
	Paper Title:	Microscopic Features of Dominant Bladderworts of Northeast India	
	<p>Abstract: Utricularia bifida Sm. and Utricularia pubescens Sm. are the most dominant and widely distributed bladderworts in Northeast India. The bladders of these species show double-layered walls. The antennae in U. bifida were unicellular and uniseriate, whereas, the antennae of U. pubescens were numerous, long and multicellular forming a fringe. The digestive glands were either bifid with two arms in U. bifida or quadrifid with four arms in the case of U. pubescens which bear short single-celled stalk. The stalk cells represent the basal portion of the arms or the terminal cells abutted from their respective sub-conical shaped pedestal cells. The wall partition between the pedestal and the basal portion of the stalk bear several finger-like projections of transfer cell type. The walls of pedestal, stalk and terminal arm cells were clearly differentiated into three layers. The outermost cuticle layer of</p>		5-6

pedestal cell was thick, which extended till the base of the terminal or arm cell. The middle layer was highly impregnated with opaque materials and fibrils. The innermost layer was not impregnated with variously shaped electron translucent numerous vacuoles filled with granules. The pedestal and basal cells were interconnected with plasmodesmata.

Keywords: Utricularia, Ultrastructure, Digestive gland, Vacuole, Pedestal cell

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Authors: Shiri T, Makota T

Paper Title: Status of Biogas Technology in Swaziland: Challenges and Opportunities

3. Abstract: This paper serves to investigate the status of biogas energy including challenges and opportunities in the Kingdom of Swaziland. Increasing regional energy demand coupled with increased climatic challenges against depleting fossil fuels has seen a number of countries turning to renewable sources of energy to augment the current supply. These include solar, wind power, biomass, geothermal and hydro electric power. Swaziland has adopted some of these renewable energy interventions to meet its own energy needs and curb climatic issues. During the study period, it was discovered that there are less than twenty biodigesters across sectors at national level. Despite a strong biomass base, positive regional experiences and favourable climatic factors, the growth of biogas technology industry remains partially stagnant primarily due to shortage of local skilled, experienced project developers and weak policy emphasis. This paper recommends the relevant stakeholders in the renewable energy sector to establish a national biogas programme by exhausting regional experiences. This will help to immediately reduce over reliance on wood fuel, paraffin and LPG, improve energy security, reduces electricity costs to the consumer and lower the energy import bill.

Keywords: Biogas, challenges, opportunities, status

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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Jusman, Bambang Setiaji, Triyono, Akhmad Syoufian</td> </tr> <tr> <td>Paper Title:</td> <td>Characterization Physicochemical of Emulsion Solid Cooking Oil from Coconut Oil</td> </tr> </table>	Authors:	Jusman, Bambang Setiaji, Triyono, Akhmad Syoufian	Paper Title:	Characterization Physicochemical of Emulsion Solid Cooking Oil from Coconut Oil	
Authors:	Jusman, Bambang Setiaji, Triyono, Akhmad Syoufian					
Paper Title:	Characterization Physicochemical of Emulsion Solid Cooking Oil from Coconut Oil					
<p>4.</p>	<p>Abstract: Research of characterization physicochemical emulsion products of solid cooking oil has been performed. The measurement using analysis parameter of water content, free fatty acids, peroxide value, and hardness test. Method of used water content (AOAC,1995), free fatty acids (AOCS Official Method Ca 5a-40 1993), and peroxide value (AOCS Official Method Cd 8-53 1993), and hardness test using universal machine testing. The characterization result of emulsion products of solid cooking oil toward the water content in the range of 0.04-0.09%, free fatty acids from 0.28 to 0.49%, and peroxide value in the range 0.61 to 0.74 mg O₂/100 g. And the result of hardness test solid cooking oil emulsion product is in the range from 8.4942 to 15.7444 gf/cm². Thus the solid cooking oil products produced meet the criteria of margarine and shortening.</p> <p>Keywords: coconut oil, solid cooking oil, emulsion, and physicochemical</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. Marina, Y. B. Che Man, S. A. H. Nazimah, I. Amin,” Chemical properties of virgin coconut oil,” <i>J Am Oil Chem Soc</i> 2009, 86:301–307. 2. McClements, D. J., 1999, Food emulsions: Principles, practice, and techniques. Boca Raton, CRC Press. 3. Dickinson, E., & McClements, D. J. (1995). <i>Advances in food colloids</i>. London, UK: Chapman and Hall. 4. Boode, K., Walstra, P., & Degrootmostert, A. E. A. (1993). Partial coalescence in oil-in-water emulsions 2: Influence of the properties of the fat. <i>Colloids and Surfaces A—Physicochemical and Engineering Aspects</i>, 81(1), 139–151. 5. Walstra, P. (1996). Emulsion stability. (Chapter 1). In P. Becher (Ed.), <i>Encyclopedia of emulsion technology</i>, Vol. 4. New York: Marcel Dekker. 6. Friberg, S. E., & Larsson, K. (1997). <i>Food emulsions</i>. New York: Marcel Dekker. 7. Ketaren, S. 1986. <i>Oils and Fats Food Technology</i> . UI Press, Jakarta. 8. Haighton AJ (1959) <i>J Am Oil Chem Soc</i> 36:345 doi:10.1007/BF02640051 9. AOCS., 1993, <i>Official Methods and Recommended Practices of the American Oil Chemists’ Society</i>, 5th Ed. American Oil Chemist’s Society Champaign, IL, U.S.A. 	<p>17-19</p>				