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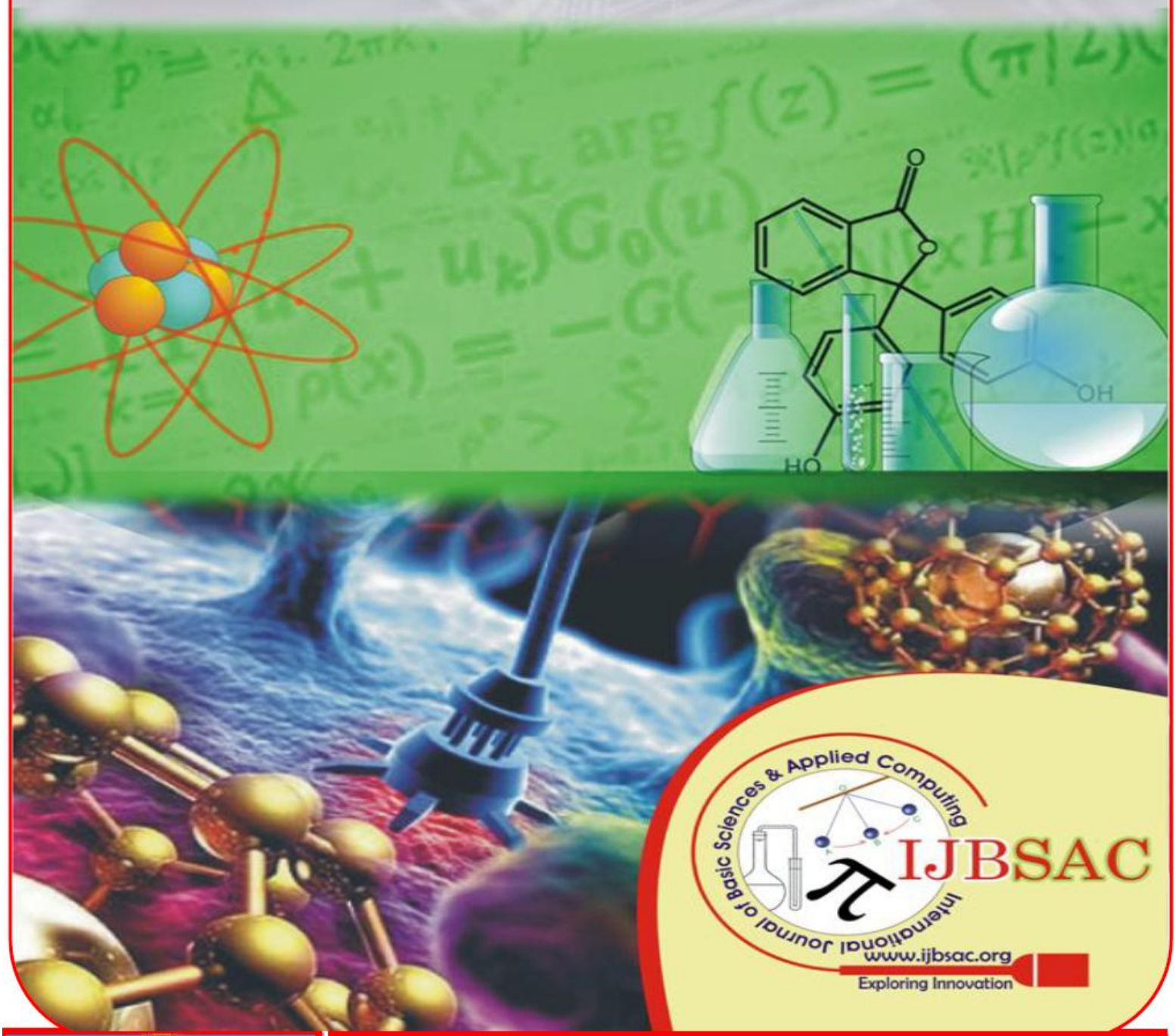

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1.

Authors: Surinder Kumar

Paper Title: Module Allocation for Maximizing Reliability of Distributed Computing Systems using Dynamic Greedy Heuristic

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.

Keywords: Module assignment, Distributed computing, Reliability, Dynamic Greedy heuristic, Module interaction graph.

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2.

Authors: Kshetrimayum Raseshowri Devi, Nagulan Venugopal, Lal Bihari Singha

Paper Title: Microscopic Features of Dominant Bladderworts of Northeast India

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

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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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3.

Authors: **Shiri T, Makota T**

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

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, geo-thermal 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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	Authors:	**Jusman, Bambang Setiaji, Triyono, Akhmad Syoufian**
	Paper Title:	**Characterization Physicochemical of Emulsion Solid Cooking Oil from Coconut Oil**

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.

4.

Keywords: coconut oil, solid cooking oil, emulsion, and physicochemical

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