

Patent Selections:

The patents annotated in this section have been selected from various patent databases. These recent patents are relevant to the articles published in this journal issue, categorized by different analytical methods, designs, manufacturing and analysis of automobiles, aircrafts, manufacturing plants, industrial instruments, machines, heating and cooling systems and processes involved and related to mechanical engineering.

ASPHALTENE PRECIPITATION ONSET

1. Sieben, V., Andersen, S., Mostowfi, F., Kharrat, A.M. Automated method and apparatus to characterize solubility of asphaltenes of a hydrocarbon fluid sample utilizing microfluidics. **WO2015023343 (2015).**
2. Chornet, M., Chronopoulos, C., Dehkissia, S. Treatment of heavy oils to reduce olefin content. **US20150060333 (2015).**
3. Dehkissia, S., Chronopoulos, C., Chornet, M., Frechette, J. Heavy oils having reduced total acid number and olefin content. **WO2015017939 (2015).**

ELECTROMAGNETIC BEAM ABSORBANCE

1. Fix, R., Sonstroem, P., Doehler, G. Device for emitting electromagnetic radiation. **US20150001425 (2015).**
2. Dam, J.S., Tidemand-Lichtenberg, P., Sorensen, K.P., Pedersen, C. System and method for processing electromagnetic radiation. **US20150001375 (2015).**
3. Sugahara, K., Odawara, S., Yoshida, K. Charged particle beam transport system and particle beam therapy system. **US20150038764 (2015).**

ELECTROMAGNETIC BEAM ABSORBANCE & GRAVIMETRIC ANALYSIS

1. Abreu, M.M. Device for generating a detectable signal based upon concentration of at least one substance. **US20150065837 (2015).**
2. Kolb, W.B., Kolb, B.U., Carpenter, S.J., Corcoran, L.E., Hodne, T.K., Luo, H., McGee, K.A., Yu, T.-H., Jindal, K., Jing, N. Nanostructured materials and methods of making the same. **US20150017386 (2015).**

VISUAL OBSERVATION & GRAVIMETRIC ANALYSIS

1. Hartman, R.L., Flowers, B.S. Methods and apparatuses for producing clathrate hydrates. **US20150008367 (2015).**
2. Peters, E.N. Blend of poly(phenylene ether) particles and polyoxymethylene, article thereof, and method of preparation. **US20150065661 (2015).**

VISUAL OBSERVATION & ASPHALTENE PRECIPITATION

1. Pinappu, S.R., Kremer, L.N., Sandu, C.L. Asphaltene stabilization in petroleum feedstocks by blending with

biological source oil and/or chemical additive. **WO2015027011 (2015).**

2. Reyes, E.A., Beuterbaugh, A.M., Smith, A.L., Smith, C.L. Methods and systems for iron control using a phosphinated carboxylic acid polymer. **WO2015026325 (2015).**
3. Mohamed, A.-M.O., El Gamal, M.M. Use of surfactant in the preparation of modified sulfur and sulfur cement. **US20150027345 (2015).**
4. Sundararaman, R., Degnan Jr., T.F., Billimoria, R.M., Wilson, K., Smiley, R.J., Thiart, J.J. Slurry hydroconversion with high activity catalysts. **US20150014216 (2015).**
5. Gzara, K.B.M., Jain, V. *In-situ* characterization of formation constituents. **US20150015250 (2015).**

ROTATING DOUBLE PRISM

1. Kojima, H., Goishihara, S., Maenishi, S. Optical sheet, surface light source device, transmission type display device, light emitting device, mold and mold production method. **US20150004276 (2015).**
2. Koike, Y., Nakamura, R., Arakawa, F., Yamamoto, H., Fuchida, T., Maezawa, S., Takemoto, H., Murakami, N., Ishikawa, T., Higuchi, E. Liquid crystal display apparatus. **US20150029442 (2015).**

ROTATING DOUBLE PRISM & SCANNING MECHANISM

1. Fisker, R., Öjelund, H., Kjaer, R., Van Der, P.M., Qazi, A.A., Hollenbeck, K.-J. Focus scanning apparatus. **US20150054922 (2015).**

ROTATING DOUBLE PRISM & BEAM SCANNING

1. Jennings, D.C., Yam, M., Mayur, A.J., Behrens, V., O'Brien, P.A., Teritski, L.M., Goldin, A. Thermal processing by scanning a laser line beam. **US20150053659 (2015).**

BEAM SCANNING

1. Vogler, K., Gorschoth, C., Donitzky, C. System and method for scanning a beam of ultra-short pulse light. **US2015062680 (2015).**
2. Humphris, A., Zhao, B. Beam scanning system. **US2015020244 (2015).**

3. Fritz, B., Cox, J.A., Reutiman, P.L. Laser scanning system employing an optics module capable of forming a laser beam having an extended depth of focus (DOF) over the laser scanning field. *US2015048168 (2015)*.
4. Choi, J.L., Lee, S.M., Heo, H.Y., Lee, Y.G., Oh, S.C. Scanning electron microscope capable of adjusting beam spot and measuring method using same. *WO2015020309 (2015)*.

ROTATING DOUBLE PRISM & MECHANICAL STRUCTURE

1. Kawauchiya, T., Niwa, T., Nakajima, M., Koda, M. Operation stabilization mechanism, movement, and mechanical timepiece. *US20150063083 (2015)*.
2. Sanada, S., Inazuka, M., Kosako, K. Camera, control apparatus for cam drive mechanism and control method for cam drive mechanism. *US20150037023 (2015)*.

BEAM SCANNING & CONTROL SYSTEM

1. Pu, Y., Ikeda, M., Honda, T. Particle beam scanning irradiation system. *US20150038766 (2015)*.

SCANNING MECHANISM & CONTROL SYSTEM

1. Sakai, N. Scanning mechanism and scanning probe microscope. *US20150020243 (2015)*.
2. Hermary, T.J., Hermary, A.T., Sahraei, M.R. 3D Machine vision scanning information extraction system. *US20150039121 (2015)*.
3. McKinnon, B.W., Weaver, K., De Ana, J.F., Tanasoca, R.C.M. Ultrasound scanning. *US20150051490 (2015)*.
4. Wolters, C., Reich, J. Surface scanning inspection system with independently adjustable scan pitch. *US20150055128 (2015)*.
5. Yu, J., Cao, Y. Scanning table. *US20150014069 (2015)*.

INJECTION MOLDING MACHINE

1. Noue, M. Injection molding machine. *WO2015025806 (2015)*.
2. Kaczmarek, U. Injection molding machine with improved output. *US201504855 (2015)*.
3. Kato, N. Mold clamping device and injection molding machine. *US2015044325 (2015)*.
4. Zipse, R., Thümen, T. Multi-component injection-molding machine having a rotatable center part. *WO2015024657 (2015)*.
5. Duffey, T.O., Duffey, R. Injection molding factory system and manufacturing method. *US20150042014 (2015)*.
6. Gehring, A. Injection molding machine for multiple injection operations. *US20150048545 (2015)*.

INJECTION MOLDING MACHINE & SHUT OFF NOZZLE

1. Altonen, G.M., McConnell, K.N., Breidenbach, V.S., Gergov, M.G. Injection molding machines and methods for accounting for changes in material properties during injection molding runs. *US20150035188 (2015)*.
2. Larson, C.P., Lagane, A.J.D.R. System and process for shot-injection molding an eyeglass temple with a wire core. *US20150049295 (2015)*.

INJECTION MOLDING MACHINE & POLYMER MELT

1. Waniuk, T.A., Stevick, J., O'keeffe, S., Stratton, D.J., Poole, J.C., Scott, M.S., Prest, C.D. Injection compression molding of amorphous alloys. *US20150000858 (2015)*.
2. Luo, R., Miller, K., Zhao, X., Tu, X. Heat resistant toughened thermoplastic composition for injection molding. *US20150064437 (2015)*.
3. Thompson, B.M., Wang, J.H., Wideman, G.J. Sustainable injection molded articles. *US20150037524 (2015)*.

SHUT OFF NOZZLE & POLYMER MELT

1. La, C.T.-L., Warren, M.A., Emanuel, J., Pekala, R.W. Instantaneously wettable polymer fiber sheets. *WO2015021480 (2015)*.
2. Lee, M.-S. Method for manufacturing a porous nanoweb. *US20150024278 (2015)*.
3. Osaka, K., Tanaka, C. Method for producing particles, toner, developer, and image forming apparatus. *US20150043943 (2015)*.

SHUT OFF NOZZLE

1. Marino, R.M. Adjustable smooth bore nozzle. *US20150060571 (2015)*.
2. Sesser, G.L., Nelson, B.R., Nelson, C.B., Nelson, R.A., Schisler, R.L., Neal, M.M. Sprinkler with multi-functional, side-load nozzle. *US20150001312 (2015)*.

HYDROPHOBIC & MECHANICAL PROPERTIES

1. Lim, G., An, T. Three-dimensionally shaped structure having hydrophobic surface, and method for manufacturing same. *US2015050459 (2015)*.
2. Jones, A.K., Lim, Z.W., McLean, A., Sikka, V.K., Hurley, M. Elastomeric coatings having hydrophobic and/or oleophobic properties. *AU2013281220 (2015)*.
3. Roudot, A., Falip, A., L'Alloret, F. Non-pulverulent antisun composition comprising a polar oil phase and hydrophobic silica aerogel particles. *US2015010601 (2015)*.

1. Batista, O., Marta, L., Rocha, D., Luisa, M., Nunes, P., Marisa, L.-S., Torres, G., António, A. Method for production of flexible panels of hydrophobic aerogel reinforced with fibre felts. *WO2015016730 (2015)*.

GEARS & BEARINGS

1. Lauro, E. Jig for withdrawal of bearings, pulleys and gears. *SK500192013 (2015)*.

HYDRODYNAMIC LUBRICATION

1. Kayser, A., Kayser, U., Schonhoven, D.W., Zimmermann, J. Hydrodynamic axial bearing. *US20150055898 (2015)*.

COMPUTATIONAL FLUID DYNAMICS

1. Altobelli, D.E., Perry, C.N. Dynamic support apparatus. *US20150045910 (2015)*.
2. Yairi, M., Dearnitt, C., Hammersley, M. Dynamic tactile interface. *WO2015031629 (2015)*.
3. Wouhaybi, R.H., Zafiroglu, A.C. Dynamic navigation service. *US20150025792 (2015)*.
4. Halbert, D., Guerra, J., Bollish, S. Fluid line occlusion detection system and methods. *US20150005732 (2015)*.
5. Sun, C.-L., Hsiao, T.-H., Huang, C.-Y. Fluid analysis method and fluid analysis system. *US20150048264 (2015)*.
6. Veis, A., Davidson, A. Applying fluid to a substrate. *US20150024118 (2015)*.

FLUID STATE & FRICTION PAIR

1. Wade, J.A., Jennings, T.L., Norris, D.E. System and method of modifying the friction of railroad tracks. *US20150054292 (2015)*.
2. Mide, C., Andresen, M., Blomvågnes, R., Geers, K. Fluid transfer connections. *WO2015014914 (2015)*.
3. Morales, A.T., Cai, M., Dailly, A.M., Abd Elhamid, M.H. Fluid storage tank. *US20150053675 (2015)*.
4. Jolly, C., Hochmair, I. Implantable fluid delivery apparatus and implantable electrode. *US20150025509 (2015)*.

FRICTION PAIR & OIL FILM & SHEAR STRESS

1. Gauntt, J., Friedman, J. Process and device for substrate with increased slip resistance. *US20150024235 (2015)*.
2. Rose, J.A., Rose, J.A., Rose, S.D., Cooper, R., Sweda, J.J. Touch sensitive robotic gripper. *US20150019013 (2015)*.

OIL FILM & SHEAR STRESS & TRANSMISSION CHARACTERISTICS

1. Nair, M., Sedita, J. Preparation of porous organic polymeric films. *US20150064353 (2015)*.

2. Shimizu, T., Kajita, N., Morimoto, Y. Biaxially stretched polyamide resin film. *US20150064485 (2015)*.
3. Hatakeyama, S., Hojo, D., Inagaki, S., Nanbu, H., Ueno, D. Method for producing long stretched film, and device for producing long stretched film. *US20150048540 (2015)*.

SHEAR STRESS & TRANSMISSION CHARACTERISTICS & CFD

1. Ebbini, E.S., Liu, D., Casper, A.J. Ultrasound image formation and/or reconstruction using multiple frequency waveforms. *WO2015013196 (2015)*.
2. Vignjevic, R. Cavitation generation. *WO2015001315 (2015)*.

TRANSMISSION CHARACTERISTICS & CFD

1. Rossetti, D. Network interface card for a computing node of a parallel computer accelerated by general purpose graphics processing units, and related inter-node communication method. *US20150039793 (2015)*.
2. Bremner, P.G. Methods and systems for determining response of a reverberant system. *WO2015017469 (2015)*.
3. Sun, C.-L., Hsiao, T.-H., Huang, C.-Y. Fluid analysis method and fluid analysis system. *US20150048264 (2015)*.
4. Stanier, J.G. Acoustic spatial sensory aid. *WO2015011471 (2015)*.
5. Kozuka, T., Tago, K., Morimoto, H. Liquid crystal display device. *US20150009462 (2015)*.

FETCHING KERNEL DEVICE

1. Munshi, A.A. Enqueueing kernels from kernels on GPU/CPU. *US20150022538 (2015)*.
2. Yamada, K., Sheaffer, G., Gray, J., Wang, L., Taillefer, M., Kishan, A., Adl-Tabatabai, A.-R., Callahan, D. Handling operating system (OS) transitions in an unbounded transactional memory (UTM) mode. *US20150039869 (2015)*.
3. Shribman, D., Vilenski, O. System and method for improving internet communication by using intermediate nodes. *US20150067819 (2015)*.

FLEXIBLE BLADE HAMMER

1. Coope, R.J.N. Cannulated hammer drill attachment. *US20150038970 (2015)*.
2. Thorne, D.L. Bladed fishing lure. *US20150007483 (2015)*.
3. Reverberi, E. Flexible panel and method of production. *WO2015015380 (2015)*.

4. Chang, C.-S. Pneumatic motor with built-in striker mechanism. *US20150014010 (2015)*.
5. Reed, D., Ingallhalikar, A., Nichols, J., Preske, B., Fromhold, M., McLaughlin, C., Adams, M., Garvey, B. Interbody fusion devices with self-affixing mechanisms. *US20150057754 (2015)*.
6. Southerland, H., Spisak, T. Method and apparatus for underwater pile excavating. *US20150007463 (2015)*.

ROLLER TWO-WAY SEPARATION

1. Ueda, N., Nakura, M., Takai, S., Kudo, K., Ueda, S., Kobashi, A. Sheet conveying apparatus and image forming apparatus. *US20150008639 (2015)*.
2. Onodera, H. Opening/closing apparatus and printer having opening/closing apparatus. *US20150042742 (2015)*.

WALNUT KERNEL SHELL

1. Winning, M., Lohmer, S., Pevarello, P. Imidazo[1,2-A]pyridine-ylmethyl-derivatives and their use as flavoring agents. *WO2015014607 (2015)*.
2. Winning, M., Lohmer, S., Pevarello, P. Imidazo 1H-pyrrole-2, 4-dicarbonyl-derivatives and their use as flavoring agents. *WO2015014609 (2015)*.

LUBRICATED SLIDING CONTACT

1. Yamane, K., Goto, S. Sliding member. *US20150040697 (2015)*.

SLIDING CONTACT & LUBRICATION

1. Ogahara, Y., Kasai, M., Koshima, H., Tsujioka, M., Miyake, K. Lubricating oil composition, and sliding mechanism using lubricating oil composition. *US20150036962 (2015)*.

LUBRICATION

1. Chang, L.-S. Oil collection and forced lubrication structure of a model engine crankshaft. *US8967111 (2015)*.
2. Pump, C.D. Power transmitting component with torque transfer device configured with fluid evacuation and lubrication system. *WO2015027044 (2015)*.
3. Muldoon, M.J. Torque connector lubrication scuppers. *US2015052873 (2015)*.
4. Walch, M. Harvesting machine comprising an improved lubrication device. *US2015052866 (2015)*.
5. Hiner, K.C., Pillers, L.P. Lubrication system for tool. *US2015047928 (2015)*.
6. Dobes, M. Multifunctional lubrication unit of working screw nut. *CZ27755 (2015)*.
7. Watanabe, Y. Lubrication device of in-wheel motor drive device. *WO2015016058 (2015)*.

8. Rood, J.A., Smerud, S.J., Novak, K.A., Heger, J.M., Lepak, D., Benco, M.G. Double-ended scroll compressor lubrication of one orbiting scroll bearing via crankshaft oil gallery from another orbiting scroll bearing. *US2015037184 (2015)*.
9. Nelson, R.L., Pieper, R.G. Rail road track lubrication apparatus and method. *US2015034422 (2015)*.
10. Ifield, B. Method and apparatus for purging air from automatic lubrication systems. *AU2014280895 (2015)*.
11. Adane, T., Cordier, S., Gardelle, J.-L. Roller bearing having internal lubrication. *US2015030274 (2015)*.
12. Quix, H.G., Mehring, J. Lubrication system for an internal combustion engine, and method for lubrication. *US2015027389 (2015)*.
13. Burger, R., Van Der, V.B., Schalk, P., Van Eersel, K., Kroot, F. Method of and an arrangement for improving the lubrication system of a propulsion device of a marine vessel. *US2015021120 (2015)*.
14. Muutonen, T. Rock drilling machine, rotating sleeve and method for lubrication. *AU2014202976 (2015)*.
15. Matsuda, Y., Naruoka, S., Arima, H., Yokoyama, S. Vehicle engine lubrication system. *WO2015004758 (2015)*.
16. Barbir, M. Lubrication arrangement for a drive axle of a haul vehicle. *US2015000990 (2015)*.
17. Boehni, K.A., Kofmehl, A. System and method for fleet wheel-rail lubrication and noise management. *EP2841841 (2015)*.
18. Hüttig, J., Grolla, P. Central lubrication distributor system of a thermoforming machine. *EP2840294 (2015)*.

SURFACE TOPOGRAPHY

1. Espe, O. Method for producing a hydrophobic or superhydrophobic surface topography. *WO2015024609 (2015)*.
2. Miller, B.L., Lifson, M.A., Roy, D.J.B. Method for the topographically-selective passivation of micro- and nanoscale devices. *US20150037815 (2015)*.
3. Wang, W.-C., Kang, W.-Y., Chang, Y.-H., Hsu, H.-H. Method and system for on-line real-time measuring the surfacetopography and out-of-plane deformation by using phase-shifting shadow moire method. *US20150029514 (2015)*.

SURFACE TOPOGRAPHY & LUBRICATION

1. Ullrich, Jr., P.F., Patterson, C.J., Schneider, J.M. Implants having three distinct surfaces. *US20150012100 (2015)*.

SCUFFING & LUBRICATION & SURFACE TOPOGRAPHY

1. Landa, B., Abramovich, S., Golodetz, G., Nakhmanovich, G. Ink film constructions. *US20150044437 (2015)*.

DISRUPTOR ADAPTER DESIGN

1. Hall, D., Hall, P.R. Methods and systems for flooring material recycling. *WO2015009785 (2015)*.

EXPLOSIVE ORDNANCE DISPOSAL

1. Robertson, J., Veater-Young, S., Hairsnape, D. Charge deployment system for ordnance neutralisation. *WO2015022533 (2015)*.
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SLUG ADAPTER & CALIBER

1. Sammut, D.J., Hodnett, T. Apparatus and method for calculating aiming point information. *US20150020431 (2015)*.

SLUG ADAPTER

1. Joseph, S., Argaman, Y., Amlany, T., Harpaz, A. Pyro-technic slug. *US20150040745 (2015)*.
2. Vann, C.S. Detection and mixing in a conduit in integrated bioanalysis systems. *US20150064706 (2015)*.
3. Reguis, A., Repa, A., Gelin, V. Adjustable fastening system for sliding boards and board equipped with such a system. *US20150031253 (2015)*.
4. Babej, J., Humpert, R. Method for the punching in and attachment of a fastener element and corresponding die button. *US20150059152 (2015)*.
5. Jahanshahi, E., Skogestad, S. Method of operating a pipeline-riser system. *WO2015000655 (2015)*.
6. Vanderford, D.E., Van Adrichem, M. Adjustable riser suspension and sealing system. *US20150000923 (2015)*.
7. Chugunov, N., Morris, J.P. Method for adaptive optimizing of heterogeneous proppant placement under uncertainty. *US20150060053 (2015)*.
8. Harvey, T.D. Identifiable projectiles and methods to make identifiable projectiles for firearms. *US20150033973 (2015)*.

AXIAL FORCE & COAL & ROCK CUTTING

1. Li, X.S., Sun, Y., Guo, H. Cutting drum and method of designing a cutting drum. *US20150032433 (2015)*.
2. Myers, R.R. Drill bits, cutting elements for drill bits, and drilling apparatuses including the same. *US20150059255 (2015)*.
3. Tunget, B.A. High pressure large bore well conduit system. *US20150021018 (2015)*.
4. Brodt, A. Underwater gas liquefaction, gas field development and processing combustible materials. *WO2015008274 (2015)*.

5. Niederriter, E.F., Franklin, S.W. Drive mechanism for a longwall mining machine. *US20150008720 (2015)*.

AXIAL FORCE & MOTION PARAMETERS

1. Rajasingham, A.I. Axial gap electrical machine. *US20150015124 (2015)*.
2. Ashmore, B.C. Recording and communicating body motion. *US20150017619 (2015)*.
3. Tsusaka, Y., Sato, T., Fudaba, Y. Force measurement apparatus and force measurement method, master slave apparatus, force measurement program, and integrated electronic circuit. *US20150057575 (2015)*.
4. Halfon, I., Glozman, Y., Galim, I. Wind parameter indication. *US20150027220 (2015)*.
5. McAlister, R.E. Motion modifiers for fuel injection systems. *US20150069144 (2015)*.
6. Ashmore, B.C. Recording and communicating body motion. *WO2015006108 (2015)*.
7. Bergan, H. Motion compensation system. *US20150008382 (2015)*.
8. Hoff, E.J., Schade, R.A., Kenney, A.L., Tibben, B.S. Axial fluid valves. *WO2015009698 (2015)*.

HYDROSTATIC SPHERICAL BEARING

1. Czepak, J., Dyck, G., Vallebrant, P.-O. Hydrostatic variator. *WO2015008204 (2015)*.
2. Van Mullem, A., Haven, M., Dricken, C., Neitzel, S. Apparatus and method for a bearing assembly system. *US20150003760 (2015)*.
3. Gotfredsen, A. Wind turbine with yaw bearing lifting device. *US20150047270 (2015)*.
4. Togawa, T., Ito, K., Ishii, Y., Uchiyama, K. Substrate processing apparatus. *US20150000055 (2015)*.

MARINE PROPELLERS

1. Ulgen, M.N. Mechanically-adjustable pitch propeller. *US20150037152 (2015)*.

HYDROSTATIC SPHERICAL BEARING & SUSPENSION THEORY

1. Zuo, Y., Mullins, O.C., Dubost, F.X., Ayan, C., Abdallah, W., Pomerantz, A.E., Zhang, D. Method for characterization of hydrocarbon reservoirs. *US20150006084 (2015)*.
2. Schilling, A., Hadjipanayi, E., MacHens, H.-G. Device-based methods for localized delivery of cell-free carriers with stress-induced cellular factors. *US20150023911 (2015)*.

3. Salafsky, J.S., McGuinness, R.P. Methods for identifying modulators of RAS using nonlinear techniques. *US20150051110 (2015)*.
4. Lafferty, T., Miller, M.J. Well treatment with untethered and/or autonomous device. *US20150060064 (2015)*.
5. Mason, J. Chlorine dioxide-mediated polymer hydration. *US20150005205 (2015)*.
6. Quake, S.R., Chou, H.-P. Integrated active flux micro-fluidic devices and methods. *US20150031116 (2015)*.

MOMENT BALANCE PRINCIPLE & PROPELLER

1. Firanski, J.A., McAllister, J.B., Olch, R.H., Dalan, L.D., Ghapgharan, E. System for aligning a propeller. *US20150008857 (2015)*.
2. Goldstein, L. Airborne wind energy conversion system with endless belt and related systems and methods. *US20150008678 (2015)*.
3. Park, Y.C. Amphibious vehicle. *US20150038027 (2015)*.

STATIC BALANCE & PROPELLER

1. Imran, M. Self-propelled buoy for monitoring underwater objects. *US20150003192 (2015)*.
2. Horrigan, D. Propelling objects using a caudal cycle. *WO2015006514 (2015)*.
3. Giovenga, P. Convertiplane with new aerodynamic and technical solutions which make the aircraft safe and usable. *WO201502271 (2015)*.