

## Patent Selections:

The patents annotated in this section have been selected from various patent collections. They are recent patents categorized by different nanotechnology methods, process and techniques involved and related to nanotechnology and are relevant to the articles published in this journal issue.

### SUPPORTED METALS

1. Nel, A. E. Assessing the toxic potential of nanomaterials. *WO08010843 (2008)*.
2. Hudspeth, H. D., Lee, J. U., Corderman, R. R., Zhang, A., Rohling, R. B., Denault, L., Balch, J. E. Gated nanorod field emitter structures and associated methods of fabrication. *US20087326328(2008)*.
3. Harutyunyan, A., Mora, E., Tokune, T. Catalyst for the growth of carbon single-walled nanotubes. *WO08016390 (2008)*.

### METAL NANOPARTICLE

1. Leonard, P., Budow, S., Seela, F. Nanoparticle nucleic acid binding compound conjugates forming I-Motifs. *WO08017507 (2008)*.
2. Clarke, J.T., O'brien, B. Medical devices having a temporary radiopaque coating. *WO08008126 (2008)*.
3. Haubrich, S., Kunze, K., Dunphy, J. C., Gudeman, C., Rockenberger, J., Zurcher, Fabio, Sleiman, N., Takashima, M., Spindt, C. Interface layer for the fabrication of electronic devices. *US20087315068 (2008)*.
4. Yadav, T. Polymer nanotechnology. *US20087341757 (2008)*.
5. Burtscher, P., Madler, L., Moszner, N., Pratsinis, S. E., Rheinberger, V. M. Dental composites based on x-ray-opaque mixed oxides prepared by flame spraying. *US20087335250 (2008)*.

### METAL NANOPOWDER

1. Reed, K. J. Cerium dioxide nanoparticle-containing fuel additive. *WO08030805 (2008)*.
2. Boulos, M. I., Kogelschatz, U., Nessim, C. plasma surface treatment using dielectric barrier discharges. *WO08014607 (2008)*.
3. Parashar, S., Sarkar, S., Khaselev, O., Lewis, B. G., Marcz, M. T., Singh, B., Desai, N., Liberatore, M. Particles and inks and films using them. *WO08017062 (2008)*.

### NANOALLOY

1. Aradi, A. A., Esche, C. K. Jr., Mcintosh, K., Jao, T.-C. Nanoalloy fuel additives. *EPI889895 (2008)*.
2. Han, M., Zhong, X., Knoll, W. Ternary and quaternary nanocrystals, processes for their production and uses thereof. *US20077056471 (2007)*.
3. Yang, H., Teng, X. Core-shell magnetic nanoparticles and nanocomposite materials formed therefrom. *US20077029514 (2007)*.

4. Sager, B. M., Roscheisen, M. R., Petritsch, K., Smestad, G., Fidanza, J., Miller, G. A., Yu, D. Optoelectronic device and fabrication method. *US20077291782 (2007)*.
5. Yang, R., Wang, W. Out-of-plane pre-aligned refractive micro lens. *US2007726291 (2007)*.
6. Roscheisen, M. R., Sager, B. M., Fidanza, J., Petritsch, K., Miller G.A., Yu, D. Molding technique for fabrication of optoelectronic devices. *US20077253017 (2007)*.
7. Parikh, A. N., Yee, C. K., Amweg, M. L. Direct micro-patterning of lipid bilayers using UV light and selected uses thereof. *US20077132122 (2007)*.
8. Singh, B. P., Arora, P. K. Hydrophobic thin films on magnesium fluoride surfaces. *US2007647203 (2007)*.
9. Singh, B. P., Rickert, S. E. Ultra-thin molecular film. *US20075173365 (2007)*.

### RIEKE METALS

1. Hirai, K. Organic thin-film transistor and manufacturing method thereof. *US20080032441 (2008)*.
2. Guo, L., He, S., Jian, T., Lai, Y., Liu, J., Nargund, R. P., Sebhat, I. K., Ujjainwalla, F., Ye, Z., Young, J.R. Acylated spiropiperidine derivatives as melanocortin-4 receptor agonists. *US20087329673 (2008)*.
3. Elmaleh, D. R., Fischman, A. J., Shoup, T. M. Catalytic radiofluorination. *WO08022319 (2008)*.
4. Harrington, J.A., Gopal, V. Method, and article of the method, for fabricating a flexible, hollow waveguide. *US20087315675 (2008)*.
5. Dubensky, H. J., Jia, J. Y., Runkle, D. R., Pierjok, W. J., Smith, D. W., Weatherd, M. D., Stein, K. L., Pears, N. E., Diamond, D. T., Edgell, R. H. Raceway construction for an air handing unit. *US20087334377 (2008)*.

### NANOSTRUCTURED TITANATES

1. Andrews, G. D., Bailey, R. K., Blanchet, G. B., Catron, J. W., Gao, F., Jaycox, G. D., Johnson, L. K., Keusseyan, R. L., Meth, J. S., Principe, F. S., Schiffino, R. S., Yohannan, R. M. A process for enhancing the resolution of a thermally transferred pattern. *WO08010981 (2008)*.
2. Bailey, R. K., Blanchet, G. B., Catron, J. W., Chesterfield, R. J., Gao, F., Glicksman, H. D., Goldfinger, M. B., Jaycox, G. D., Johnson, L. K., Keusseyan, R. L., Malajovich, I., Meng, H., Meth, J. S., Nunes, G., O'neil, G., Sharp, K. G., Tassi, N. G.

Thin film transistor comprising novel conductor and dielectric compositions. *WO08010983 (2008)*.

### NANOTUBES

1. El Bounia, N.-E., Leibler, L., Tence-Girault, S., Soulie-Ziakovic, C. Polymer materials containing carbon nanotubes, method for preparing same from a premix with a dispersant. *EP1893689 (2008)*.
2. Zuo, J.-M., Celik-Aktas, A., Stubbins, J. F., Maclaren, S. Machining nanometer-sized tips from multi-walled nanotubes. *EP1900010 (2008)*.
3. Rowley, L. A., Irvin, G. C. Jr., Anderson, C. C., Majumdar, D. Coating compositions containing single wall carbon nanotubes. *EP1885651 (2008)*.
4. Sullivan, P. G. Nanotubes as mitochondrial uncouplers. *EP1879600 (2008)*.
5. Ricoul, F., Sarrut, N., Dijon, J., Vinet, F. Microfluidic component with a channel filled with nanotubes and method for its production. *EP1882182 (2008)*.
6. Burke, P. J., Yu, Z. Nanotubes as microwave frequency interconnects. *EP1872373 (2008)*.

### HYDROTHERMAL TREATMENT

1. Kyotani, T., Ogawa T., Ito, K., Kikuchi, H., Nakao, H., Kumai, T. Carbon nanotube composite material comprising a continuous metal coating in the inner surface, magnetic material and production thereof. *US20087335408 (2008)*.
2. Goebbert, C., Wittmer, R., Preuss, K. Continuously operating autoclave. *WO08020078 (2008)*.
3. Bellussi, G., Carati, A., Rizzo, C., Diaz, M. U., Zanardi, S., Parker, W. O'neil., Millini, R. Organic-inorganic hybrid silicates and metal-silicates having an ordered structure. *WO08017513 (2008)*.
4. Whiteford, J. A., Freeman, W. P. Methods and systems for preparing an antimicrobial composition. *US20080021212 (2008)*.
5. O'connor, P. Hydrothermal treatment of carbon-based energy carrier material. *EP1852493 (2007)*.
6. Cimermanis, L.-H. Plant for hydrothermally treating and drying plaster stone. *EP1837315 (2007)*.

### MICROWAVE-ASSISTED METHOD & TITANIUM DIOXIDE

1. Weber, J., Atanasoska, L., Shippy, I. J. L., Parsonage, E. E. Medical devices with selective coating. *WO08002778 (2008)*.
2. Zaveri, N., Chao, W.-R. Flavanoid compounds as chemotherapeutic, chemopreventive, and anti-angiogenic agents. *US20087329687 (2008)*.
3. Mizuno, M., Mizufune, H., Sera, M., Mineno, M., Ueda, T. Alpha-carboline derivatives and methods for preparation. *WO08016184 (2008)*.

### ABSORBENTS

1. Hasegawa, Y., Sakurada, T., Hishikawa, N., Yamato, Y. Oil dispersion of powder being surface-treated with specific acidic ester oil, and cosmetic composition containing the same. *EP1881039 (2008)*.
2. Gould-Fogerite, S., Mannino, R. J., Ahl, P., Shang, G., Chen, Z. W., Krause-Elsmore, S. L. Cochleate compositions directed against expression of proteins. *US20080009457 (2008)*.
3. Pronovost, A. D. Salivary glucose monitoring. *US20080020477 (2008)*.

### NANOPOROUS MATERIALS

1. Happ, T., Philipp, J. B. Phase change memory cell including nanocomposite insulator. *EP1881542 (2008)*.
2. Niu, C., Porous substrates, articles, systems and compositions comprising nanofibers and method of their use and production. *WO08027265 (2008)*.
3. Ferrari, M. Multistage delivery of active agents. *WO08021908 (2008)*.
4. Ward, J. W., Rueckes, T., Segal, B. M. Methods of using pre-formed nanotubes to make carbon nanotube films, layers, fabrics, ribbons, elements and articles. *US20087335395 (2008)*.
5. Segal, B. M., Brock, D. K., Rueckes, T. Hybrid circuit having nanotube electromechanical memory. *US20087342818 (2008)*.
6. Lee, W., Nielsch, K., Goesele, U., Ji, R. A method of manufacturing a self-ordered porous structure of aluminium oxide, a nanoporous article and a nano object. *WO08014977 (2008)*.

### POROUS NANOCOMPOSITES

1. Liu, T., Vijayendran, B. R., Gupta, A., Paek, S. M. Carbon nanotube nanocomposites, methods of making carbon nanotube nanocomposites, and devices comprising the nanocomposites. *WO08027502 (2008)*.
2. Dومانidis, C. C., Ando, T., Chen, J., Rebholz, C.G. Nanoheater elements, systems and methods of use thereof. *WO08021073 (2008)*.
3. Mirkin, C.A., Dravid, V. P., Su, M., Liu, X. Patterning of solid state features by direct write nanolithographic printing. *US20080044575 (2008)*.
4. Reches, M., Gazit, E. Peptide nanostructures containing end-capping modified peptides and methods of generating and using the same. *US20080009434 (2008)*.
5. Velev, O. D., Alargova, R. G. Process for preparing microrods using liquid-liquid dispersion. *US20087323540 (2008)*.

**AIR NANOMAMBRANE PURIFICATION**

1. Pitea, D., Lasagni, M., Collina, E., Campiglio, A. Nanostructured metallic silver pre-activated as an antibacterial agent. *EP1889676 (2008)*.
2. Gong, H., Yap, E. P. H., Chen, L. Sample preparation integrated chip. *US20087338760 (2008)*.
3. Isojima, T., Tanaka, H., Shiroya, T., Takeuchi, H., Hanasaki, M., Ifuku, Y. Biomaterial construct, its producing method, biomaterial support, target material purifying method, affinity chromatography container, separation chip, analyzing method and analyzing separator for target material, biomaterial complex, and its support, sensor chip, solid support with biomaterial fixed thereon. *US20080044925 (2008)*.
4. Rogers, J. A., Nuzzo, R. G., Meitl, M., Menard, E., Lee, K. J., Khang, D.-Y., Sun, Y., Zhu, Z., Ko, H. C., Carlson, A., Choi, W. M., Stoykovich, M., Jiang, H., Huang, Y. Controlled buckling structures in semiconductor interconnects and nanomembranes for stretchable electronics. *WO08030960 (2008)*.

**NANOPARTICLES**

1. Kelman, M., Yu, P., Jayaraman, M., Poplavskyy, D., Jurbergs, D., Lemmi, F., Antoniadis, H. Semiconductor thin films formed from group IV nanoparticles. *WO08030966 (2008)*.
2. Prasad, P. N., Kim, S., Ohulchanskyy, T.Y., Pandey, R. K. Nanoparticles for two-photon activated photodynamic therapy and imaging. *WO08030624 (2008)*.
3. Ben-Moshe, M., Asher, S. A., Qu, D., Luo, J. High refractive index crystalline colloidal arrays materials and a process for making the same. *WO08016606 (2008)*.
4. Panyam, J., Patil, M. D. C. Polymer-surfactant nanoparticles for sustained release of compounds. *WO08022146 (2008)*.
5. Kim, H. K., Sun, Z., Capelli, C.C. Metallic nano-optic lenses and beam shaping devices. *US20087315426 (2008)*.

**BIONANOTECHNOLOGY**

1. Tsukada, K., Goan, K., Furusawa, N., Okada, H., Hoshino, H. Core-shell type nanoparticle phosphor. *WO07102458 (2007)*.

**DIP-PEN**

1. Stellacci, F., Yu, A. A. Liquid supramolecular nanostamping (Lisuns). *WO08027262 (2008)*.
2. Dai, H. Integrated nanotube sensor. *US20087318908 (2008)*.
3. Park, J. W., La, Y. H., Moon, J. H., Kim, B., Kang, T. H., Kim, K. J. Method for high resolution patterning using soft X-ray, process for preparing nano device using the method. *US20080038542 (2008)*.

**NANOTECHNOLOGY**

1. Yadav, T. Tungsten comprising nanomaterials and related nanotechnology. *EP1888465 (2008)*.
2. Yadav, T. Polymer nanotechnology. *US20087341757 (2008)*.
3. Jordan, A., Waldoefner, N., Decken, K., Scholz, R. Nanoparticle/active ingredient conjugate. *EP1871423 (2008)*.
4. Divito, E. E., Tubbs, K., Glover, D. L. Energetically activated biomedical nanotherapeutics integrating dental and medical treatments and procedures. *WO08024442 (2008)*.
5. White, H. S., White, R. J., Brown, R. B., Nam, H., Shim, J. H. Nanopore based ion-selective electrodes. *WO08030582 (2008)*.
6. Henriques, A., Schyns, G., Wenzel, T. J., Potot, S. Spore surface displays of bioactive molecules. *WO08017483 (2008)*.
7. Krishna, N. M., Hofmann, R., Singh, K. K., Armstrong, K. J. Nanocrystal formation. *WO08005892 (2008)*.

**PRINTING, INFORMATION & ENTROPY**

1. Allen, R. W. Image-Taking System. *CA2551323 (2007)*.
2. Soeda, H., Kawaoka, Y., Yoshinaga, H. Image outputting system. *US20077310159 (2007)*.
3. Albert, J. D., Wilcox, R. J., Gates, H. Broadcast system for electronic ink signs. *US2007285385 (2007)*.
4. Sperschneider, R., Herre, J., Linzmeier, K., Hilpert, J. Entropy coding with compact codebooks. *EP1869775 (2007)*.

**POROUS SILICON & NANOTECHNOLOGY**

1. Lee, W., Nielsch, K., Goesele, U., Ji, R. A method of manufacturing a self-ordered porous structure of aluminium oxide, a nanoporous article and a nano object. *EP1884578 (2008)*.
2. Ferrari, M. Multistage delivery of active agents. *WO08021908 (2008)*.
3. Ebels, U., Dieny, B., Lestelle, D., Gautier, E. A method of fabricating a nanostructure on a pre-etched substrate. *WO08012684 (2008)*.
4. Warren, S. C., Disalvo, F. J., Weisner, U. B. Sol-Gel precursors and products thereof. *WO08031108 (2008)*.
5. Reed, K. J. Ceramic high temperature lubricity agent. *WO08030810 (2008)*.
6. Haynie, D. T. Multilayer films, coatings and microcapsules comprising. *WO08030253 (2008)*.
7. Carty, S., Jenkins, S., Liversidge, G. Nanoparticulate sorafenib formulations. *WO08008733 (2008)*.

- Bertin, C. L., Rueckes, T., Segal, B. M. Nanotube-based switching elements with multiple controls. *US20087339401(2008)*.

#### NANOSTRUCTURED SEMICONDUCTING MATERIALS

- Mancevski, V. System and method for fabricating logic devices comprising carbon nanotube transistors. *US20087335603 (2008)*.
- Doumanidis, C. C., Ando, T., Chen, J., Rebholz, C. G. Nanoheater elements, systems and methods of use thereof. *WO08021073 (2008)*.
- Nuzzo, R. G., Rogers, J. A., Mack, N. H., Stewart, M., Malyarchuk, V., Yao, J. Multispectral plasmonic crystal sensors. *WO08030666 (2008)*.
- Zhang, M., Lu, Y. Nanostructured bulk thermoelectric material. *US20077309830 (2007)*.
- Ren, Z., Wang, W. Single-crystal metal nanocrystals. *US20070298536 (2007)*.
- Reddy, D. Nanoparticle sensitized nanostructured solar cells. *WO07098378 (2007)*.
- Gouma, P.-I. Electrospun single crystal MOO<sub>3</sub> nanowires for bio-chem sensing probes. *WO07139859 (2007)*.
- Chow, C. Y. H., Dubrow, R. S. Nanofiber surface based capacitors. *US20077295419 (2007)*.

#### OPTOELECTRONIC APPLICATIONS & NANOTECHNOLOGY

- Cavallini, M., Biscarini, F. Nanoprinting method. *US20087320283 (2008)*.
- Lau, A.N.K. Optoelectronic separation of biomolecules. *WO07102839 (2007)*.
- Pettit, J.W. Passive optical sensor using carbon nanotubes. *US20077286210 (2007)*.

#### CHEMICAL SENSOR & NANOTECHNOLOGY

- Bohnert, K., Gabus, P., Brandle, H. Temperature-stabilized sensor coil and current sensor. *US20087339680 (2008)*.
- Allsop, T. D. P., Webb, D. J., Neal, R., Bennion, I. Surface plasmons. *WO08007115 (2008)*.
- Ferren, B., Hillis, W. D., Hyde, R. A., Ishikawa, M. Y., Jung, E. K.Y., Leuthardt, E. C., Myhrvold, N. P., Tegreene, C. T., Wood, L. L. JR., Wood, V. Y.H. Bioelectromagnetic interface system. *US20080033569 (2008)*.
- Ure, D. A., Palmer, R. E. Nano-particle biochip substrates. *US20080038830 (2008)*.
- Chen, S. Sample vessels. *US20080038813 (2008)*.

#### NANOEMULSIONS & COSMECEUTICALS

- Nicolosi, R., Wilson, T. Compositions and methods for making and using nanoemulsions. *WO08010788 (2008)*.
- Baker, J.R. Jr., Bielinska, A., Myc, A. Nanoemulsion vaccines. *WO07120860 (2007)*.
- Mulvanerty, N. Medicated skin care preparation for promoting wound healing. *WO07030666 (2007)*.
- Lehtola, V.-M., Halonen, K. Novel oral formulations of ospemifene. *US20070104742 (2007)*.
- Mookerjee, P., Zambelli-Weiner, A., Kramer, S. Antimicrobial compositions. *US20070258996 (2007)*.
- Pant, K., Stokowski, R., Cox, D.R., Green, M. R., Van Der Ouderaa, F.G., Ginger, R. S., Fereday, A. C., Filsell, W., Jarman, C.D., Dadd, A. Modulation of skin color. *US20070148664 (2007)*.

#### SOLID LIPID NANOPARTICLES

- Fischer, K.C., General, S., Licha, K. Optically fluorescent nanoparticles. *EP1760467 (2007)*.
- Royere, A., Bibette, J., Bazile, D. Monodispersed solid lipid particle compositions. *US20070053988 (2007)*.
- Shorr, R., Rodriguez, R. Pharmaceutical and diagnostic compositions containing nanoparticles useful for treating targeted tissues and cells. *US20070203166 (2007)*.
- Vereyken, I., Franssen, O., Masannek, C. Pharmaceutical composition comprising an iron chelator. *WO07026028 (2007)*.
- Fukui, H., Sekine, Y., Kayaba, D., Kang, E.-C., Ogura, A., Shuto, K. Cosmetic product, nanoparticles for cosmetics, and powder for cosmetics. *EP1779897 (2007)*.
- Beer, P.D., Lankshear, M., Dattani, H., Jackson, A., Avory, M. Radiolabelled nanoparticles. *WO07010211 (2007)*.

#### ANTIOXIDATIVE & NANOTECHNOLOGY

- Jacobson, G.B., Zare, R. N., Markides, K.E., Shinde, R. R., Contag, C.H. Encapsulated nanoparticles for drug delivery. *WO07133750 (2007)*.
- Shindo, K. Antioxidative composition and method for using the same. *JP07217305 (2007)*.
- Elgaard, T., Nielsen, B.K. Natural antioxidant additive for feed and drinking water. *EP1790234 (2007)*.
- Kato, Y., Hosoda, S. Cosmetic. *JP07031287 (2007)*.
- Kabrodt, K., Schellenberg, I. Antioxidant substance fractions for cosmetic formulations. *WO07112729 (2007)*.