2023

Simultaneous Increase in Dielectric Breakdown Strength and Thermal Conductivity of Oriented UHMWPE Containing Diamond Nanoparticles.

Optimization of thermoelectric properties of carbon nanotube veils by defect engineering.

Machine learning of carbon vacancy formation energy in high-entropy carbides.

High-entropy MTiO3 perovskite oxides with glass-like thermal conductivity for thermoelectric applications.

Relaxor ferroelectric behaviour observed in (Ca0.5Sr0.5Ba0.5Pb0.5)Nb2O7 perovskite layered structure ceramics.

An overview of oxidation in hybrid and glass-based protective coatings for thermoelectric materials for medium-temperature range applications.
D Isanto F, Smeacetto F, Reece MJ and Salvo M. Advances in Applied Ceramics.

Joining of C/C composite with high entropy alloy interlayers via spark plasma sintering and its mechanical strength at 1600.

Time dependent deformation of LaCoO3 based perovskites at different temperatures: ferroelastic and non-ferroelastic creep behaviour.

2022

Ultra-low energy processing of graphite: a fast-track journey towards carbon neutrality.

Grain orientation evolution and multi-scale interfaces enhanced thermoelectric properties of textured Sr0.9La0.1TiO3 based ceramics.
Terahertz Faraday Rotation of SrFe12O19 Hexaferrites Enhanced by Nb Doping.

The role of Cr addition on the processing and mechanical properties of high entropy carbides.

Ablation behavior of (HTaZrNbTi)C high-entropy carbide and (HTaZrNbTi)CxSiC composites.

Low thermal conductivity in A-site high entropy perovskite relaxor ferroelectric.

Dielectric polymer composites with ultra-high thermal conductivity and low dielectric loss.

Flash Spark Plasma Sintering of SiC: Impact of Additives.

A novel high-entropy perovskite ceramics Sr0.9La0.1(Zr0.25Sn0.25Ti0.25Hf0.25)O3 with low thermal conductivity and high Seebeck coefficient.

Ablation behaviour of (HTa-Ta-Zr-Nb)C high entropy carbide ceramic at temperatures above 2,100 C.

Thermal and electrical properties of a high entropy carbide (Ta, Hf, Nb, Zr) at elevated temperatures.

Synthesis, microstructure, and mechanical properties of novel high entropy carbonitrides.

The effects of dual-doping and fabrication route on the thermoelectric response of calcium cobaltite ceramics.

Low-cost Free-standing ferroelectric polymer films with high polarization produced via pressing-and-folding.

Synthesis and densification of (Zr-Hf-Nb-Ta)C-Co high entropy cermet prepared by pressureless melt infiltration using spark plasma sintering.

Thermoelectric Performance of n-Type Magnetic Element Doped Bi2S3.

Phase transformations in an Aurivillius layer structured ferroelectric designed using the high entropy concept.

Synthesis and thermoelectric properties of high-entropy half-Heusler MFe1xCoSb (M = equimolar Ti, Zr, Hf, V, Nb, Ta).

High-entropy (Ca0.2Sr0.2Ba0.2La0.2Pb0.2)TiO3 perovskite ceramics with A-site short-range disorder for thermoelectric applications.
Densifying \((\text{Hf}0.2\text{Zr}0.2\text{Ta}0.2\text{Nb}0.2\text{Ti}0.2)\)C high-entropy ceramics by two-step pressureless sintering.

Ultra-high energy density integrated polymer dielectric capacitors.

2021

Fabrication and characterisation of single-phase Hf2Al4C5 ceramics.

A review on advances in doping with alkali metals in halide perovskite materials.

Terahertz characterization of lead-free dielectrics for different applications.

Hardness anisotropy and active slip systems in a (Hf-Ta-Zr-Nb)C high-entropy carbide during nanoindentation.

Solidification microstructures of multielement carbides in the high entropy Zr-Nb-Hf-Ta-Cx system produced by arc melting.

High-Entropy Ceramics.

Scalable and environmentally friendly mechanochemical synthesis of nanocrystalline rhodostannite (Cu2FeSn3S8).

Enhanced mechanical and thermal properties of ferroelastic high-entropy rare-earth-niobates.

Strength analysis and stress-strain deformation behavior of 3 mol% y-tzp and 21 wt.% al2 o3-3 mol% y-tzp.

Low temperature densification mechanism and properties of Ta1-xHfxC solid solutions with decarbonization and phase transition of Cr3C2.

Effect of loading and heating history on deformation of lacoo3.

Thermally-insulated ultra-fast high temperature sintering (UHS) of zirconia: A master sintering curve analysis.

Pressure assisted flash sintering of Mn-Co based spinel coatings for solid oxide electrolysis cells (SOECs).

Pressureless sintering and properties of \((\text{Hf}0.2\text{Zr}0.2\text{Ta}0.2\text{Nb}0.2\text{Ti}0.2)\)C high-entropy ceramics: The effect of pyrolytic carbon.
Ultrafast high-temperature sintering (UHS) of fine grained -Al2O3.


A review of electromagnetic processing of materials (EPM): Heating, sintering, joining and forming.

Dual-phase rare-earth-zirconate high-entropy ceramics with glass-like thermal conductivity.

Pyrochlore-fluorite dual-phase high-entropy ceramic foams with extremely low thermal conductivity from particle-stabilized suspension.

Oxidation resistance of (Hf-Ta-Zr-Nb)C high entropy carbide powders compared with the component monocarbides and binary carbide powders.

Electronic structure and thermal properties of Sm3+-doped La2Zr2O7: First-principles calculations and experimental study.

Thermoelectric Cu-S-Based Materials Synthesized via a Scalable Mechanochemical Process.

Fast synthesis of n-type half-heusler TiNiSn thermoelectric material.

Effect of processing on the structures and properties of bismuth sodium titanate compounds.

Multi elements substituted Aurivillius phase relaxor ferroelectrics using high entropy design concept.

Response to comment on point defect structure of La-doped SrTiO3 ceramics with colossal permittivity.

Ultra-low thermal conductivity and enhanced mechanical properties of high-entropy rare earth niobates (RE3NbO7, RE = Dy, Y, Ho, Er, Yb).


2020

Ultrafast Electric Field-Induced Phase Transition in Bulk Bi0.5Na0.5TiO3 under High-Intensity Terahertz Irradiation.
High Tunability and Low Loss in Layered Perovskite Dielectrics through Intrinsic Elimination of Oxygen Vacancies.

Low-loss High Entropy Relaxor-like Ferroelectrics with A-site Disorder.

Small scale fracture and strength of high-entropy carbide grains during microcantilever bending experiments.

Hierarchically porous lanthanum zirconate foams with low thermal conductivity from particle-stabilized foams.

The role of multi-elements and interlayer on the oxidation behaviour of (Hf-Ta-Zr-Nb)C high entropy ceramics.

Enhancing the thermoelectric performance of calcium cobaltite ceramics by tuning composition and processing.

Multiscale understanding of electric polarization in poly(vinylidene fluoride)-based ferroelectric polymers.

Oxidation protective glass coating for magnesium silicide based thermoelectrics.

Hybrid Flash-SPS of TiNiCu0.05Sn with reduced thermal conductivity.

Enhanced Hardness in High-Entropy Carbides Through Atomic Randomness.

Flash cold sintering: Combining water and electricity.

Structural and electronic evolution in the Cu3SbS4-Cu3SnS4solid solution.

Improved creep resistance of high entropy transition metal carbides.

Interfacial reaction between ZrNbHfTa foil and graphite: Formation of high-entropy carbide and the effect of heating rate on its microstructure.

Substitutional doping of hybrid organic-inorganic perovskite crystals for thermoelectrics.
Colossal thermoelectric enhancement in Cu$_{2+x}$Zn$_{1-x}$SnS$_4$ solid solution by local disordering of crystal lattice and multi-scale defect engineering.
*Royal Society of Chemistry.*

An investigation of the corrosion behavior of 316L stainless steel fabricated by SLM and SPS techniques.

Magnetic field-induced alignment of nanofibrous supramolecular membranes: a molecular design approach to create tissue-like biomaterials.

A review of cold sintering processes.

Highly textured and strongly anisotropic TiB$_2$ ceramics prepared using magnetic field alignment (9T).

Spark plasma sintered 84C-structural, thermal, electrical and mechanical properties.

Photocatalytic activity of 2D nanosheets of ferroelectric Dion-Jacobson compounds.

Giant energy storage density in PVDF with internal stress engineered polar nanostructures.

High thermoelectric performance of Ca$_3$Co$_4$O$_9$ ceramics with duplex structure fabricated via two-step pressureless sintering.

Effect of MnO$_2$ on the microstructure and electrical properties of 0.83Pb(Zr$_{0.5}$Ti$_{0.5}$)O$_3$-0.11Pb(Zn$_1/3$Nb$_{2/3}$)O$_3$-0.06Pb(Ni$_{1/3}$Nb$_{2/3}$)O$_3$ piezoelectric ceramics.

The contribution of electrical conductivity, dielectric permittivity and domain switching in ferroelectric hysteresis loops.

2019

Strength enhancement and slip behaviour of high-entropy carbide grains during micro-compression.
Csandi T, Castle E, Reece MJ and Dusza J. *Scientific Reports* vol. 9, (1).

Flash joining of conductive ceramics in a few seconds by flash spark plasma sintering.

Ultrahigh -phase content poly(vinylidene fluoride) with relaxor-like ferroelectricity for high energy density capacitors.
European Radioisotope Thermoelectric Generators (RTGs) and Radioisotope Heater Units (RHUs) for Space Science and Exploration.

The structure and thermoelectric properties of tungsten bronze Ba6Ti2Nb8O30.

High temperature stiffening of ferroelastic LaCoO 3.


A novel microstructural design to improve the oxidation resistance of ZrB2-SiC ultra-high temperature ceramics (UHTCs).

Flash spark plasma sintering of 3YSZ.

Mechanochemistry for Thermoelectrics: Nanobulk Cu 6 Fe 2 SnS 8 /Cu 2 FeSnS 4 Composite Synthesized in an Industrial Mill.

Microstructure and broadband dielectric properties of Zn 2 SiO 4 ceramics with nano-sized TiO 2 addition.

Twostep processing of thermoelectric (Ca 0.9 Ag 0.1 ) 3 Co 4 O 9 /nanosized Ag composites with high ZT.

High entropy Sr[(Zr 0.94Y 0.06) 0.2Sn 0.2Ti 0.2Hf 0.2Mn 0.2)O 3 x perovskite synthesis by reactive spark plasma sintering.

Anomalous slip of ZrB 2 ceramic grains during in-situ micropillar compression up to 500C.

Remarkably enhanced polarisability and breakdown strength in PVDF-based interactive polymer blends for advanced energy storage applications.

Oxidation protective hybrid coating for thermoelectric materials.

Glass-ceramic oxidation protection of higher manganese silicide thermoelectrics.
Crystal structure and improved thermoelectric performance of iron stabilized cubic Cu$_3$SbS$_3$ compound.

Realizing a stable high thermoelectric $zT$ over a broad temperature range in Ge$_{1-x}$Y$_x$Ga$_x$Sb$_y$Te via band engineering and hybrid flash-SPS processing.

Review of high entropy ceramics: design, synthesis, structure and properties.

Anisotropy and enhancement of thermoelectric performance of Sr$_0.8$La$_0.067$Ti$_0.8$Nb$_0.2$O$_3$: ceramics by graphene additions.

Refined SPS modeling based on calibrated current and voltage measurements.

2018

Time and frequency dependent mechanical properties of LaCoO$_3$-based perovskites: Neutron diffraction and domain mobility.

Time and frequency dependent mechanical properties of LaCoO$_3$-based perovskites: Internal friction and negative creep.

Flash spark plasma sintering of HfB$_2$ ceramics without pre-sintering.

Data-Driven Design of Ecofriendly Thermoelectric High-Entropy Sulfides.

Effect of the Processing Route on the Thermoelectric Performance of Nanostructured CuPb$_{18}$Sb$_{20}$.

Point defect structure of La-doped SrTiO$_3$ ceramics with colossal permittivity.

Microstructure characterization and thermoelectric properties of Sr$_0.9$La$_0.1$TiO$_3$ ceramics with nano-sized Ag as additive.

Effect of heat treatment on the properties of wood-derived biocarbon structures.

Effectiveness of boria welding flux in improving the wettability of ZrB$_2$ in contact with molten Cu.

Bioactive sol-gel glass-coated wood-derived biocarbon scaffolds.

In situ synthesis of m-type unfilled skutterudite with reduced thermal conductivity by hybrid Flash-Spark Plasma sintering.
Enhanced thermoelectric performance of Sn-doped Cu3SbS4.

Graphene-reinforced silicon oxycarbide composites prepared by phase transfer.
YU M. *Carbon.*

Investigation of electrochemical, optical and thermal effects during flash sintering of 8YSZ.

DC-electro softening in soda lime silicate glass: An electro-thermal analysis.


Microstructure of (Hf-Ta-Zr-Nb)C high-entropy carbide at micro and nano/atomic level.

Preparation and properties of biomorphic potassium-based geopolymer (KGP)-biocarbon (CB) composite.

SrFe12O19 based ceramics with ultra-low dielectric loss in the millimetre-wave band.

Topotactic anion-exchange in thermoelectric nanostructured layered tin chalcogenides with reduced selenium content.

Enhanced thermoelectric performance of Cs doped BiCuSeO prepared through eco-friendly flux synthesis.

Tuning of Catalytic Activity by Thermoelectric Materials for Carbon Dioxide Hydrogenation.
Achour A, Chen K, Reece MJ and Huang Z. *Advanced Energy Materials* vol. 8, (5).

Enhanced dielectric tunability and energy storage properties of plate-like Ba0.6Sr0.4TlO3/poly(vinylidene fluoride) composites through texture arrangement.


2017

Magnéli phase titanium suboxides by Flash Spark Plasma Sintering.


Understanding and quantification of grain growth mechanism in ZrO2carbon nanotube composites.

Influence of spark plasma sintering parameters on magnetic properties of FeCo alloy.
The effect of processing conditions on phase and microstructure of CaGeO3 ceramics.

Flash joining of CVD-SiC coated Cf/SiC composites with a Ti interlayer.

Impact of spark plasma sintering (SPS) on mullite formation in porcelains.

The deformation and fracture behaviors of 316L stainless steels fabricated by spark plasma sintering technique under uniaxial tension.

Rapid spark plasma sintering to produce dense UHTCs reinforced with undamaged carbon fibres.

Enhancement in thermoelectric performance of n-type Pb-deficit Pb-Sb-Te alloys.

High coercivity, anisotropic, heavy rare earth-free Nd-Fe-B by Flash Spark Plasma Sintering.

Peltier effect during spark plasma sintering (SPS) of thermoelectric materials.

Enhancement in the elongation, yield strength and magnetic properties of intermetallic FeCo alloy using spark plasma sintering.

Sintering trials of analogues of americium oxides for radioisotope power systems.

Crystallization kinetics and enhanced dielectric properties of free standing lead-free PVDF based composite films.

Pressureless spark plasma sintered Bioglass 45S5 with enhanced mechanical properties and stressinduced new phase formation.

Wetting and interfacial phenomena of Ni-Ta alloys on CVD-SiC.

Densification behaviour and physico-mechanical properties of porcelains prepared using spark plasma sintering.

Thermoelectric properties of highly-crystallized Ge-Te-Se glasses doped with Cu/Bi.

Flash spark plasma sintering of cold-Pressed TiB2-hBN.
Effect of ball-milling time on mechanical and magnetic properties.


Large-Scale Surfactant-Free Synthesis of p-Type SnTe Nanoparticles for Thermoelectric Applications.

Microstructural comparison of effects of hafnium and titanium additions in spark-plasma-sintered Fe-based oxide-dispersion strengthened alloys.

Effect of Phase Transitions on Thermal Depoling in Lead-Free 0.94(Bi0.5Na0.5TiO3)0.06(BaTiO3) Based Piezoelectrics.

Screening for CuS based 1 thermoelectric materials using crystal structure features.

Using graphene networks to build biospired self-monitoring ceramics.

Flash spark plasma sintering of magnesium silicide stannide with improved thermoelectric properties.

The impact of lone-pair electrons on the lattice thermal conductivity of the thermoelectric compound CuSbS2.

Spontaneous formation of interwoven porous channels in hard-wood-based hard-carbon for high-performance anodes in potassium-ion batteries.

2016


Theory-Guided Synthesis of an Eco-Friendly and Low-Cost Copper Based Sulfide Thermoelectric Material.

Joining of CVD-SiC coated and uncoated fibre reinforced ceramic matrix composites with pre-sintered Ti3SiC2 MAX phase using Spark Plasma Sintering.

Investigating the highest melting temperature materials: A laser melting study of the TaC-HfC system.

Non-congruence of high-temperature mechanical and structural behaviors of LaCoO3 based perovskites.
High temperature properties of the monolithic CVD - SiC materials joined with a pre-sintered MAX phase Ti3SiC2 interlayer via solid-state diffusion bonding.

Mechanical and magnetic properties of spark plasma sintered soft magnetic FeCo alloy reinforced by carbon nanotubes.


Growth of SiC platelets using contactless flash technique.


Processing and Characterization of Free Standing Highly Oriented Ferroelectric Polymer Films with Remarkably Low Coercive Field and High Remnant Polarization.

Synthesis and properties of graphene and graphene/carbon nanotube-reinforced soft magnetic FeCo alloy composites by spark plasma sintering.

Oxidation protective glassceramic coating for higher manganese silicide thermoelectrics.

Ultrafast-Contactless Flash Sintering using Plasma Electrodes.
Saunders T, Grasso S and Reece MJ. Scientific Reports vol. 6.

Rapid Sintering of Anisotropic, Nanograined Nd-Fe-B by Flash-Spark Plasma Sintering.

Cyclic fatigue effect in particulate ceramic composites.

Effect of lateral size of graphene nano-sheets on the mechanical properties and machinability of alumina nano-composites.

Flash Spark Plasma Sintering (FSPS) of and SiC.

Graphene nanoplatelets loaded polyurethane and phenolic resin fibres by combination of pressure and gyration.

Perfluorinated polysiloxane hybridized with graphene oxide for corrosion inhibition of AZ31 magnesium alloy.
Ultra-Rapid Crystal Growth of Textured SiC Using Flash Spark Plasma Sintering Route.

Sintering behaviour, solid solution formation and characterisation of TaC, HfC and TaC-HfC fabricated by spark plasma sintering.

Plasticity in ZrB2 micropillars induced by anomalous slip activation.

Crystallographic Structure and Ferroelectricity of (AxLa1-x)2Ti2O7 (A = Sm and Eu) Solid Solutions with High Tc.

Mechanical properties and residual stresses in ZrB2SiC spark plasma sintered ceramic composites.

Efficacy of lone-pair electrons to engender ultralow thermal conductivity.

Nanohardness and elastic anisotropy of ZrB2 crystals.

Ferroelectric materials for fusion energy applications.

2015

Limiting oxidation of ZrB2 by application of an electric field across its oxide scale.

2D Raman mapping and thermal residual stresses in SiC grains of ZrB2-SiC ceramic composites.

A High Curie Point Ferroelectric Ceramic Ca3(VO4)2.
Ning H, Yan H and Reece MJ. *Ferroelectrics* vol. 487, (1) 94-100.

The effect of spark plasma sintering on lithium disilicate glass-ceramics.

Dielectric relaxation and electrical conductivity in Ca5Nb4TiO17 ceramics.
Li C, Wei X, Fang L, Yan H and Reece MJ. *Ceramics International* vol. 41, (8) 9923-9930.

Boron nitride nanosheets reinforced glass matrix composites.

Scratch behaviour of graphene alumina nanocomposites.

Role of synthesis method on microstructure and mechanical properties of graphene/carbon nanotube toughened Al2O3 nanocomposites.

Comprehensive study of tellurium based glass ceramics for thermoelectric application.
Guest editorial: GlaCERCo: Glass and ceramic composites for high technology applications - Marie Curie initial training network.
Boccaccini AR, Ferraris M, Reece MJ and Salvo M. Advances in Applied Ceramics vol. 114, S1-S2.

Enhanced thermoelectric performance of porous magnesium tin silicide prepared using pressure-less spark plasma sintering.

Ceramic composites from mesoporous silica coated multi-wall carbon nanotubes.

45S5 BioglassMWCNT composite: processing and bioactivity.

Highly anisotropic single crystal-like La2Ti2O7 ceramic produced by combined magnetic field alignment and templated grain growth.

Thermal Diffusivity of SPS Pressed Silicon Powders and the Potential for Using BottomUp Silicon Quantum Dots as a Starting Material.

Observation of Curie transition during spark plasma sintering of ferromagnetic materials.

Processing and microstructure characterisation of oxide dispersion strengthened Fe-14Cr-0.4Ti-0.25Y2O3 ferritic steels fabricated by spark plasma sintering.

Role of synthesis method on microstructure and mechanical properties of graphene/carbon nanotube toughened Al2O3 nanocomposites.

Spark plasma sintered bismuth telluride-based thermoelectric materials incorporating dispersed boron carbide.

Nanoindentation and fracture toughness of nanostructured zirconia-multi-walled carbon nanotube composites.

Efficacy of lone-pair electrons to engender ultralow thermal conductivity.
Du B, Chen K, Yan H and Reece MJ. Scripta Materialia.

Study on properties of tantalum-doped La2Ti2O7 ferroelectric ceramics.

Reduced thermal conductivity by nanoscale intergrowths in perovskite like layered structure La2Ti2O7.

Thermal Diffusivity of SPS Pressed Silicon Powders and the Potential for Using BottomUp Silicon Quantum Dots as a Starting Material.

Ferroelectricity in Dion-Jacobson ABiNb2O7 (A = Rb, Cs) compounds.
Ultra-high temperature spark plasma sintering of SiC.
Grasso S, Saunders T, Porwal H and Reece M. *Ceramics International* vol. 41, (1) 225-230.

Microwave and terahertz dielectric properties of MgTiO3-CaTiO3 ceramics.

Ferroelectric and dielectric properties of Nd2xCexTi2O7 ceramics.
Gao ZP, Shi B, Ye H, Yan HX and Reece MJ. *Advances in Applied Ceramics* vol. 114, (4) 191-197.

Improved lithium-storage capability and cyclability of tin dioxide confined in highly crosslinked graphene framework.

2014

Dielectric relaxation and electrical conductivity in Ca5Nb4TiO17 ceramics.
Li C, Wei X, Fang L, Yan H and Reece MJ. *Ceramics International*. Elsevier Ltd.

Short range polar state transitions and deviation from Rayleigh-type behaviour in Bi0.5Na0.5TiO3-based perovskites.

Fabrication of carbon nanotube reinforced iron based magnetic alloy composites by spark plasma sintering.

Enhancement of thermoelectric properties by atomic-scale percolation in digenite Cu2S.

In-situ neutron diffraction of LaCoO3 perovskite under uniaxial compression. I. Crystal structure analysis and texture development.

In-situ neutron diffraction of LaCoO3 perovskite under uniaxial compression. II. Elastic properties.

Toughening effect of multi-walled boron nitride nanotubes and their influence on the sintering behaviour of 3Y-TZP zirconia ceramics.

Processing and bioactivity of 45S5 Bioglass()-graphene nanoplatelet composites.

Physical, mechanical, and structural properties of highly efficient nanostructured n- and p-silicides for practical thermoelectric applications.

Processing and bioactivity of 45S5 Bioglass-graphene nanoplatelet composites.
Plasma formation during electric discharge (50V) through conductive powder compacts.

Large ZT enhancement in hot forged nanostructured p-type Bi 0.5Sb1.5Te3 bulk alloys.

Joining of C/SiC composites by spark plasma sintering technique.

Effect of dysprosium substitution on crystal structure and physical properties of multiferroic BiFeO3 ceramics.

Influence of coated SiC particulates on the mechanical and magnetic behaviour of Fe-Co alloy composites.

Utilizing the phonon glass electron crystal concept to improve the thermoelectric properties of combined Yb-stuffed and Te-substituted CoSb3.

High field ZnO varistors prepared by spark plasma sintering.

Role of internal field and exhaustion in ferroelectric switching.

Mechanical and magnetic characterisation of SiC whisker reinforced Fe-Co alloy composites.

Effects of dispersion surfactants on the properties of ceramic-carbon nanotube (CNT) nanocomposites.

Joining of -SiC by spark plasma sintering.

Toughening effect of multi-walled boron nitride nanotubes and their influence on the sintering behaviour of 3Y-TZP zirconia ceramics.

Gao Z, Shi B, Ye H, Yan H and Reece MJ. *Journal of The American Ceramic Society* vol. 97, (2) 662-663.

Investigation of the Microstructural and Thermoelectric Properties of the (GeTe)0.95(Bi2Te3)0.05 Composition for Thermoelectric Power Generation Applications.

Temperature and frequency dependence of electric field-induced phase transitions in PMN-0.32PT.
Wooldridge J, Stewart M, Vecchini C, Cain MG, Gutmann M and Reece M. *Journal of The American Ceramic Society*.

Boron nitride nanotubes as a reinforcement for brittle matrices.

Tribological properties of silica-graphene nano-platelet composites.
In situ reduction of graphene oxide nanoplatelet during spark plasma sintering of a silica matrix composite.

Tough and dense boron carbide obtained by high-pressure (300 MPa) and low-temperature (1600°C) spark plasma sintering.

Polymer-derived SiC ceramics from polycarbosilane/boron mixtures densified by SPS.

Flash Spark Plasma Sintering (FSPS) of Pure ZrB2.

Improvement of interfacial bonding in carbon nanotube reinforced Fe-50Co composites by Ni-P coating: Effect on magnetic and mechanical properties.

Effect of spark plasma sintering on the structure and properties of Ti1-xZrxNiSn half-Heusler alloys.

Three layer perovskite-like structured Pr3Ti2TaO11 ferroelectrics with super-high curie point.

2013

Graphene reinforced alumina nano-composites.

Review of graphene-ceramic matrix composites.

Effect of grain size on domain structures, dielectric and thermal depoling of Nd-substituted bismuth titanate ceramics.

Structural and magnetic characterization of spark plasma sintered Fe-50Co alloys.

Toughened and machinable glass matrix composites reinforced with graphene and graphene-oxide nano platelets.

E-MRS 2012 fall meeting, September 17-21, Warsaw university of technology.

Effects of zinc substitution on the dielectric properties of Ca5Nb4TiO17 microwave ceramics.

Effect of donor dopants cerium and tungsten on the dielectric and electrical properties of high Curie point ferroelectric strontium niobate.

Dielectric relaxation, lattice dynamics and polarization mechanisms in Bi0.5Na0.5TiO3-based lead-free ceramics.
Wear resistance of Al2O3-CNT ceramic nanocomposites at room and high temperatures.  

Low-temperature spark plasma sintering of pure nano WC powder.  

Microwave dielectric properties of CaO-La2O3-Nb 2O5-TiO2 ceramics.  

Piezoelectric and dielectric properties of Ce substituted La2Ti2O7 ceramics.  

Highly transparent -alumina obtained by low cost high pressure SPS.  

The effect of barium substitution on the ferroelectric properties of Sr2 Nb2 O7 Ceramics.  

Ultra low thermal conductivity of disordered layered p-type bismuth telluride.  

Microstructure and high-temperature oxidation behavior of Ti3AlC 2/W composites.  

Reverse boundary layer capacitor model in glass/ceramic composites for energy storage applications.  

Wear resistance of Al2O3-CNT ceramic nanocomposites at room and high temperatures.  

Effect of donor dopants cerium and tungsten on the dielectric and electrical properties of high Curie point ferroelectric strontium niobate.  

Metal matrix composite fuel for space radioisotope energy sources.  

Low-temperature spark plasma sintering of 45S5 Bioglass.  

Graphene reinforced alumina nano-composites.  
Active ferroelectricity in nanostructured multiferroic BiFeO₃ bulk ceramics.

Effect of dysprosium substitution on crystal structure and physical properties of multiferroic BiFeO₃ ceramics.
Koval V, Skorvanek I, Reece M, Mitoseriu L and Yan H. *Journal of The European Ceramic Society*.

Joining of C/SiC composites by spark plasma sintering technique.

Utilizing the phonon glass electron crystal concept to improve the thermoelectric properties of combined Yb-stuffed and Te-substituted CoSb₃.

Contribution of piezoelectric effect, electrostriction and ferroelectric/ferroelastic switching to strain-electric field response of dielectrics.

2012

The effect of carbon nanotubes on the sintering behaviour of zirconia.

Microwave dielectric properties of La 3Ti 2TaO 11 ceramics with perovskite-like layered structure.

Toughening of zirconia/alumina composites by the addition of graphene platelets.

Ferroelectric ceramics with enhanced remnant polarization by ordered coalescence of nano-crystals.

Structural, dielectric, magnetic, and nuclear magnetic resonance studies of multiferroic Y-type hexaferrites.

Reversibility in electric field-induced transitions and energy storage properties of bismuth-based perovskite ceramics.

Processing and characterization of high-density zirconia-carbon nanotube composites.

Cobalt-based orthopaedic alloys: Relationship between forming route, microstructure and tribological performance.

Shortened carbon nanotubes and their influence on the electrical properties of polymer nanocomposites.

Microstructural evolution during high-temperature oxidation of spark plasma sintered Ti 2AlN ceramics.

From the editor.
Reece M. *Advances in Applied Ceramics* vol. 111, (1-2).
Dynamics of ferroelectric switching of [H3CNH3] 5[Bi2Br11].

Spherical instrumented indentation of porous nanocrystalline zirconia.

Phase stability and rapid consolidation of hydroxyapatite-zirconia nano-coprecipitates made using continuous hydrothermal flow synthesis.

Highly transparent-alumina obtained by low cost high pressure SPS.
Grasso S, Yoshida H, Porwal H, Sakka Y and Reece M. *Ceramics International*.

Microstructure and High-temperature Oxidation Behavior of Ti 3AlC 2/W Composites.

Piezoelectric and dielectric properties of Ce substituted La2Ti2O7 ceramics.
Gao ZP, Yan HX, Ning HP, Wilson R, Wei XY, Shi B, Ye H and Reece MJ. *Journal of The European Ceramic Society*.

The Effect of Barium Substitution on the Ferroelectric Properties of Sr2Nb2O7 Ceramics.

Kinetics of Densification and Grain Growth of Pure Tungsten During Spark Plasma Sintering.

2011

The production of advanced fine-grained alumina by carbon nanotube addition.

Ferroelectric domain structures and electrical properties of fine-grained lead-free sodium potassium niobate ceramics.

Magneto-electric properties of multiferroic Pb(Zr0.52Ti 0.48)O3-NiFe2O4 nanoceramic composites.

Carbon nanotubes: Do they toughen brittle matrices?.

Mechanism of chromium oxide formation in cobalt-chromium-molybdenum (F75) alloys prepared using spark plasma sintering.

High-strength nanograined and translucent hydroxyapatite monoliths via continuous hydrothermal synthesis and optimized spark plasma sintering.

THE CONTRIBUTION OF ELECTRICAL CONDUCTIVITY, DIELECTRIC PERMITTIVITY AND DOMAIN SWITCHING IN FERROELECTRIC HYSTERESIS LOOPS.

Yao X.
The elastic properties of ferroelectric thin films measured using nanoindentation.

2010

Polarization dynamics and non-equilibrium processes in ferroelectric switching.

A novel route for processing cobalt-chromium-molybdenum orthopaedic alloys.

Effect of point defects on thermal depoling behavior of bismuth layer-structured ferroelectric ceramics.

Microstructure and electrical properties of Aurivillius phase (CaBi2Nb2O9)(1-x)(BaBi2Nb2O9)(x) solid solution.

Physics with the KLOE-2 experiment at the upgraded DANE.

Highly conductive low nickel content nano-composite dense cermets from nano-powders made via a continuous hydrothermal synthesis route.

The sintering and grain growth behaviour of ceramic-carbon nanotube nanocomposites.

High temperature lead-free relaxor ferroelectric: Intergrowth Aurivillius phase BaBi2Nb2O9-Bi4Ti 3O12 ceramics.

Piezoelectric Strontium Niobate and Calcium Niobate Ceramics with Super-High Curie Points.

Laser melting of spark plasma-sintered zirconium carbide: Thermophysical properties of a generation IV very high-temperature reactor material.

Structural and chemical stability of multivall carbon nanotubes in sintered ceramic nanocomposite.

Textured high Curie point piezoelectric ceramics prepared by spark plasma sintering.
Yan HX, Ning HP, Zhang HT and Reece MJ. Adv Appl Ceram vol. 109, (3) 139-142.

Low temperature consolidated lead-free ferroelectric niobate ceramics with improved electrical properties.

Stability of Nanocrystalline Spark Plasma Sintered 3Y-TZP.

Electrically conductive alumina-carbon nanocomposites prepared by Spark Plasma Sintering.
2009

Hot pressed and spark plasma sintered zirconia/carbon nanofiber composites.

Degradation resistance of 3Y-TZP ceramics sintered using spark plasma sintering.

Piezoelectric and Ferroelectric Properties of Bismuth Tungstate Ceramics Fabricated by Spark Plasma Sintering.

Effect of composition on rate dependence of ferroelastic/ferroelectric switching in perovskite ceramics.

Piezoelectric Ceramics with Super-High Curie Points.

The grain size effect on the properties of Aurivillius phase Bi3.15Nd0.85Ti3O12 ferroelectric ceramics.

The grain size effect on the properties of Aurivillius phase Bi 3.15Nd0.85Ti3O12 ferroelectric ceramics.

Fabrication and properties of dense ex situ magnesium diboride bulk material synthesized using spark plasma sintering.

The effect of Nd substitution on the electrical properties of Bi3NbTiO9 Aurivillius phase ceramics.

High-temperature ferroelectric phase transition observed in multiferroic Bi0.91La0.05Tb0.04FeO3.

Dual ferroelasticity of lanthanum chromium-based multicomponent solid solution perovskite.
Orlovskaya N, Lugovy M, Verbylo D and Reece MJ. *Scripta Materialia* vol. 60, (9) 783-786.

2008

Effect of a site substitution on the properties of CaBi2Nb 2O9 ferroelectric ceramics.
Zhang X, Yan H and Reece MJ. *Journal of The American Ceramic Society* vol. 91, (9) 2928-2932.

Room-temperature creep of LaCoO3 -based perovskites: Equilibrium strain under compression.

Dimethylformamide: an effective dispersant for making ceramic-carbon nanotube composites.

Thermal activation of ferroelectric switching.
Chong KB, Guiu F and Reece MJ. *Journal of Applied Physics* vol. 103, (1).

Luminescence of Sr2SiO4-xN2x/3 : Eu2+ phosphors prepared by spark plasma sintering.

2007

Dielectric, piezoelectric, and ferroelectric properties of grain-orientated Bi3.25La0.75Ti3O12 ceramics.
Microstructure and electrical properties of Si3N4-TiN composites sintered by hot pressing and spark plasma sintering.

The influence of the grain boundary phase on the mechanical properties of Si3N4-MoSi2 composites.

Enhanced ferroelectric loop asymmetry of lead zirconate titanate thin films under nanoindentation.

The effect of different sintering additives on the electrical and oxidation properties of Si3N4-MoSi2 composites.

2006

Effect of texture on dielectric properties and thermal depoling of Bi4Ti3O12 ferroelectric ceramics.

B-site donor and acceptor doped Aurivillius phase Bi3NbTiO9 ceramics.

Orientation dependence of dielectric and relaxor behaviour in Aurivillius phase BaBi2Nb2O9 ceramics prepared by spark plasma sintering.

Inelastic deformation behavior of a 0.6Sr 0.4FeO 3 perovskite.

Fractographic montage for a Si3N4-SiC nanocomposite.

Experimental, analytical, and finite element analyses of nanoindentation of multilayer PZT/Pt/SiO2 thin film systems on silicon wafers.

Printing gold nanoparticles with an electrohydrodynamic direct-write device.

2005

Thermal depoling of high Curie point Aurivillius phase ferroelectric ceramics.

A LeadFree HighCuriePoint Ferroelectric Ceramic, CaBi2Nb2O9.

Enhanced creep resistant silicon-nitride-based nanocomposite.

A lead-free high-Curie-point ferroelectric ceramic, CaBi2Nb2O9.

Ferroelectric/ferroelastic behavior and piezoelectric response of lead zirconate titanate thin films under nanoindentation.

2004

Ferroelectric hysteresis loops of (Pb, Ca)TiO3 thin films under spherical indentation.
Creep behavior of a carbon-derived Si3N4/SiC nanocomposite.

Nanoindentation of multilayer PZT/Pt/SiO2 thin film systems on silicon wafers for MEMS applications.

2003

Crack extension force and rate of mechanical work of fracture in linear dielectrics and piezoelectrics.

2002

Anelastic deformation of Pb(Zr,Ti)O3 thin films by non-180 ferroelectric domain wall movements during nanoindentation.

Ferroelasticity and hysteresis in LaCoO3 based perovskites.

Toughening produced by crack-tip-stress-induced domain reorientation in ferroelectric and/or ferroelastic materials.

2001

Stress-induced depolarization of (Pb, La)TiO3 ferroelectric thin films by nanoindentation.

Mechanical and electromechanical properties of PZT sol-gel thin films measured by nanoindentation.

Direct measurement of mechanical properties of (Pb,La)TiO3 ferroelectric thin films using nanoindentation techniques.

Fatigue behaviour of mullite studied by the indentation flexure method.

2000

Fracture of PZT piezoelectric ceramics under compression-compression loading.

Influence of grain size on the indentation-fatigue behavior of alumina.

1999

Crack growth during poling and polarisation reversal in commercial piezoceramics.

The characterisation of ferroelectric thin films using nanoindentation.

1998

Electrokinetic behavior and stability of silicon carbide nanoparticulate dispersions.
Cyclic fatigue crack growth behaviour in -(Si-Al-O-N) at ambient and elevated temperatures.

Subcritical crack propagation under cyclic and static loading in mullite and mullite-zirconia.

1997

Anisotropic deformation and fracture of indented PZT.

Effect of porosity and grain size on the microwave dielectric properties of sintered alumina.

Growth of indentation cracks in poled and unpoled PZT.

1996

Si3N4-Al2O3/Si3N4-Y2O3 couple diffusion system.

High-temperature Fatigue of a Gas-Pressure-Sintered Silicon Nitride.

Structural development and properties of SiC-Si3N4 nano/micro-composites.

Microstructures and dielectric properties of ferroelectric glass-ceramics.

1992

ROLE OF CRACK-BRIDGING LIGAMENTS IN THE CYCLIC FATIGUE BEHAVIOR OF ALUMINA.

Preparation of hard particle powders for examination in the transmission electron microscope.

Phase transformation around indentations in zirconia.

1991

Analysis of Si3N4+-Si3N4 whisker ceramics.

Cyclic fatigue of ceramics.

INDENTATION FATIGUE OF HIGH-PURITY ALUMINA IN FLUID ENVIRONMENTS.

Electron microscope study of non-stoichiometric titania.

1990

REPEATED INDENTATION METHOD FOR STUDYING CYCLIC FATIGUE IN CERAMICS.
1989

Cyclic Fatigue Crack Propagation in Alumina under Direct Tension-Compression Loading.
Reece MJ, Guiu F and Sammur MFR. Journal of The American Ceramic Society vol. 72, (2) 348-352.

1988

Observations of the influence of ion-bombardment on the microstructure of synthetic and natural ferrite crystals.

1987

Electron microscopy of second phases in manganese-zinc ferrite crystals.

1984

Slip systems in manganese zinc ferrite crystals.
Callahan SL, Tressler RE, Johnson DW and Reece MJ. Deformation of Ceramic Materials II 177-186.