



## Dr. SAMUEL PAUL DAVID

HiLASE Centre, Institute of Physics of the Czech Academy of Sciences  
Za Radnici 828, 252 41 Dolni Brezany, Czech Republic  
Mobile No: +420-732 872 205, Email: [Samuel-Paul.David@hilase.cz](mailto:Samuel-Paul.David@hilase.cz)

---

### Research Interests

Transparent Ceramics  
Diode pumped solid state lasers  
Cryogenic lasers  
Rare Earths  
Nano powders of oxides

Laser Single Crystals  
Spectroscopic studies  
Phosphors and luminescent materials  
High temperature crystal growth  
Scintillators

### Research Positions Held

Currently working as a **Senior Researcher, HiLASE Research Centre**, under **Dr. Antonio Lucianetti**, Czech Academy of Sciences, Prague, **Czechia** from August 2016 – till now.

**Visiting Researcher at Universitat Rovira i Virgili (URV), Tarragona, Spain** from September 23<sup>rd</sup> to October 31<sup>st</sup>, 2019 under **Prof. Xavier Mateos**.

**Post-Doctoral Research Associate** from April 2012 – March 2014 under **Prof. Romain Gaume**, College of Optics and Photonics (CREOL), **University of Central Florida, USA**.

### Academic Qualifications

PhD (Physics) From January 2007 – March 2011, Crystal Growth Centre, Anna University, Chennai, India.  
*Thesis Title: “Investigation on Rare Earth Ion Doped Solid State Laser Hosts: Single Crystals and Transparent Ceramics”*  
Thesis highly commended by the examiners.  
*PhD Supervisor: Prof. S. Moorthy Babu*, Anna University

M.Sc (Physics) From June 2004 – April 2006, The American College, Madurai, India.  
Project Title: “*Solar Limb Darkening*”.  
Overall Percentage: 74.8 %, GPA – 8.6/10. Rank - **First**

B.Sc (Physics) From July 2001 – April 2004, The American College, Madurai, India  
Project Title: “*The Development of Bio Gas Plant*”  
Overall Percentage: 80 %, Rank – **Second**

### Awards / Honors

- **Editorial Board Member** of Non-Metallic Material Science journal between May 2019 to May 2020.
- Recognized **Research Supervisor of Anna University** (Ref. No: 2670025)
- **Japanese Government Scholarship** (MEXT – 2008) by Govt. of India – 2008 to carryout research in Japan for one and half years under **Prof. Ken Ichi Ueda**
- **Einstein Award** for the proficiency in Physics during M.Sc in The American College, India - 2006

- **M.A. Thangaraj Award** for the best student in Physics during M.Sc. in The American College, India – 2006
- **Young Scientist Research Programme (YSRP)** – Centre for Advanced Technology (CAT) – 2005 – Selected as one of the nine students from all over India.
- **Travel Grant – DST** to present a paper in an International Conference held in Singapore in 2011
- **Reviewer** of Optical Society of America, Elsevier, Springer, Trans Tech Publications and so on.
- **Outstanding reviewer certificate** in J. Physics and Chem. of Solids (July, 2018), Mat. Res. Eng. B (Oct, 2017), Mat. Res. Bulletin (July, 2017)
- Published an article in **the front page of “Education Plus” in “The Hindu” newspaper** giving guidance to students for pursuing higher education in US

### Research Activities

- ❖ **Senior Researcher** at **HiLASE** Research Center, Prague, Czech Republic from August 2016 – till now under **Dr. Tomas Mocek**, Head, HiLASE Centre.

#### Works involved at HiLase

- Diode pumped solid state laser (DPSSL) development at cryogenic temperature
  - 1 micron and 2 micron based lasers with different host materials and laser active ions.
  - Spectroscopic characterization of laser materials like crystals and ceramics
  - Both active and passive Q-switching operations on DPSSL
  - Setting up of transparent ceramics lab and made significant partnerships with other laboratories
- ❖ **Post-Doctoral Research Associate** in Optical Ceramics group in College of Optics and Photonics (**CREOL**), University of Central Florida (UCF), USA from April, 2012 till March, 2014 under **Prof. Romain Gaume**.

#### Works Involved at CREOL

- Part of establishing whole Optical Ceramics Lab that includes Hot Press, Hot Isostatic Press, Bridgman Furnace and glove box work station.
  - Worked on barium based halide transparent ceramics for gamma ray scintillator applications for a project in collaboration with Lawrence Berkeley National Laboratory (LBNL) and Oak Ridge National Laboratory (ORNL)
  - Preparation of TiO<sub>2</sub> ceramics with smaller grain sizes and to understand the thermoelectric property dependent on grain size.
  - Nonlinear studies (Z-Scan) on transparent ceramics of YAG
  - Optical and structural analysis of transparent ceramics and nano powders in collaboration with companies such as Nanocerox, Vloc, Raytheon and Lorad
  - Worked closely with other post docs, PhD scholars and master students
- ❖ **Japanese Government (MEXT) Scholar** in University of Electro Communications, Tokyo from October 2008 – March 2010 under **Prof. Ken Ichi Ueda**.

- Optical Investigation on co-doped YAG transparent ceramics for solar pumped lasers in collaboration with Konoshima Chemicals, Japan
  - Analysis of Calcium Fluoride transparent ceramics in collaboration with Nikon Corporation, Japan.
- ❖ **PhD Scholar** in Anna University, Chennai from January 2007 – March 2011 under **Prof. S. Moorthy Babu** on various research projects
- High temperature crystal (flux) growth of tungstate based single crystals for Raman laser applications under DAE-BRNS project as a **Junior Research Fellow (JRF)**.
  - Growth, structural and optical characterization of double tungstate crystals
  - Fabrication of high temperature furnaces for such crystals.
  - Crystal growth of lithium niobate single crystals for NLO applications under DST project as a **Junior Research Fellow (JRF)**.

### Projects handled as a young researcher

- Junior Research Fellow – “*Stoichiometric Lithium Niobate For Advanced NLO Applications*” – Crystal Growth Centre, **Anna University** from Nov 2007 – May 2008 under **Prof. S. Moorthy Babu**.
- Junior Research Fellow – “*Development of Laser Elements of Double tungstates for Diode pumped Solid State Laser Applications of Double Tungstates for Raman Laser Applications*” – Crystal Growth Centre, **Anna University** from Jun 2006 – Mar 2007 under **Prof. S. Moorthy Babu**.
- Young Scientist Research Programme (YSRP) – “*MOVPE Growth of Semiconductors*” – **CAT, Indore** from May – June 2005 under **Dr. Tarun Kumar Sharma**.

### Teaching Experience

- **Vice Provost for Advances in Learning (VPAL)** course on Scientific and Industrial Applications of Laser Systems – January 27 – 29, 2020 in HiLASE Center, Czech Republic
- **Assistant Professor at RAMCO Institute of Technology (RIT)**, Rajapalayam from July 2014 till April 2016.
- **Assistant Professor** in B.S. Abdur Rahman University, Chennai from June 2011 – March 2012.

### Papers Published in International Journals (With Impact Factor – Recent first)

- 1) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Bruno J Le Garrec, Antonio Lucianetti, and Tomas Mocek  
*Laser performances of diode pumped Yb:Lu<sub>2</sub>O<sub>3</sub> transparent ceramic at cryogenic temperatures*, Optical Materials Express Vol. **9**, No. 12, pp. 4669 – 4676 (2019).
- 2) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, Xavier Mateos, Magdalena Aguiló, Frances Díaz, Jan Sulc, Antonio Lucianetti, Tomas Mocek  
*Spectroscopy and diode-pumped continuous-wave laser operation of Tm:Y<sub>2</sub>O<sub>3</sub> transparent ceramics at cryogenic temperatures*

Submitted to Applied Physics B.

- 3) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Antonio Lucianetti, Tomas Mocek  
*Efficient diode pumped Yb:Y<sub>2</sub>O<sub>3</sub> cryogenic laser*  
Applied Physics B (2019) 125:137 <https://doi.org/10.1007/s00340-019-7250-8>.
- 4) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, Jürgen Reiter, Jörg Körner, Diethardt Klöpfel, Joachim Hein, Malte C. Kaluza, Antonio Lucianetti, Tomas Mocek  
*Diode-pumped cryogenic Tm:LiYF<sub>4</sub> laser*  
Proc. SPIE 11033, High-Power, High-Energy, and High-Intensity Laser Technology IV, 110330E-6 (2019); doi: [10.1117/12.2517734](https://doi.org/10.1117/12.2517734)
- 5) **Samuel Paul David**, Venkatesan Jambunathan, Antonio Lucianetti and Tomas Mocek  
*Overview of Transparent Ceramics for Diode Pumped High Energy Solid State Lasers*  
High Power Laser Science and Engineering, (2018), Vol. 6, e62, 10 pages.
- 6) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Petr Navratil, Martin Mika, Antonio Lucianetti and Tomas Mocek  
*Effect of Gd<sup>3+</sup>/Ga<sup>3+</sup> on Yb<sup>3+</sup> emission in mixed YAG at cryogenic temperature*  
Ceramics International Journal, Vol. **45**, pp. 9418 – 9422 (2019).
- 7) Petr Navratil, Venkatesan Jambunathan, **Samuel Paul David**, Fangxin Yue, Josep Maria Serres, Xavier Mateos, Magdalena Aguiló, Francesc Díaz, Uwe Griebner, Valentin Petrov, Antonio Lucianetti and Tomas Mocek  
*Continuous-wave and passively Q-switched cryogenic Yb:KLu(WO<sub>4</sub>)<sub>2</sub> laser*  
Optics Express, Vol. **25**, No. 21, pp. 25886 (2017).
- 8) **P. Samuel**, T. R. Ensley, H. Hu, D. J. Hagan, E. W. Van Stryland, and R. Gaume  
*Nonlinear refractive index measurement on pure and Nd doped YAG ceramic by dual arm Z-scan technique*  
AIP Conference Proceedings Vol. **1665**, 060010 (2015);
- 9) G. Marudhu, S. Krishnan, T. Thilak, **P. Samuel**, G. Vinitha and G. Pasupathi  
*Optical, Thermal And Mechanical Studies On Nonlinear Optical Material Diglycine Barium Chloride monohydrate (DgbcM) Single Crystal*  
Journal of Nonlinear Optical Physics & Materials, Vol. **22**, No. 04, pp. 1350043 (2013).
- 10) Anthuvan John Peter, I. B. Shameem Banu, Jagannathan Thirumalai and **Samuel Paul David**  
*Enhanced luminescence in CaMoO<sub>4</sub>:Eu<sup>3+</sup> red phosphor nanoparticles prepared by mechanochemically assisted solid state meta-thesis reaction method*  
Journal of Materials Science: Materials in Electronics, Vol. 24, Issue 11, pp. 4503 – 4509 (2013).
- 11) D. Thangaraju, S. Moorthy Babu, A. Durairajan, D. Balaji, **P. Samuel** and Y. Hayakawa  
*Growth, vibrational and luminescence analysis of monoclinic KGd<sub>(1-x)</sub>Pr<sub>x</sub>(WO<sub>4</sub>)<sub>2</sub> (x = 0.005, 0.02, 0.05) single crystals*  
Journal of Crystal Growth, Vol. **362**, pp. 319-323 (2013).

- 12) **P. Samuel**, H. Yagi, T. Yanagitani, and Ken Ichi Ueda  
*Energy transfer and lasing properties of Nd: Cr: YAG transparent laser ceramics at different Cr concentration*  
AIP Conf. Proc. Vol. **1447** (2012) pp. 1253 – 1254.
- 13) G. A. Kumar, M. Pokhrel, D. K. Sardar, **P. Samuel**, Ken Ichi Ueda, T. Yanagitani and H. Yagi  
*2.1 μm Emission spectral properties of Tm and Ho co-doped transparent YAG Ceramic*  
Science of Advanced Materials, Vol. **4** (2012) pp.1-6.
- 14) M. Pokhrel, G. A. Kumar, **P. Samuel**, K. I. Ueda, T. Yanagitani, H. Yagi, and D. K. Sardar  
*Infrared and upconversion spectroscopic studies of high Er<sup>3+</sup> content transparent YAG ceramic*  
Optical Materials Express, Vol. **1**, Issue 7, pp. 1272-1285 (2011).
- 15) **P. Samuel**, G. A. Kumar, Takagimi Yanagitani, Hideki Yagi, Ken Ichi Ueda and S. Moorthy Babu  
*Efficient Energy Transfer Between Ce<sup>3+</sup>/Cr<sup>3+</sup> and Nd<sup>3+</sup> ions in Transparent Nd/Ce/Cr:YAG ceramics*  
Optical Materials, Vol. **34** (2011) pp. 303-307.
- 16) D. Thangaraju, S. Moorthy Babu, **P. Samuel**, A. Durairajan and Y. Hayakawa  
*Influence of pH and microwave calcination on the morphology of KGd(WO<sub>4</sub>)<sub>2</sub> particles derived by Pechini Sol–Gel method*  
Journal of Sol-Gel Science and Technology Vol. **58** (2) (2011) pp. 419-426.
- 17) **P. Samuel**, H. Ishizawa, Y. Ezura, Ken Ichi Ueda and S. Moorthy Babu  
*Spectroscopic Analysis of Eu doped transparent CaF<sub>2</sub> ceramics at different concentration*  
Optical Materials, Vol. **33** (2011) pp. 735–737.
- 18) **P. Samuel**, D. Thangaraju and S. Moorthy Babu  
*Effect of dysprosium active ions on spectral properties of KGW single crystals*  
Journal of Alloys and Compounds Vol. **509** (1) (2011) pp. 177-180.
- 19) **P. Samuel**, T. Yanagitani, H. Yagi, H. Nakao, Ken Ichi Ueda and S. Moorthy Babu  
*Efficient energy transfer between Ce<sup>3+</sup> and Nd<sup>3+</sup> in cerium codoped Nd: YAG laser quality transparent ceramics*  
Journal of Alloys and Compounds Vol. **507** (2) (2010) pp. 475-478.
- 20) D. Thangaraju, **P. Samuel** and S. Moorthy Babu  
*Growth of two-dimensional KGd(WO<sub>4</sub>)<sub>2</sub> nanorods by modified sol–gel Pechini method*  
Optical Materials Vol. **32** (2010) 1321 – 1324.
- 21) **P. Samuel** and S. Moorthy Babu  
*Growth and characterization of Ytterbium doped KGd(WO<sub>4</sub>)<sub>2</sub> single crystal*  
Crystal Research Technology Vol. **43** (2008) pp. 1036- 1040.

<https://scholar.google.cz/citations?user=1Wbu2KIAAAAJ&hl=en>

**Researcher ID:** N-1770-2017 ([www.researcherid.com/rid/N-1770-2017](http://www.researcherid.com/rid/N-1770-2017))

**Scopus ID:** 55573366000 ([www.scopus.com/authid/detail.uri?authorId=55573366000](http://www.scopus.com/authid/detail.uri?authorId=55573366000))

**ORCID ID:** 0000-0003-3335-4895 ([www.orcid.org/0000-0003-3335-4895](http://www.orcid.org/0000-0003-3335-4895))

### **Paper Published in National Journal**

- 1) S. Moorthy Babu, **P. Samuel**, D. Thangaraju, T. Yanagitani, H. Yagi and K. Ueda  
*Development of Co-doped Transparent Ceramics for Efficient Energy Transfer for Solar Pumped Laser Applications*  
Kiran, Vol. **22**, No. 3 (2011) pp. 32 – 35.
- 2) **Samuel Paul David**, Petr Navrátil, Martin Hanuš, Venkatesan Jambunathan, Martin Divoký, Antonio Lucianetti, Tomáš Mocek  
*Transparentní keramika –požehnání pro společenství laserových vědců*  
Československý časopis pro fyziku, Vol. **69**, Issue No. 4 (2019) pp. 258 – 263.

### **Book Chapters Published**

- 1) **Samuel Paul David** and Debasish Sarkar  
*Transparent Ceramics* (Chapter – 3), in the book titled “*Ceramic Processing: Industrial Practices*”, Taylor and Francis, CRC Press, USA, 2019. **ISBN – 9781138504080, eBook ISBN – 9781315145808.**
- 2) **Samuel Paul David** and Debasish Sarkar,  
*Porous Ceramics* (Chapter – 4), in the book titled “*Ceramic Processing: Industrial Practices*”, Taylor and Francis, CRC Press, USA, 2019. **ISBN – 9781138504080, eBook ISBN – 9781315145808.**
- 3) **Samuel Paul David** and Romain Gaume  
*Electroluminescent Thin Film Phosphors* (Chapter 8), in the book titled “*Thin Film Structures in Energy Applications*”, Springer International Publishing, Switzerland, 2015. **ISBN 978-3-319-14773-4, Online ISBN 978-3-319-14774-1 (>1100 downloads).**

### **Invited Talk/Guest Lecture**

- 1) “*Role Of Transparent Ceramics In High Energy Solid State Lasers*”, Indian-UK Second International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH2019), held during February 04-06, 2019 at Bishop Heber College, Trichy, Tamilnadu.
- 2) “*Gravitational Waves: When the world proved Einstein is right again*”, Cluster Colleges Seminar Programme, held on July 23, 2016 at Rajapalayam Raju’s College, Rajapalayam, Tamilnadu – 626 117.
- 3) “*Transparent Ceramics for Advanced Optical Applications*”, One-Day Intensive Workshop on Flash chromatography for Innovations in Materials Research, held on June 19, 2016 at Department of Chemistry, Kalasalingam University, Krishnan Koil, Tamilnadu.

## Papers Presented in International Conferences

- 1) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Bruno Le Garrec, Xavier Mateos, Antonio Lucianetti and Tomas Mocek  
*Cryogenic laser performance of Yb:Lu<sub>2</sub>O<sub>3</sub> transparent ceramic under two pump wavelengths*  
CIMTEC 2020 to be held in Montecatini Terme, Italy during June 15 – 19, 2020 (**Oral Presentation**).
- 2) Venkatesan Jambunathan, Fangxin Yue, **Samuel Paul David**, Jan Hostaša, Laura Esposito, Valentina Biasini, Andreana Piancastelli, Xavier Mateos, Antonio Lucianetti and Tomas Mocek  
*Fabrication and characterization of Tm:Y<sub>2</sub>O<sub>3</sub> polycrystalline ceramics for high average and peak power lasers*  
CIMTEC 2020 to be held in Montecatini Terme, Italy during June 15 – 19, 2020.
- 3) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Bruno J Le Garrec, Antonio Lucianetti and Tomas Mocek  
*Diode pumped Cryogenic Yb:Lu<sub>2</sub>O<sub>3</sub> ceramic laser*  
27<sup>th</sup> International Conference on Advanced Laser Technologies (ALT19), held in Prague during September 15-20, 2019. (**Oral Presentation**)
- 4) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, Xavier Mateos, Magdalena Aguiló, Francesc Díaz, Jan Sulc, Antonio Lucianetti, Tomas Mocek,  
*Diode pumped cryogenic Tm:Y<sub>2</sub>O<sub>3</sub> ceramic laser*  
27<sup>th</sup> International Conference on Advanced Laser Technologies (ALT19), held in Prague during September 15-20, 2019. (**Best poster award**)
- 5) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, Petr Navratil, Josep Maria Serres, Xavier Mateos, Magdalena Aguiló, Francesc Díaz, Antonio Lucianetti, Tomas Mocek,  
*Spectroscopy of Tm:Y<sub>2</sub>O<sub>3</sub> Transparent Ceramic at Cryogenic Temperatures*  
CLEO/Europe-EQEC 2019 held in Munich, Germany during June 23-27, 2019.
- 6) **Samuel Paul David**, Venkatesan Jambunathan, Fangxin Yue, Antonio Lucianetti, Tomas Mocek,  
*Diode - pumped Efficient Cryogenic Yb:Y<sub>2</sub>O<sub>3</sub> Transparent Ceramic Laser*  
CLEO/Europe-EQEC 2019 held in Munich, Germany during June 23-27, 2019. (**Oral Presentation**)
- 7) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, Jürgen Reiter, Jörg Körner, Diethardt Klöpfel, Joachim Hein, Malte C. Kaluza, Antonio Lucianetti and Tomas Mocek,  
*Diode-pumped cryogenic Tm:LiYF<sub>4</sub> laser”*  
SPIE Optics + Optoelectronics 2019 held in Prague, Czechia during April 1-4, 2019. (**Oral Presentation**)
- 8) **Samuel Paul David**, Fangxin Yue, Venkatesan Jambunathan, A. Lucianetti, T. Mocek,  
*Ceramic Broadband Materials at HiLASE*

- The 3<sup>rd</sup> Annual HiLASE Workshop, held in Dolni Brezany, Czechia during October 14-17, 2018.
- 9) Fangxin Yue, Venkatesan Jambunathan, **Samuel Paul David**, A. Lucianetti, T. Mocek, *Cryogenic 2 micron lasers based on Tm: YLF*  
The 3<sup>rd</sup> Annual HiLASE Workshop, held in Dolni Brezany, Czechia during October 14-17, 2018.
  - 10) **S.P. David**, F. Yue, V. Jambunathan, M. Mika, A. Lucianetti, T. Mocek, *Photoluminescence study on the effect of Ga<sup>3+</sup> in Yb:YAG at cryogenic temperatures*  
26th International Conference on Advanced Laser Technologies (ALT'18), held in Tarragona, Spain during September 10-14, 2018.
  - 11) V. Jambunathan, P. Navratil, **S.P. David**, F. Yue, A. Lucianetti, T. Mocek, *Spectroscopy and laser operation of Yb doped materials at cryogenic temperatures*  
26th International Conference on Advanced Laser Technologies (ALT'18), held in Tarragona, Spain during September 10-14, 2018. (**Invited talk**)
  - 12) Fangxin Yue, **Samuel Paul David**, Venkatesan Jambunathan, Petr Navratil, Josep Maria Serres, Xavier Mateos, Magdalena Aguiló, Francesc Díaz, Uwe Griebner, Valentin Petrov, Antonio Lucianetti, Tomas Mocek, *Influence of dopant concentration in cryogenic Yb:KLu(WO<sub>4</sub>)<sub>2</sub> lasers*  
Europhoton 2018 held in Barcelona, Spain during September, 2 – 7, 2018.
  - 13) **S. P. David**, V. Jambunathan, F. Yue, P. Navratil, M. Mika; A. Lucianetti and T. Mocek, *Effect of Gd<sup>3+</sup> on Yb<sup>3+</sup> Emission in Gd Admixed Yb:YAG at Cryogenic Temperature*  
CIMTEC 2018 held in Perugia, Italy during June 4-8, 2018. (**Oral Presentation**)
  - 14) V. Jambunathan, P. Navratil, **Samuel Paul David**, F. Yue, J. M. Serres, X. Mateos, M. Agulio, F. Diaz, A. Lucianetti and T. Mocek  
*Diode pumped continuous-wave cryogenic Yb:KLu(WO<sub>4</sub>)<sub>2</sub> laser*  
CLEO-Europe 2017 held in Munich, Germany during 25 – 29 June, 2017.
  - 15) **Samuel Paul David**, V. Jambunathan, A. Lucianetti, T. Mocek  
*Transparent ceramics for high power lasers and technical applications*  
REFRA 2017 held in Prague, Czech Republic during May 30 – June 1<sup>st</sup>, 2017. (**Oral Presentation**)
  - 16) Taylor Shoulders, **Samuel Paul**, Martin Gascon, Romain Gaume, Gregory Bizarri, Edith Bourret-Courchesne  
*Barium Halide Scintillator Ceramics*  
Materials Science and Technology 2014, held in Pittsburgh, PA, USA during October 12 – 16, 2014.
  - 17) **Paul David, Samuel**, Hu Honghua, Ensley Trenton, J. Hagan David, W. Van Stryland, Eric, Gaume Romain  
*Femtosecond Dual-Arm Z-Scan On Ceramic And Single Crystals Of YAG*  
10<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology held in San Diego, USA during June 2-7, 2013. (**Oral Presentation**)
  - 18) Taylor Shoulders, **Samuel Paul David**, Lynn Boatner, Romain Gaume



*Europium Doped Barium Bromide Iodide Scintillator Ceramics for Gama Ray Detection*  
Industrial Affiliates Symposium, held in Florida, USA on March 8, 2013.

- 19) **P.Samuel**, Ken Ichi Ueda, H. Yagi and T. Yanagitani  
*Effect of Cr<sup>3+</sup> ions on Nd<sup>3+</sup> ions in Nd/Cr:YAG Transparent Laser Ceramics*  
7<sup>th</sup> International Laser Ceramics Symposium held in Singapore during November 14 – 17, 2011. (**Oral Presentation**)
- 20) D.Thangaraju, **P.Samuel** and S.Moorthy Babu  
*Growth, vibrational and luminescence analysis of Pr<sup>3+</sup> doped KGd(WO<sub>4</sub>)<sub>2</sub> single crystals*  
The 16th International Conference on Crystal Growth(ICCG-16) held in Beijing, China during August 8 – 13<sup>th</sup>, 2010.
- 21) **Paul David Samuel**, H. Ishizawa, Y. Ezura, Ken Ichi Ueda and S. Moorthy Babu,  
*Spectroscopic Analysis of Eu doped CaF<sub>2</sub> ceramics at different concentration*  
5<sup>th</sup> International Laser Ceramics Symposium, held in Bilbao, Spain during December 9-11, 2009. (**Oral Presentation**)
- 22) **P. Samuel**, D. Thangaraju, S. MoorthyBabu  
*Effect of Er doping on the optical and vibrational properties of KGd(WO<sub>4</sub>)<sub>2</sub> single crystals*  
5<sup>th</sup> International Symposium on laser, scintillator and nonlinear optical materials held in Pisa, Italy during September 3-5, 2009.
- 23) D. Thangaraju, **P. Samuel**, S. MoorthyBabu  
*Growth of two dimensional KGd(WO<sub>4</sub>)<sub>2</sub> nanorods by modified Sol-gel Pechini method*  
5<sup>th</sup> International Symposium on laser, scintillator and nonlinear optical materials, held in Pisa, Italy during September 3-5, 2009.
- 24) **Samuel Paul**, Moorthy Babu Sridharan, Ravichandran S, Palanisamy P.K  
*Optical, electrical and nonlinear optical studies on KGW*  
The 15<sup>th</sup> International Conference on Crystal Growth held in Utah, USA during August 12 - 17, 2007.
- 25) Moorthy Babu Sridharan, **Samuel Paul**, Senthilkumaran A, Ganesamoorthy Sarveswaran, Bhaumik Indranil, Karnal A.K,  
*Bulk Crystal Growth of Double Tungstates and their Characterization*  
The 15th International Conference on Crystal Growth held in Utah, USA during August 12 - 17, 2007.

#### **Papers Presented in National Conferences**

- 26) P. Silviya Reeta and **P. Samuel**  
*Impact Of Structural Modifications On A Series Of Porphyrin Based Dye Sensitized Solar Cell Efficiencies*  
National Conference on Advanced Functional materials (NCAFM'15) held at SSN College of engineering, Chennai during December 28-29, 2015. (**Oral Presentation**)

- 27) **P. Samuel**, W. T. Shoulders, R. Gaume  
*Barium Chloride Transparent Ceramics for Radiation Detectors*  
National Conference on Innovations in Engineering, Science and Technology held at RAMCO Institute of Technology, Rajapalayam during March 6-7, 2015. (**Oral Presentation**)
- 28) **P. Samuel**, T. R. Ensley, H. Hu, D. J. Jagan, E. W. Van Stryland and R. Gaume  
*Nonlinear refractive index measurement on Pure and Nd doped YAG ceramic by Dual Arm Z-Scan technique*  
59<sup>th</sup> DAE-Solid State Physics Symposium, held at VIT University, Vellore during December 16-20, 2014.
- 29) **P. Samuel**, H. Ishizawa, Y. Ezura and Ken Ichi Ueda  
*Spectroscopic investigation on 10% ytterbium doped calcium fluoride transparent ceramics*  
National Laser Symposium (NLS-20), held at Anna University, Chennai during January 9 – 12, 2012.
- 30) **P. Samuel**, H. Yagi, T. Yanagitani and Ken Ichi Ueda  
*Energy Transfer and Lasing Properties Of Nd:Cr:YAG Transparent Laser Ceramics At Different Cr Concentration*  
56<sup>th</sup> DAE-Solid State Physics Symposium, held at SRM University, Chennai, during December 19 – 23, 2011. (**Oral Presentation**)
- 31) D. Balaji, D. Thangaraju, A. Durairajan, **P. Samuel** and S. Moorthy Babu  
*Synthesis and structural characterization of Nanocrystalline  $Y_3Al_5O_{12}$  (YAG) by Citrate Sol-Gel Method*  
Second National Conference on Multifunctional Nanomaterials and Nanocomposites (NCMNN-2011) held at Bharathiar University, Coimbatore during March 24-25, 2011.
- 32) **P. Samuel**, T. Yanagitani, H. Yagi, Ken Ichi Ueda, S. Moorthy Babu  
*Preparation and analysis of Nd:Ce:YAG transparent ceramics for solar pumped laser Applications*  
National Laser Symposium (NLS-19), held at RRCAT, Indore during December 1-4, 2010.
- 33) D. Thangaraju, **P. Samuel**, A. Durairajan and S. Moorthy Babu  
*Pechini polymeric complex sol-gel method assisted synthesis of  $Dy^{3+}$  doped  $KGd(WO_4)_2$  nano thin sticks for ceramic laser applications*  
National Laser Symposium (NLS-19), held at RRCAT, Indore during December 1-4, 2010.
- 34) D. Thangaraju, **P. Samuel** and S. Moorthy Babu  
*Effect of Er and Pr doping on the optical and vibrational properties of  $KGd(WO_4)_2$  single crystals*  
National conference on Recent trends in Crystal Growth, Thin films and Nano-structured materials (CRYSTAL-NANO-2009), held at Aditanar College of Arts and Science, Tiruchendur, during August 5 and 6<sup>th</sup>, 2009.
- 35) **P. Samuel**, D. Thangaraju and S. Moorthy Babu

*Effect of Dysprosium active ions on the optical and the vibrational properties of KGd(WO<sub>4</sub>)<sub>2</sub> laser crystal*

8<sup>th</sup> DAE-BRNS National Laser Symposium (NLS-08), held at LASTEC, New Delhi, during January 7-10th, 2009.

36) **P.Samuel**, A. Senthil Kumaran, S. Moorthy Babu, S.Ganesa Moorthy, A.K.Karnal, *Growth and Characterization of Nd and Yb doped KGd(WO<sub>4</sub>)<sub>2</sub> single crystals*  
DAE- Solid State Physics Symposium, held at University of Mysore, Mysore during December 27 – 31, 2007.

37) **P.Samuel**, A.Senthil Kumaran, S.Moorthy Babu, S.Ganesa Moorthy, A.K.Karnal, P.K.Palanisamy, *Growth and Characterisation of Nd:KGW laser material*  
7<sup>th</sup> DAE – BRNS National Laser Symposium, December 17 – 20, 2007, held at M.S. University of Baroda, Vadodara.

38) S.Ravi Chandran, **P.Samuel**, Ahmad Younis Nooraldeen, P.K.Palanisamy and S.Moorthy Babu  
*Nonlinear Optical Studies on KGW*  
Second National Symposium on Nonlinear Crystals and modeling in crystal Growth, held at Anna University, Chennai during March 26-27, 2007.

#### **Membership in Professional Bodies**

- Life time member of Mombusho Scholars Association of India (MOSAI)
- Life time member of Indian Society for Technical Education (ISTE)