

(Empowering CRESCENT through Exemplary Research)

# **School of Physical and Chemical Sciences**

# **Department of Physics**

| S. No. | Name of the<br>Supervisor and<br>Designation | Email Id                              | Supervisor<br>Recogn No. | Area of Expertise  | Vacancy (as of 26.02.2025) | Faculty Home Page   |
|--------|--|---------------------------------------|--------------------------|--|----------------------------|---|
| 1.     | Dr. G.V.<br>Vijayaraghavan<br>Professor      | vijayaraghavan@cr<br>escent.education | PH/16/11                 | <ul> <li>Nonlinear Optics</li> <li>Crystal Growth</li> <li>Materials Science</li> <li>Thin Film Science and<br/>Technology</li> </ul>  | 2                          | https://crescent.education/dr-g-v-vijayaraghavan-physics/ |
| 2.     | Dr. I. Raja Mohamed<br>Professor             | rajamohamed@cre<br>scent.education    | PH/09/03                 | <ul> <li>Nonlinear Dynamics: Theory and Experiment</li> <li>Stochastic Resonance, Chaos Circuit design and applications</li> <li>Computing with Chaos and noise-assisted computation</li> <li>Design of Memristor-based circuits</li> <li>Signal processing: Image encryption, decryption, Cryptography</li> </ul> | 7                          | https://crescent.education/dr-i-raja-mohamed-physics/     |
| 3.     | Dr. S. Sathik Basha<br>Professor             | sathik.basha@cres<br>cent.education   | PH/16/12                 | <ul> <li>Surface Coating Technology</li> <li>Solar cell</li> <li>nano science and technology</li> <li>Energy Applications</li> <li>Thin Film Technology</li> </ul>   | 3                          | https://crescent.education/dr-s-sathik-basha-physics/     |



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| 4.     | Dr. M. Md. Sheik<br>Sirajuddeen<br>Associate Professor | msheiksiraj@cresc<br>ent.education | PH/17/12                 | <ul> <li>Condensed Matter Physics</li> <li>Computational materials science</li> <li>Thin film Semiconductor (Simulation and synthesis)</li> <li>Solid State Physics</li> <li>Theoretical and Experimental Materials science</li> </ul>  | 1                          | https://crescent.education/dr-m-mohamed-sheik-sirajuddeen-physics/ |
| 5.     | Dr. R. Indirajith<br>Associate Professor               | indirajith@crescent<br>.education  | PH/12/09                 | <ul><li>Thin film</li><li>Crystal Growth</li><li>Nano Material preparation</li></ul>  | 3                          | https://crescent.education/dr-r-indirajith-physics/                |
| 6.     | Dr. R. Amiruddin<br>Asst. Prof. (Sr. Gr.)              | amir@crescent.ed<br>ucation        | PH/17/15                 | <ul> <li>Fabrication and characterization of optoelectronic devices such as (i) Ultraviolet (UV)         Photodiodes and (ii) Light Emitting Diodes (LEDs)/Solar cells</li> <li>Fabrication and characterization of Resistive random access memory (ReRAM, Memristor) and Ferroelectrics-based memory devices</li> <li>Semiconductor Nanowires - Growth, Characterization and study on its luminescent centers</li> </ul> | 2                          | https://crescent.education/dr-r-amiruddin-physics/                 |



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| 7.     | Dr. M. Vijayajayanthi<br>Asst. Prof. (Sr. Gr.) | vijaya@crescent.e<br>ducation       | PH/21/18                 | <ul> <li>Nonlinear dynamical systems</li> <li>Optical solitons and their collisions in birefringent fibres</li> <li>Study of solitons, rogue waves, breathers in integrable systems</li> <li>Harnessing optical solitons to implement optical computing and quantum computing</li> <li>Electrical solitons in nonlinear transmission lines</li> </ul> | No Vacancy                 | https://crescent.education/dr-m-vijayajayanthi-physics/ |
| 8.     | Dr. E. A. K. Nivethaa<br>Asst. Prof.           | nivethaa@crescent<br>.education     | PH/23/19                 | <ul> <li>Nanomaterials</li> <li>Biopolymer based<br/>nanocomposites for the<br/>prolonged, sustained and<br/>targeted delivery of anticancer<br/>drugs and for colorimetric<br/>sensor applications</li> </ul>  | 3                          | https://crescent.education/dr-e-a-k-nivethaa/           |
| 9.     | Dr. Lakshmipriya.M<br>Asst. Prof.              | lakshmipriya@cres<br>cent.education | PH/23/20                 | <ul><li>Crystal Growth</li><li>Nanomaterials</li><li>Material Science</li></ul>   | 3                          | https://crescent.education/dr-m-<br>lakshmipriya/       |



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| 10.    | Dr.J.Sivasankari<br>Asst. Prof.              | sivasankari@cresc<br>ent.education | PH /23/21                | <ul> <li>Nanotechnology</li> <li>Core shell quantum dot</li> <li>Spintronics</li> <li>Nano materials Device fabrication</li> <li>Solid State physics</li> </ul>  | 3                          | https://crescent.education/dr-j-sivasankari/  |
| 11.    | Dr. T.Kamalesh<br>Asst. Prof.                | kamalesh@cresce<br>nt.education    | PH/23/22                 | <ul> <li>Crystal Growth by solution and<br/>melt techniques</li> <li>Shock waves</li> </ul>  | 4                          | https://crescent.education/dr-t-kamalesh/     |
| 12.    | Dr. K.Vinisha Rani<br>Asst. Prof.            | vinisharani@cresc<br>ent.education | PH/24/24                 | <ul> <li>urface Modification Of Textile         Materials Using Glow Discharge         Plasma</li> <li>Atmospheric Pressure Plasma         Technology (DBD)</li> <li>Plasma Enhanced Chemical         Vapor Deposition (PECVD)</li> <li>Plasma Sputtering</li> <li>Thin Films</li> </ul> | 4                          | https://crescent.education/dr-k-vinisha-rani/ |



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| 13.    | Dr. R.Rizwana<br>Asst. Prof.                 | rizwana@crescent.<br>education | PH/24/23                 | <ul> <li>Nonlinear Dynamics</li> <li>Nonlinear circuit elements and its Applications</li> </ul>  | 4                          | https://crescent.education/dr-r-rizwana/   |
| 14.    | Dr. T. Anusuya<br>Asst. Prof.                | anusuya@crescen<br>t.education | PH/24/25                 | <ul> <li>Nanostructured Materials for<br/>energy Storage</li> <li>Nanostructured Materials for<br/>Environmental applications</li> </ul> | 4                          | https://crescent.education/dr-t-anusuya-2/ |



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# **Department of Chemistry**

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|-----------|--|------------------------------------|--------------------------|---|----------------------------|---|
| 1.        | Dr. N. Hajarabeevi<br>Professor              | hajarabeevi@cresce<br>nt.education | CH/09/04                 | <ul><li>Environment<br/>Chemistry</li><li>Corrosion Studies</li></ul>   | 4                          | https://crescent.education/dr-n-hajara-beevi-<br>chemistry/ |
| 2.        | Dr. S. Kutti Rani<br>Professor               | skrani@crescent.edu<br>cation      | CH/09/02                 | <ul> <li>Kinetics and Catalysis</li> <li>Nanomaterials synthesis and applications</li> <li>Schiffs Base and its Applications</li> </ul>   | 5                          | https://crescent.education/dr-s-kutti-rani-chemistry/       |
| 3.        | Dr. S. Bhagavathy<br>Professor               | bhagavathy@cresce<br>nt.education  | CH/10/08                 | <ul> <li>Synthetic Organic<br/>Chemistry</li> <li>Synthesis of<br/>heterocyclic<br/>compounds</li> <li>Synthesis of chiral<br/>intermediates using<br/>carbohydrates</li> </ul> | 5                          | https://crescent.education/dr-s-bhagavathy-chemistry/       |



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|-----------|--|----------------------------------|--------------------------|---|----------------------------|--|
| 4.        | Dr. Revathi<br>Purushothaman<br>Professor    | revathip@crescent.education      | CH/13/19                 | <ul> <li>Materials for solar still, microelectronic applications, biomedical and packaging applications</li> <li>Biopolymers</li> <li>High temperature and high performance polymers</li> <li>Nanocomposites and polymer nanocomposites</li> <li>Mesoporous and nano materials</li> </ul> | 5                          | https://crescent.education/dr-revathi-<br>purushothaman-chemistry/ |
| 5.        | Dr. A. Shajahan<br>Associate Professor       | ashajahan@crescent<br>.education | CH/15/20                 | <ul> <li>Chemical Kinetics</li> <li>Catalytic chemistry</li> <li>Synthetic chemistry and in vitro studies</li> <li>Environmental chemistry.</li> </ul>  | 3                          | https://crescent.education/dr-a-shajahan-chemistry/                |



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|--------|---|--|-----------------------------|--|----------------------------------|--|
| 6.     | Dr. Swapan<br>Kumar Das<br>Associate<br>Professor | swapandas@<br>crescent.edu<br>cation     | CH/21/25                    | <ul> <li>Sol-gel synthesis: porous and nanomaterials catalytic functionalization (metal NPs, metal oxide, metal ion c</li> <li>Design and fabrication of porous membranes for gas separation and purification, nanofiltration, waste water treatment, and water purification</li> <li>Micro- and mesoporous adsorbents for gas adsorption and storage, separation and purification, and waste water treatment</li> <li>Design and synthesis of fluorophore-decorated periodic mesoporous (FPMO) organosilica for drug delivery, sensor, separation, and catalysis</li> <li>Heterogeneous catalysis includes C-C coupling, alkane and methane oxidation, carboxylation of saturated hydrocarbons with CO, aromatic alkylation, photocatalysis, and biodiesel production.</li> </ul> | 5                                | https://crescent.education/dr-swapan-kumar-das-chemistry/    |
| 7.     | Dr. J. Herbert<br>Mabel<br>Associate<br>Professor | herbertimabel<br>@crescent.e<br>ducation | CH/09/06                    | <ul> <li>Material Science</li> <li>Heterogeneous Catalysis</li> <li>Coordination Complexes</li> <li>Gas Adsorption</li> <li>Metal Coating</li> </ul>   | 3                                | https://crescent.education/dr-j-<br>herbert-mabel-chemistry/ |



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| 8.     | Dr. M. Asha<br>Jhonsi<br>Associate<br>Professor          | asha@cresce<br>nt.education             | CH/11/11                    | <ul> <li>Photoinduced interaction studies</li> <li>Carbonaceous nanomaterials and quantum dots</li> <li>Solar energy conversion- DSSC, QDSSC, Perovskite solar cells fabrication</li> <li>Luminescent nanomaterials for Energy, environment and biological applications</li> <li>Waste to value added products</li> </ul>                                      | 5                                | https://crescent.education/dr-m-asha-jhonsi-chemistry/                   |
| 9.     | Dr. M.<br>Vajjiravel<br>Associate<br>Professor           | vajjiravel_m<br>@crescent.e<br>ducation | CH/13/15                    | <ul> <li>Organic Electronic Devices (OPV, OLED and OFET)</li> <li>Kinetics of polymerization, various polymerization techniques, phase transfer catalyzed reactions</li> <li>Sustainable polymer chemistry and materials</li> <li>Design and synthesis of novel molecules and materials for versatile applications.</li> <li>Heterocyclic compounds</li> </ul> | 4                                | https://crescent.education/dr-m-vajjiravel-chemistry/                    |
| 10.    | Dr. Noor Aman<br>Ahrar Mundari<br>Associate<br>Professor | nooraman_a<br>m@crescent.<br>education  | CH/13/16                    | <ul> <li>Catalysis</li> <li>Nanomaterials</li> <li>Materials for Energy and Environment</li> <li>Photocatalysis</li> <li>Specialty Chemicals</li> </ul>  | 4                                | https://crescent.education/dr-<br>noor-aman-ahrar-mundari-<br>chemistry/ |



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|--------|--|---|-----------------------------|---|----------------------------------|--|
| 11.    | Dr. K.<br>Karthikeyan<br>Associate<br>Professor  | karthikeyan<br>kesav@cresc<br>ent.education | CH/13/18                    | <ul><li>Organic Synthesis</li><li>Catalysis</li><li>Nano materials synthesis</li></ul>  | 3                                | https://crescent.education/dr-k-<br>karthikeyan-chemistry/ |
| 12.    | Dr.N.Vasimalai<br>Asst. Prof.<br>(Sel. Gr.)      | vasimalai@cr<br>escent.educa<br>tion        | CH/18/21                    | <ul> <li>Nanotechnology</li> <li>Biosensor</li> <li>Environmental Applications</li> <li>Materials Science</li> <li>Electronic and Energy applications</li> </ul>  | 2                                | https://crescent.education/dr-n-vasimalai-chemistry/       |
| 13.    | Dr. Jasmine<br>Annajothi<br>Jacob<br>Asst. Prof. | jasmine@cre<br>scent.educati<br>on          | CH/24/26                    | <ul> <li>Synthesis, Stabilization and Surface modification of metal nanoparticles by various methods</li> <li>Synthesis of Semiconductor nanoparticles</li> <li>Nano toxicity studies, Antioxidant studies, etc</li> <li>Mechanistic study of formation of metal/semiconductor nanoparticles</li> </ul> | 4                                | https://crescent.education/dr-<br>jasmine-annajothi-jacob/ |
| 14.    | Dr. Tuhin<br>Subhra Dash<br>Asst. Prof.          | tuhin@cresce<br>nt.education                | CH/24/28                    | <ul><li>Magnetic Materials</li><li>Inorganic Chemistry</li></ul>  | 4                                | https://crescent.education/dr-<br>tuhin-subhra-dash/       |



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|--------|---|---|-----------------------------|--|----------------------------------|---|
| 15.    | Dr.<br>S.Aravindhan<br>Asst. Prof.              | aravindhan@<br>crescent.edu<br>cation   | CH/24/29                    | <ul><li>Peptide chemistry</li><li>Bioorganic chemistry</li><li>Bioinorganic chemistry</li></ul>              | 3                                | https://crescent.education/dr-s-<br>aravindhan/ |
| 16.    | Dr.<br>Sivasankaran.<br>D<br>Asst. Prof.        | sivasankaran<br>@crescent.e<br>ducation | CH/24/27                    | <ul><li>Synthetic Organic Chemistry</li><li>Asymmetric Synthesis</li><li>Natural Product synthesis</li></ul> | 4                                | https://crescent.education/dr-d-sivasankaran/   |